

QUARTERLY STATEMENT

OF THE

Massachusetts Mutual Life Insurance Company

TO THE

Insurance Department

OF THE

STATE OF

**FOR THE QUARTER ENDED
MARCH 31, 2019**

LIFE AND ACCIDENT AND HEALTH

FRATERNAL BENEFIT SOCIETIES

2019



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

QUARTERLY STATEMENT

AS OF MARCH 31, 2019

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

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

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

Internet Website Address www.massmutual.com

Statutory Statement Contact Yiji S. Starr, 617-695-4651
(Name) (Area Code) (Telephone Number)
ystarr02@massmutual.com, 413-226-4086
(E-mail Address) (FAX Number)

OFFICERS

President and Chief Executive Officer Roger William Crandall Treasurer Todd Garrett Picken
Secretary Akintokunbo Akinbajo # Appointed Actuary Douglas Wright Taylor

OTHER

Elizabeth Ward Chicares, Chief Financial Officer and Chief Actuary Michael Robert Fanning, Head of MassMutual U.S. Melvin Timothy Corbett, Chief Investment Officer
Mark Douglas Roellig, Head of Technology & Administration Adnan Omar Ahmed, Head of MassMutual International Geoffrey James Craddock, Chief Risk Officer
Pia Denise Flanagan #, Chief of Staff to the CEO Susan Marie Cicco, Head of Human Resources & Strategic Communications Michael James O'Connor, General Counsel
Gareth Fielding Ross, Head of Digital & Customer 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 Marc Francis Racicot Laura Jeanne Sen
William Taylor Spitz Howard Todd Stitzer - Lead Director

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 MARCH 31, 2019 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	98,270,705,919		98,270,705,919	97,079,123,131
2. Stocks:				
2.1 Preferred stocks	747,799,878		747,799,878	744,092,065
2.2 Common stocks	13,700,945,970		13,700,945,970	12,827,375,153
3. Mortgage loans on real estate:				
3.1 First liens	24,402,314,570		24,402,314,570	23,623,807,529
3.2 Other than first liens.....				
4. Real estate:				
4.1 Properties occupied by the company (less \$ encumbrances)	194,193,686		194,193,686	195,523,677
4.2 Properties held for the production of income (less \$ 905,890,753 encumbrances)	275,056,437		275,056,437	272,704,758
4.3 Properties held for sale (less \$ encumbrances)				20,078,118
5. Cash (\$ 214,455,273), cash equivalents (\$ 2,310,949,937) and short-term investments (\$ 891,059,211)	3,416,464,421		3,416,464,421	4,318,003,746
6. Contract loans (including \$ premium notes)	13,985,129,775	489,482	13,984,640,293	13,873,247,826
7. Derivatives	8,898,093,149		8,898,093,149	8,741,308,632
8. Other invested assets	8,675,830,860	31,555,914	8,644,274,946	8,599,455,873
9. Receivables for securities	1,331,163,339		1,331,163,339	941,182,855
10. Securities lending reinvested collateral assets				
11. Aggregate write-ins for invested assets				
12. Subtotals, cash and invested assets (Lines 1 to 11)	173,897,698,004	32,045,396	173,865,652,608	171,235,903,363
13. Title plants less \$ charged off (for Title insurers only)				
14. Investment income due and accrued	2,472,518,905	24,749,254	2,447,769,651	3,018,299,945
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection	123,311,533	67,285	123,244,248	164,205,761
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums)	675,538,975		675,538,975	732,697,836
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	56,798,373	10,143,871	46,654,502	72,095,690
16.2 Funds held by or deposited with reinsured companies				
16.3 Other amounts receivable under reinsurance contracts	16,391,871		16,391,871	31,016,552
17. Amounts receivable relating to uninsured plans				
18.1 Current federal and foreign income tax recoverable and interest thereon	238,969,357		238,969,357	611,902,202
18.2 Net deferred tax asset	1,103,432,689	16,826,310	1,086,606,379	982,725,684
19. Guaranty funds receivable or on deposit	17,612,948		17,612,948	17,736,925
20. Electronic data processing equipment and software	211,260,663	194,553,103	16,707,560	15,645,327
21. Furniture and equipment, including health care delivery assets (\$)	58,816,802	58,816,802		
22. Net adjustment in assets and liabilities due to foreign exchange rates				
23. Receivables from parent, subsidiaries and affiliates	77,266,680		77,266,680	81,873,078
24. Health care (\$) and other amounts receivable				
25. Aggregate write-ins for other than invested assets	3,900,592,340	1,640,320,853	2,260,271,487	2,204,643,872
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	182,850,209,140	1,977,522,874	180,872,686,266	179,168,746,235
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts	69,072,911,515		69,072,911,515	64,478,100,585
28. Total (Lines 26 and 27)	251,923,120,655	1,977,522,874	249,945,597,781	243,646,846,820
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	2,178,985,140		2,178,985,140	2,115,001,571
2502. Employee insurance plan advances	42,002,498	14,879	41,987,619	40,908,972
2503. Investment in trust	27,832,428		27,832,428	26,641,910
2598. Summary of remaining write-ins for Line 25 from overflow page	1,651,772,274	1,640,305,974	11,466,300	22,091,419
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	3,900,592,340	1,640,320,853	2,260,271,487	2,204,643,872

STATEMENT AS OF MARCH 31, 2019 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 \$119,985,611,191 less \$ included in Line 6.3 (including \$133,412,064 Modco Reserve)	119,985,611,191	119,010,301,284
2. Aggregate reserve for accident and health contracts (including \$ Modco Reserve)	2,985,101,505	2,967,573,431
3. Liability for deposit-type contracts (including \$ Modco Reserve)	15,255,260,310	14,369,907,287
4. Contract claims:		
4.1 Life	512,409,452	408,860,759
4.2 Accident and health	26,348,812	27,487,143
5. Policyholders' dividends/refunds to members \$8,125,497 and coupons \$ due and unpaid	8,125,497	7,952,382
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)	1,717,888,639	1,704,768,185
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 \$8,427,652 accident and health premiums	40,636,091	32,700,041
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	11,587,846	10,424,232
9.3 Other amounts payable on reinsurance, including \$1,513,273 assumed and \$10,096,478 ceded	11,609,751	17,212,429
9.4 Interest Maintenance Reserve		
10. Commissions to agents due or accrued-life and annuity contracts \$27,173,093 , accident and health \$293,115 and deposit-type contract funds \$8,973,782	36,439,990	7,506,755
11. Commissions and expense allowances payable on reinsurance assumed	3,642,306	4,994,328
12. General expenses due or accrued	920,049,431	1,095,534,762
13. Transfers to Separate Accounts due or accrued (net) (including \$(131,486,446) accrued for expense allowances recognized in reserves, net of reinsured allowances)	(148,243,966)	(146,648,819)
14. Taxes, licenses and fees due or accrued, excluding federal income taxes	43,443,039	50,761,771
15.1 Current federal and foreign income taxes, including \$ on realized capital gains (losses)	3,434	3,434
15.2 Net deferred tax liability		
16. Unearned investment income	130,405,764	175,081,674
17. Amounts withheld or retained by reporting entity as agent or trustee	15,081,851	35,906,971
18. Amounts held for agents' account, including \$ agents' credit balances	351,343,668	333,630,886
19. Remittances and items not allocated	368,010,365	890,822,640
20. Net adjustment in assets and liabilities due to foreign exchange rates		
21. Liability for benefits for employees and agents if not included above	186,837,396	179,825,843
22. Borrowed money \$249,754,444 and interest thereon \$	249,754,444	249,786,188
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve	3,370,445,326	3,306,820,067
24.02 Reinsurance in unauthorized and certified (\$) companies	184,854	189,342
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
24.04 Payable to parent, subsidiaries and affiliates	(5,063,565)	(17,130,060)
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance	4,123,920,830	4,098,648,265
24.08 Derivatives	5,687,976,276	4,911,983,117
24.09 Payable for securities	324,150,511	81,963,034
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	8,960,318,811	9,742,092,195
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	165,173,279,856	163,558,959,566
27. From Separate Accounts Statement	69,072,911,515	64,478,100,585
28. Total liabilities (Lines 26 and 27)	234,246,191,371	228,037,060,151
29. Common capital stock		
30. Preferred capital stock		
31. Aggregate write-ins for other than special surplus funds		
32. Surplus notes	2,268,222,657	2,268,096,211
33. Gross paid in and contributed surplus		
34. Aggregate write-ins for special surplus funds	3,250,000	3,250,000
35. Unassigned funds (surplus)	13,427,933,753	13,338,440,458
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)	15,699,406,409	15,609,786,669
38. Totals of Lines 29, 30 and 37	15,699,406,409	15,609,786,669
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	249,945,597,781	243,646,846,820
DETAILS OF WRITE-INS		
2501. Repurchase agreements	4,425,350,867	4,803,587,340
2502. Derivative collateral	2,378,672,615	2,945,652,368
2503. Derivative accrued interest	2,051,427,061	1,898,874,859
2598. Summary of remaining write-ins for Line 25 from overflow page	104,868,268	93,977,628
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	8,960,318,811	9,742,092,195
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page		
3199. Totals (Lines 3101 through 3103 plus 3198)(Line 31 above)		
3401. Designated surplus for group annuities	2,500,000	2,500,000
3402. Designated surplus for separate account business	750,000	750,000
3403.		
3498. Summary of remaining write-ins for Line 34 from overflow page		
3499. Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)	3,250,000	3,250,000

SUMMARY OF OPERATIONS

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1. Premiums and annuity considerations for life and accident and health contracts	4,918,768,249	5,994,572,588	22,905,684,993
2. Considerations for supplementary contracts with life contingencies	7,736,608	6,220,668	23,694,419
3. Net investment income	1,677,497,334	1,717,188,021	7,709,838,336
4. Amortization of Interest Maintenance Reserve (IMR)	3,517,427	18,014,971	63,947,853
5. Separate Accounts net gain from operations excluding unrealized gains or losses			20
6. Commissions and expense allowances on reinsurance ceded	53,213,417	30,872,125	183,575,292
7. Reserve adjustments on reinsurance ceded	(4,930,576)	(106,093,595)	(120,338,587)
8. Miscellaneous Income:			
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	93,832,994	95,678,760	393,312,833
8.2 Charges and fees for deposit-type contracts			
8.3 Aggregate write-ins for miscellaneous income	194,162,624	138,093,352	561,716,288
9. Totals (Lines 1 to 8.3)	6,943,798,077	7,894,546,890	31,721,431,447
10. Death benefits	563,161,116	480,519,312	1,801,487,193
11. Matured endowments (excluding guaranteed annual pure endowments)	4,289,240	5,231,382	15,155,252
12. Annuity benefits	536,867,117	565,488,102	2,004,550,137
13. Disability benefits and benefits under accident and health contracts	90,398,397	89,921,345	369,893,030
14. Coupons, guaranteed annual pure endowments and similar benefits			
15. Surrender benefits and withdrawals for life contracts	4,222,900,789	4,657,497,847	18,213,757,819
16. Group conversions			
17. Interest and adjustments on contract or deposit-type contract funds	112,793,680	100,914,691	426,166,626
18. Payments on supplementary contracts with life contingencies	3,902,198	3,684,545	14,836,103
19. Increase in aggregate reserves for life and accident and health contracts	960,632,746	1,383,046,229	7,507,800,736
20. Totals (Lines 10 to 19)	6,494,945,283	7,286,303,453	30,353,646,896
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	239,543,967	233,678,435	978,144,683
22. Commissions and expense allowances on reinsurance assumed	18,631,644	23,635,255	83,452,865
23. General insurance expenses and fraternal expenses	557,734,602	564,329,996	2,366,077,039
24. Insurance taxes, licenses and fees, excluding federal income taxes	78,333,205	67,555,541	257,788,721
25. Increase in loading on deferred and uncollected premiums	(11,835,948)	(15,992,643)	(27,564,856)
26. Net transfers to or (from) Separate Accounts net of reinsurance	(718,491,580)	(192,935,871)	(3,008,428,954)
27. Aggregate write-ins for deductions	(131,990,651)	(411,329,143)	(1,031,463,367)
28. Totals (Lines 20 to 27)	6,526,870,522	7,555,245,023	29,971,653,027
29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)	416,927,555	339,301,867	1,749,778,420
30. Dividends to policyholders and refunds to members	392,983,681	364,148,784	1,695,253,440
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	23,943,874	(24,846,917)	54,524,980
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	68,531,672	70,691,820	(168,384,146)
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)	(44,587,798)	(95,538,737)	222,909,126
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$(21,797,023) (excluding taxes of \$4,473,077 transferred to the IMR)	38,911,425	(1,440,941,992)	(1,044,256,266)
35. Net income (Line 33 plus Line 34)	(5,676,373)	(1,536,480,729)	(821,347,140)
CAPITAL AND SURPLUS ACCOUNT			
36. Capital and surplus, December 31, prior year	15,609,786,669	15,705,216,653	15,705,216,653
37. Net income (Line 35)	(5,676,373)	(1,536,480,729)	(821,347,140)
38. Change in net unrealized capital gains (losses) less capital gains tax of \$(120,954,896)	(108,075,452)	(221,446,024)	1,778,861,989
39. Change in net unrealized foreign exchange capital gain (loss)	47,062,948	277,049,422	(594,081,445)
40. Change in net deferred income tax	12,262,513	219,498,114	289,824,267
41. Change in nonadmitted assets	245,274,292	(203,077,841)	(716,309,297)
42. Change in liability for reinsurance in unauthorized and certified companies	4,488	3,628	15,137
43. Change in reserve on account of change in valuation basis, (increase) or decrease			
44. Change in asset valuation reserve	(63,625,259)	950,933,888	(99,750,481)
45. Change in treasury stock			
46. Surplus (contributed to) withdrawn from Separate Accounts during period			3,153
47. Other changes in surplus in Separate Accounts Statement		2,529	(3,153)
48. Change in surplus notes	126,445	126,445	468,924
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	(37,733,859)	(70,540,838)	66,888,062
54. Net change in capital and surplus for the year (Lines 37 through 53)	89,619,743	(583,931,406)	(95,429,984)
55. Capital and surplus, as of statement date (Lines 36 + 54)	15,699,406,412	15,121,285,247	15,609,786,669
DETAILS OF WRITE-INS			
08.301. Management and administrative fees	64,114,876	64,410,251	284,985,025
08.302. Change in corporate owned life insurance	63,983,568	5,758,478	10,599,028
08.303. Experience refunds on reinsurance contracts	34,064,519	31,238,076	132,207,033
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	31,999,661	36,686,547	133,925,202
08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	194,162,624	138,093,352	561,716,288
2701. Change in reserves due to reinsurance agreement	(223,224,566)	(458,303,445)	(1,221,343,804)
2702. Reinsurance ceded adjustment	(3,453,020)	(3,636,373)	(14,545,497)
2703. Market value adjustment transfer	897,095	(3,841,948)	(2,947,226)
2798. Summary of remaining write-ins for Line 27 from overflow page	93,789,840	54,452,623	207,373,160
2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	(131,990,651)	(411,329,143)	(1,031,463,367)
5301. Other changes in surplus	(34,280,840)	(66,904,465)	(46,534,072)
5302. Reinsurance ceded adjustment	(3,453,020)	(3,636,373)	(14,545,497)
5303. Change in minimum pension liability			127,967,631
5398. Summary of remaining write-ins for Line 53 from overflow page			
5399. Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	(37,733,860)	(70,540,838)	66,888,062

STATEMENT AS OF MARCH 31, 2019 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	5,075,518,514	6,082,194,610	22,608,709,332
2. Net investment income	2,377,581,827	1,442,787,784	6,761,697,857
3. Miscellaneous income	241,121,635	136,746,874	1,015,740,250
4. Total (Lines 1 to 3)	7,694,221,976	7,661,729,268	30,386,147,439
5. Benefit and loss related payments	5,421,254,124	5,897,885,657	22,915,622,389
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(716,896,432)	(222,920,563)	(3,090,655,493)
7. Commissions, expenses paid and aggregate write-ins for deductions	789,052,588	543,261,437	2,702,636,293
8. Dividends paid to policyholders	379,690,111	353,017,596	1,588,224,238
9. Federal and foreign income taxes paid (recovered) net of \$ tax on capital gains (losses)	(329,708,759)	(163,795,690)	(162,241,559)
10. Total (Lines 5 through 9)	5,543,391,632	6,407,448,437	23,953,585,868
11. Net cash from operations (Line 4 minus Line 10)	2,150,830,344	1,254,280,831	6,432,561,571
Cash from Investments			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds	4,584,343,441	3,520,813,048	19,213,999,109
12.2 Stocks	100,613,803	102,817,481	2,708,586,089
12.3 Mortgage loans	306,815,017	511,939,382	2,330,683,301
12.4 Real estate	27,685,844	261,177,087	275,807,610
12.5 Other invested assets	287,382,621	587,050,267	2,155,259,323
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(4,101,561)	13,010,101	13,072,429
12.7 Miscellaneous proceeds	(164,730,983)	(586,839,529)	71,696,828
12.8 Total investment proceeds (Lines 12.1 to 12.7)	5,138,008,182	4,409,967,837	26,769,104,689
13. Cost of investments acquired (long-term only):			
13.1 Bonds	5,758,089,109	3,846,740,126	26,525,627,843
13.2 Stocks	618,258,076	295,916,843	895,103,810
13.3 Mortgage loans	1,066,065,248	961,512,719	3,698,401,345
13.4 Real estate	24,342,892	(34,442,064)	(233,372,268)
13.5 Other invested assets	292,967,428	392,498,959	1,652,995,507
13.6 Miscellaneous applications	(171,009,137)	(104,959,482)	724,893,581
13.7 Total investments acquired (Lines 13.1 to 13.6)	7,588,713,616	5,357,267,101	33,263,649,818
14. Net increase (or decrease) in contract loans and premium notes	111,392,321	145,393,299	545,869,329
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(2,562,097,755)	(1,092,692,563)	(7,040,414,458)
Cash from Financing and Miscellaneous Sources			
16. Cash provided (applied):			
16.1 Surplus notes, capital notes		126,445	
16.2 Capital and paid in surplus, less treasury stock			
16.3 Borrowed funds	(11,083)	(89,896)	(234,576)
16.4 Net deposits on deposit-type contracts and other insurance liabilities	43,210,355	597,843,607	86,596,125
16.5 Dividends to stockholders			
16.6 Other cash provided (applied)	(533,471,186)	(896,578,856)	1,259,929,462
17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	(490,271,914)	(298,698,700)	1,346,291,011
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)	(901,539,325)	(137,110,432)	738,438,124
19. Cash, cash equivalents and short-term investments:			
19.1 Beginning of year	4,318,003,746	3,579,565,622	3,579,565,622
19.2 End of period (Line 18 plus Line 19.1)	3,416,464,421	3,442,455,190	4,318,003,746

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

20.0001. Bond conversions and refinancing	214,838,104	88,707,836	1,058,254,566
20.0002. Change in market value of COLI	64,107,739	5,876,636	11,073,742
20.0003. Transfer of mortgage loans to other invested assets	38,709,033		244,153,148
20.0004. Stock conversion	34,441,760	13,789,057	128,169,724
20.0005. Net investment income payment in-kind bonds	1,170,496	1,377,126	9,227,709
20.0006. Dividend reinvestment	116,308	4,753,371	11,434,061
20.0007. Net investment income payment in-kind stocks	78,219	460,873	460,873
20.0008. Other invested assets transferred to stock	52,176		
20.0009. Dividend declared from Insurance Road		58,500,000	
20.0010. Bank loan rollovers		18,674,267	55,096,955

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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

20.0011. Return of capital		81,421	105,953
20.0012. Transfer of common stocks – subsidiaries and affiliated to other invested assets			1,333,718,935
20.0013. Other invested assets contributed to Insurance Road LLC			476,114,707
20.0014. Premium income recognized for a group annuity contracts			292,360,873
20.0015. Transfer from bonds to other than invested assets			199,694,466
20.0016. Transfer of bonds to partnerships			81,111,847
20.0017. Bonds and common stock contributed to EM Opportunities LLC			74,063,408
20.0018. Transfer of other invested assets to real estate			56,615,096

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	1,657,444,626	1,573,193,639	7,405,145,430
3. Ordinary individual annuities	925,883,964	562,350,323	3,303,332,907
4. Credit life (group and individual)			
5. Group life insurance	261,353,013	173,289,344	701,120,304
6. Group annuities	2,181,664,413	3,281,968,616	11,111,242,611
7. A & H - group	115,926	42,355	371,603
8. A & H - credit (group and individual)			
9. A & H - other	184,931,079	187,538,817	747,932,707
10. Aggregate of all other lines of business			
11. Subtotal (Lines 1 through 10)	5,211,393,021	5,778,383,094	23,269,145,562
12. Fraternal (Fraternal Benefit Societies Only)			
13. Subtotal (Lines 11 through 12)	5,211,393,021	5,778,383,094	23,269,145,562
14. Deposit-type contracts	1,702,426,814	1,420,361,787	4,486,037,688
15. Total (Lines 13 and 14)	6,913,819,835	7,198,744,881	27,755,183,250
DETAILS OF WRITE-INS			
1001.			
1002.			
1003.			
1098. Summary of remaining write-ins for Line 10 from overflow page			
1099. Totals (Lines 1001 through 1003 plus 1098)(Line 10 above)			

NOTES TO FINANCIAL STATEMENTS

TABLE OF CONTENTS

- Note 1 – Summary of Significant Accounting Policies and Going Concern
- Note 2 – Accounting Changes and Corrections of Errors
- Note 3 – Business Combinations and Goodwill
- Note 4 – Discontinued Operations
- Note 5 – Investments
- Note 6 – Joint Ventures, Partnerships and Limited Liability Companies
- Note 7 – Investment Income
- Note 8 – Derivative Instruments
- Note 9 – Income Taxes
- Note 10 – Information Concerning Parent, Subsidiaries and Affiliates
- Note 11 – Debt
- Note 12 – Retirement Plans, Deferred Compensation, Postemployment Benefits and Compensated Absences and Other Postretirement Benefit Plans
- Note 13 – Capital and Surplus, Shareholders' Dividend Restrictions and Quasi-Reorganizations
- Note 14 – Liabilities, Contingencies and Assessments
- Note 15 – Leases
- Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk
- Note 17 – Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities
- Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans
- Note 19 – Direct Premium Written/Produced By Managing General Agents/Third Party Administrators
- Note 20 – Fair Value Measurements
- Note 21 – Other Items
- Note 22 – Events Subsequent
- Note 23 – Reinsurance
- Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination
- Note 25 – Change in Incurred Losses and Loss Adjustment Expenses
- Note 26 – Intercompany Pooling Arrangements
- Note 27 – Structured Settlements
- Note 28 – Health Care Receivables
- Note 29 – Participating Policies
- Note 30 – Premium Deficiency Reserves
- Note 31 – Reserves for Life Contracts and Annuity Contracts
- Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics
- Note 33 – Premium and Annuity Considerations Deferred and Uncollected
- Note 34 – Separate Accounts
- Note 35 – Loss/Claim Adjustment Expenses

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 #	2019	2018
NET INCOME					
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$ (5,676,373)	\$ (821,347,140)
(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>\$ (5,676,373)</u>	<u>\$ (821,347,140)</u>
SURPLUS					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 15,699,406,409	\$ 15,609,786,669
(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>\$ 15,699,406,409</u>	<u>\$ 15,609,786,669</u>

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

c. Accounting policy:

(1-5) No change

(6) For loan-backed and structured securities, such as asset-backed securities, mortgage-backed securities, including residential mortgage-backed securities and commercial mortgage-backed securities, 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 three months ended March 31, 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
Other than invested assets	\$ (5,050,840)	\$ 113,449,160	\$ (113,449,160)
Policyholders' reserves	(26,070,000)	(26,070,000)	26,070,000
Other liabilities	(3,160,000)	(3,160,000)	3,160,000
Total	<u>\$ (34,280,840)</u>	<u>\$ 84,219,160</u>	

Of the \$84,219,160 increase to surplus for prior years' errors, \$34,280,840 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.

NOTES TO FINANCIAL STATEMENTS

For the three months ended March 31, 2018, 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	
Common stocks - subsidiaries and affiliates			
Partnerships and limited liability companies			
Deferred income taxes	\$ -	\$ (36,021,141)	\$ (36,021,141)
Policyholders' reserves	(30,883,324)	(30,883,324)	30,883,324
Total	\$ (30,883,324)	\$ (66,904,465)	

Certain prior year amounts within these financial statements have been reclassified to conform to the current year presentation.

b. Adoption of new accounting standards:

In June 2016, the NAIC adopted substantive revisions 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 plans to adopt these revisions to SSAP No. 51R using the 3-year phased in approach by no later than January 1, 2020. The Company currently uses formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company will be 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. The modifications are not expected to have a material effect on the Company's total life reserves and surplus in the financial statements.

In October 2018, the NAIC issued SSAP No. 86, *Benchmark Interest Rates*, effective January 1, 2019. This guidance permits the use of the Overnight Index Swap (OIS) rate based on Secured Overnight Financing Rate as a U.S. benchmark interest rate for hedge accounting purposes under ASC Topic 815 in addition to the U.S. Treasury rate, the LIBOR swap rate, the OIS rate based on the Fed Funds Effective Rate, and the SIFMA Municipal Swap Rate. The Company has not elected to apply hedge accounting, therefore adoption of this guidance did not have an impact on the Company's financial statements.

In November 2018, the NAIC issued SSAP No. 30R, *Unaffiliated Common Stock*, effective January 1, 2019. These clarifications applies to unaffiliated common stock including Securities Exchange Commission registered investment companies, such as closed-end mutual funds and unit investments trusts. The modification also includes public stock warrants, while nonpublic stock warrants would be classified as derivative instruments. The modifications did not have a material effect on the Company's 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 - No change
- b. Debt restructuring - No change
- c. Reverse mortgages - No change
- d. Loan-backed securities:
 - (1) Prepayment assumptions for loan-backed and structured securities are based on various assumptions and inputs obtained from external industry sources along with internal analysis and actual experience.
 - (2) The following contains loan-backed and structured securities that recognized other-than-temporary impairments (OTTI) classified on the following bases for recognizing OTTI:

NOTES TO FINANCIAL STATEMENTS

(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		7,789,431	-	154,794	7,634,637	
c.	Total first quarter	\$	7,789,431	\$	-	\$	7,634,637

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		-	-	-	-	
f.	Total second quarter	\$	-	\$	-	\$	-

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		-	-	-	-	
i.	Total third quarter	\$	-	\$	-	\$	-

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	\$	-	\$	-	\$	-

m. Annual aggregate total

	\$	-	\$	154,794
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All impairments were taken due to the present value of cash flows expected to be collected being less than the amortized cost basis.

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

CUSIP	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value at Time of OTTI	Date of Financial Instrument Where Reported
61750MAB1	\$ 5,275	\$ 4,933	\$ (341)	\$ 4,933	\$ 4,989	March 31, 2019
65106FAG7	232,843	215,726	(17,118)	215,726	6,316	March 31, 2019
18974BAA7	285,889	270,801	(15,088)	270,801	278,616	March 31, 2019
18974BAN9	149,774	139,333	(10,441)	139,333	148,234	March 31, 2019
32051GCF0	22,786	(6,720)	(29,507)	(6,720)	17,553	March 31, 2019
761118FM5	3,259,303	3,218,368	(40,935)	3,218,368	3,244,154	March 31, 2019
17309FAE8	200,512	200,501	(11)	200,501	208,828	March 31, 2019
466247UG6	467,713	452,359	(15,354)	452,359	459,812	March 31, 2019
57643QAE5	3,114,325	3,109,376	(4,949)	3,109,376	3,256,107	March 31, 2019
US74951PBV94	51,011	29,960	(21,051)	29,960	58,411	March 31, 2019
Totals	\$ 7,789,431	\$ 7,634,637	\$ (154,794)	\$ 7,634,637	\$ 7,683,020	

- (4) As of March 31, 2019, 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	\$	(70,387,163)			
	2. 12 months or longer	\$	(74,273,455)			
b.	The aggregate related fair value of securities with unrealized losses:					
	1. Less than 12 months	\$	6,129,845,296			
	2. 12 months or longer	\$	2,897,949,979			

- (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.

NOTES TO FINANCIAL STATEMENTS

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 assets 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	-	-	-
b. Tri-Party (YES/NO)	NO	-	-	-

(3) Original (Flow) & Residual Maturity

	FIRST QUARTER				SECOND QUARTER			
	1 MINIMUM	2 MAXIMUM	3 AVERAGE DAILY BALANCE	4 ENDING BALANCE	5 MINIMUM	6 MAXIMUM	7 AVERAGE DAILY BALANCE	8 ENDING BALANCE
a. Open – No Maturity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Overnight	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
c. 2 Days to 1 Week	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
d. > 1 Week to 1 Month	\$ 25,112,500	\$ 478,331,250	\$ 191,700,481	\$ 478,331,250	\$ -	\$ -	\$ -	\$ -
e. > 1 Month to 3 Months	\$ 1,378,958,732	\$ 2,443,289,210	\$ 1,847,670,788	\$ 1,381,711,232	\$ -	\$ -	\$ -	\$ -
f. > 3 Months to 1 Year	\$ 2,518,781,700	\$ 4,217,378,750	\$ 3,068,496,660	\$ 3,009,547,950	\$ -	\$ -	\$ -	\$ -
g. > 1 Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

	THIRD QUARTER				FOURTH QUARTER			
	9 MINIMUM	10 MAXIMUM	11 AVERAGE DAILY BALANCE	12 ENDING BALANCE	13 MINIMUM	14 MAXIMUM	15 AVERAGE DAILY BALANCE	16 ENDING BALANCE
a. Open – No Maturity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Overnight	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
c. 2 Days to 1 Week	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
d. > 1 Week to 1 Month	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
e. > 1 Month to 3 Months	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
f. > 3 Months to 1 Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
g. > 1 Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

(4) The company did not have any repurchase agreements where securities sold and/or acquired resulted in default as of March 31, 2019.

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

	FIRST QUARTER				SECOND QUARTER			
	1 MINIMUM	2 MAXIMUM	3 AVERAGE DAILY BALANCE	4 ENDING BALANCE	5 MINIMUM	6 MAXIMUM	7 AVERAGE DAILY BALANCE	8 ENDING BALANCE
a. BACV	XXX	XXX	XXX	\$ 4,869,590,432	XXX	XXX	XXX	\$ -
b. Nonadmitted - Subset of BACV	XXX	XXX	XXX	\$ -	XXX	XXX	XXX	\$ -
c. Fair Value	\$ 4,784,106,400	\$ 6,685,780,461	\$ 5,107,867,929	\$ 4,869,590,432	\$ -	\$ -	\$ -	\$ -

	THIRD QUARTER				FOURTH QUARTER			
	9 MINIMUM	10 MAXIMUM	11 AVERAGE DAILY BALANCE	12 ENDING BALANCE	13 MINIMUM	14 MAXIMUM	15 AVERAGE DAILY BALANCE	16 ENDING BALANCE
a. BACV	XXX	XXX	XXX	\$ -	XXX	XXX	XXX	\$ -
b. Nonadmitted - Subset of BACV	XXX	XXX	XXX	\$ -	XXX	XXX	XXX	\$ -
c. Fair Value	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

NOTES TO FINANCIAL STATEMENTS

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

ENDING BALANCE

	1 NONE	2 NAIC 1	3 NAIC 2	4 NAIC 3	5 NAIC 4	6 NAIC 5	7 NAIC 6	8 NON- ADMITTED
a. Bonds - BACV	\$ -	\$ 4,869,590,432	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Bonds - FV	-	4,869,590,432	-	-	-	-	-	-
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	\$ -	\$ 4,869,590,432	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
q. Total Assets - FV	\$ -	\$ 4,869,590,432	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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			
	1 MINIMUM	2 MAXIMUM	3 AVERAGE DAILY BALANCE	4 ENDING BALANCE	5 MINIMUM	6 MAXIMUM	7 AVERAGE DAILY BALANCE	8 ENDING BALANCE
a. Cash	\$ 6,100,802	\$ 23,884,197	\$ 12,360,041	\$ 14,619,197	\$ -	\$ -	\$ -	\$ -
b. Securities (FV)	\$ 3,568,544,223	\$ 4,903,138,950	\$ 4,655,778,775	\$ 4,407,590,406	\$ -	\$ -	\$ -	\$ -

	THIRD QUARTER				FOURTH QUARTER			
	9 MINIMUM	10 MAXIMUM	11 AVERAGE DAILY BALANCE	12 ENDING BALANCE	13 MINIMUM	14 MAXIMUM	15 AVERAGE DAILY BALANCE	16 ENDING BALANCE
a. Cash	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Securities (FV)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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

ENDING BALANCE

	1 NONE	2 NAIC 1	3 NAIC 2	4 NAIC 3	5 NAIC 4	6 NAIC 5	7 NAIC 6	8 DOES NOT QUALIFY AS ADMITTED
a. Cash	\$ 14,619,197	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Bonds - FV	-	4,407,590,406	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-
Total Collateral Assets - FV (Sum of a through i)	\$ 14,619,197	\$ 4,407,590,406	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

(9) Allocation of Aggregate Collateral by Remaining Contractual Maturity

	FAIR VALUE
a. Overnight and Continuous	\$ 478,331,250
b. 30 Days or Less	\$ 2,069,928,200
c. 31 to 90 Days	\$ 2,321,330,982
d. > 90 Days	\$ -

(10) The company did not have any repurchase agreements where cash collateral received was reinvested as of March 31, 2019.

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

	FIRST QUARTER				SECOND QUARTER			
	1 MINIMUM	2 MAXIMUM	3 AVERAGE DAILY BALANCE	4 ENDING BALANCE	5 MINIMUM	6 MAXIMUM	7 AVERAGE DAILY BALANCE	8 ENDING BALANCE
a. Cash (Collateral – All) Securities Collateral (FV)	\$ 6,100,802	\$ 23,884,197	\$ 12,360,041	\$ 14,619,197	\$ -	\$ -	\$ -	\$ -
b. Securities Collateral (FV)	\$ 3,568,544,223	\$ 4,903,138,950	\$ 4,655,778,775	\$ 4,407,590,406	\$ -	\$ -	\$ -	\$ -

	THIRD QUARTER				FOURTH QUARTER			
	9 MINIMUM	10 MAXIMUM	11 AVERAGE DAILY BALANCE	12 ENDING BALANCE	13 MINIMUM	14 MAXIMUM	15 AVERAGE DAILY BALANCE	16 ENDING BALANCE
a. Cash (Collateral – All) Securities Collateral (FV)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Securities Collateral (FV)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

NOTES TO FINANCIAL STATEMENTS

- 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.
- h. Repurchase agreements transactions accounted for as a sale: The Company did not have any repurchase agreements transactions accounted for as a sale.
- 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.
- 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.
- 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.
- o. Structured notes:
A structured note is a direct debt issuance by a corporation, municipality, or government entity, ranking pari-passu with the issuer's other debt issuance of equal seniority where either: (a) the coupon and/or principal payments are linked, in whole or in part, to prices or payment streams from index or indices, or assets deriving their value from other than the issuer's credit quality, or (b) the coupon and/or principal payments are leveraged by a formula that is different from either a fixed coupon, or a non-leveraged floating rate coupon linked to an interest rate index, including but not limited to the London Interbank Offered Rate (LIBOR) or the prime rate. As structured notes are issuer obligations without a trust, they are within the scope of SSAP No. 26, "Bonds, Excluding Loan-backed and Structured Securities". Structured notes are different than the asset backed structured securities, which are accounted for under SSAP No. 43R, "Revised - Loan-Backed and Structured Securities", as they lack either a trust or assets backing them. The disclosure below allows regulators to assess the volume of activity in structured notes and to determine whether additional accounting or reporting revisions, such as valuation and risk-based capital, are needed. To satisfy this request, the Company is required to separately identify structured notes, on a CUSIP basis and provide information by CUSIP for actual cost, fair value, book/adjusted carrying value, and whether the structured note is a mortgage-referenced security. The following sets forth the actual cost, fair value and carrying value of structured notes as of March 31, 2019:

CUSIP Identification	Actual Cost	Fair Value	Book / Adjusted Carrying Value	Mortgage-Referenced Security (YES/NO)
30711XDK7	\$ 223,984	\$ 218,892	\$ 222,430	YES
391164AF7	8,467,560	8,081,118	8,170,515	NO
P7794GAH5	1,262,834	1,292,156	1,273,047	NO
912810FR4	4,944,283	6,255,991	5,694,955	NO
912810PS1	1,874,118	2,710,983	2,359,867	NO
059514AC3	9,327,385	10,260,000	9,365,615	NO
Total	\$ 26,100,164	\$ 28,819,140	\$ 27,086,429	XXX

- p. 5* Securities:

Investment	Number of 5* Securities		Aggregate BACV		Aggregate Fair Value	
	Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year
(1) Bonds - AC	74	92	\$606,323,619	\$669,688,836	\$590,793,667	\$651,777,531
(2) LB&SS - AC	-	-	-	-	-	-
(3) Preferred Stock - AC	3	4	14,600,149	15,232,649	19,323,420	19,902,853
(4) Preferred Stock - FV	-	-	-	-	-	-
(5) Total (1+2+3+4)	77	96	\$620,923,768	\$684,921,485	\$610,117,087	\$671,680,384

AC - Amortized Cost FV - Fair Value

- q. Short Sales - The Company does not engage in short sale transactions.
- r. Prepayment Penalty and Acceleration Fees:

	Three Months Ended March 31, 2019	
	General Account	Separate Account
1. Number of CUSIPS	25	8
2. Aggregate Amount of Investment Income	\$ 5,284,880	\$ 669,049

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

Note 7 – Investment Income – No change

Note 8 – Derivative Instruments - No change

Note 9 – Income Taxes – No change

NOTES TO FINANCIAL STATEMENTS

Note 10 – Information Concerning Parent, Subsidiaries and Affiliates

a-c. MMHLLC paid \$650,000,000 in dividends for the three months ended March 31, 2019, which were declared in December 2018, and recorded no dividends for the three months ended March 31, 2018.

MassMutual contributed additional capital of \$10,000,000 to MMHLLC for the three months ended March 31, 2019 and \$140,968,604 for the three months ended March 31, 2018.

In October 2018, MassMutual announced a transaction in which Invesco Ltd. (Invesco), a global asset manager, will acquire MassMutual's retail asset management affiliate, OppenheimerFunds, Inc (OFI). In turn, MassMutual is expected to receive an approximate 15.5% common equity interest in the combined company. Under the terms of the agreement, MassMutual and OFI employee shareholders will receive 81.9 million shares of Invesco common equity and \$3,948,653,000 in preferred shares with a fixed dividend rate of 5.9%. As part of this transaction, Invesco and MassMutual will enter into a shareholder agreement in which MassMutual will have customary minority shareholder rights, including appointment of a director to Invesco's board of directors. Pending regulatory and other customary approvals, the transaction is expected to close in the second quarter of 2019.

In February 2019, MassMutual purchased approximately \$570,000,000 of OFI seed capital investments, primarily in the form of common stocks – affiliated and novated the associated derivatives at fair market value.

d-f. No change

g. Subsidiaries of MMHLLC and MMI 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 \$2,000,000,000. The Company's unused capacity was \$894,076,887.51 as of March 31, 2019.

(2) FHLB Boston capital stock

a. Aggregate totals:

		March 31, 2019		
		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	49,400,000	49,400,000	-
	(d) Excess Stock	-	-	-
	(e) Aggregate Total	\$ 59,400,000	\$ 59,400,000	\$ -
	(f) Actual or Estimated Borrowing Capacity as Determined by the Insurer	\$ 2,000,000,000	\$ 2,000,000,000	\$ -
	2. Prior Year-end:			
	(a) Membership stock - Class A	\$ -	\$ -	-
	(b) Membership stock - Class B	25,000,000	25,000,000	-
	(c) Activity Stock	48,700,000	48,700,000	-
	(d) Excess Stock	-	-	-
	(e) Aggregate Total	\$ 73,700,000	\$ 73,700,000	\$ -
	(f) Actual or Estimated Borrowing Capacity as determined by the Insurer	\$ 2,000,000,000	\$ 2,000,000,000	\$ -

NOTES TO FINANCIAL STATEMENTS

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

Three Months Ended March 31, 2019						
Membership Stock	1 Current Year Total	2 Not Eligible for Redemption	Eligible for Redemption			
			3 Less Than 6 Months	4 6 Months to Less Than 1 Year	5 1 to Less Than 3 Years	6 3 to 5 Years
1. Class A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2. Class B	10,000,000	10,000,000	-	-	-	-

(3) Collateral pledged to FHLB:

a. Amount pledged as of March 31, 2019:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 1,584,377,212	\$ 1,214,272,061	\$ 1,105,923,112

2. Current year general account:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 1,584,377,212	\$ 1,214,272,061	\$ 1,105,923,112

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	\$ 1,585,921,118	\$ 1,217,470,617	\$ 1,103,750,455

b. Maximum amount pledged for the three months ended March 31, 2019:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 1,640,573,775	\$ 1,249,138,717	\$ 1,107,980,442

2. Current year general account:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 1,640,573,775	\$ 1,249,138,717	\$ 1,107,980,442

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	\$ 1,635,548,627	\$ 1,246,429,701	\$ 1,103,750,455

NOTES TO FINANCIAL STATEMENTS

(4) Borrowing from FHLB:

a. Amount:

1. Current year:

	March 31, 2019			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,105,923,112	1,105,923,112	-	1,105,923,112
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,105,923,112</u>	<u>\$ 1,105,923,112</u>	<u>\$ -</u>	<u>\$ 1,105,923,112</u>

2. Prior Year-end:

	December 31, 2018			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,103,750,455	1,103,750,455	-	1,103,750,455
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,103,750,455</u>	<u>\$ 1,103,750,455</u>	<u>\$ -</u>	<u>\$ 1,103,750,455</u>

b. Maximum Amount:

	Three Months Ended March 31, 2019		
	1 Total 2+3	2 General Account	3 Separate Account
1. Debt	\$ -	\$ -	\$ -
2. Funding	1,107,980,442	1,107,980,442	-
3. Other	-	-	-
4. Aggregate	<u>\$ 1,107,980,442</u>	<u>\$ 1,107,980,442</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

	Three Months Ended March 31,							
	2019		2018		2019		2018	
	Pension Benefits		Postretirement Benefits		Special or Contractual Benefits per SSAP No 11			
(4) Components of net periodic benefit cost								
a. Service cost	\$ 27,734,491	\$ 28,191,975	\$ 3,300,000	\$ 3,175,000	\$ -	\$ -	-	-
b. Interest cost	29,414,962	26,903,376	3,375,000	2,925,000	-	-	-	-
c. Expected return on plan assets	(39,876,773)	(42,877,100)	(25,000)	(25,000)	-	-	-	-
d. Transition asset or obligation	-	-	-	-	-	-	-	-
e. Gains and losses	14,123,368	13,699,267	(50,000)	575,000	-	-	-	-
f. Prior service cost or (credit)	-	780,671	(1,375,000)	(1,375,000)	-	-	-	-
g. Gain or loss recognized due to a settlement or curtailment	-	-	-	-	-	-	-	-
h. Total net periodic benefit cost	<u>\$ 31,396,048</u>	<u>\$ 26,698,190</u>	<u>\$ 5,225,000</u>	<u>\$ 5,275,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>-</u>	<u>-</u>

(5-21) No change

b-i No change

NOTES TO FINANCIAL STATEMENTS

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

(1-3) No change

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

(5-13) No change

Note 14 – Liabilities, Contingencies and Assessments

a. Contingent commitments:

In the normal course of business, the Company enters into funding agreements. On March 7, 2019, MassMutual entered into a Contingent Capital Facility Agreement (the Facility) with an unaffiliated entity, Harborwalk Funding Trust (the Trust). Subject to regulatory approval, under the Facility MassMutual has the right, and in certain circumstances the obligation, to issue up to \$800 million of surplus notes to the Trust in exchange for all or a pro rata portion of certain principal and interest strips of U.S. Treasury Securities held by the Trust. MassMutual is required to pay a facility fee of approximately 2.00% per year to the Trust on the undrawn portion of the Facility (totaling approximately \$16 million per year if the Facility remains undrawn) and certain additional administrative fees and expenses.

b. Assessments - No change

c. Gain contingencies - No change

d. Claims related to extra contractual obligations - No change

e. Joint and several liabilities - No change

f. All other contingencies:

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

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

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 2019 or 2018.

(3) No change

(4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2019 or 2018.

(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 three months ended March 31, 2019 that were reacquired within 30 days of the sale date.

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

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

Note 20 – Fair Value Measurements

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

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

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

NOTES TO FINANCIAL STATEMENTS

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

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

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

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

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

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

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

	March 31, 2019			Net Asset Value (NAV)	Total
	Level 1	Level 2	Level 3		
Financial assets:					
Bonds:					
Industrial and miscellaneous	\$ 10,032,962	\$ 102,429,282	\$ 41,039,293	\$ -	\$ 153,501,537
Parent, subsidiaries and affiliates	-	74,016,388	56,558,141	-	130,574,529
Preferred stocks	-	-	10,648,298	-	10,648,298
Common stock - subsidiaries and affiliates	807,968,098	-	116,267,531	-	924,235,629
Common stock - unaffiliated	243,827,897	-	233,512,610	-	477,340,507
Derivatives:					
Interest rate swaps	-	7,232,747,053	-	-	7,232,747,053
Options	-	740,318,931	-	-	740,318,931
Currency swaps	-	708,078,508	-	-	708,078,508
Forward contracts	-	67,662,234	-	-	67,662,234
Credit default swaps	-	1	-	-	1
Financial futures	-	130,443,920	-	-	130,443,920
Separate account assets	45,376,143,340	23,276,600,473	420,167,703	-	69,072,911,516
Total financial assets carried at fair value	\$ 46,437,972,297	\$ 32,332,296,790	\$ 878,193,576	\$ -	\$ 79,648,462,663
Financial liabilities:					
Interest rate swaps	\$ -	\$ 5,397,722,891	\$ -	\$ -	\$ 5,397,722,891
Options	-	1,923,923	-	-	1,923,923
Currency swaps	-	228,593,289	-	-	228,593,289
Forward contracts	-	36,521,598	-	-	36,521,598
Credit default swaps	-	103,928	-	-	103,928
Financial futures	-	22,302,069	-	-	22,302,069
Total financial liabilities carried at fair value	\$ -	\$ 5,687,167,698	\$ -	\$ -	\$ 5,687,167,698

NOTES TO FINANCIAL STATEMENTS

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 March 31, 2019, there were no significant transfers between Level 1 and Level 2 and the Company does not have any financial instruments that were carried at NAV as a practical expedient.

	December 31, 2018				
	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
Financial assets:					
Bonds:					
Special revenue	\$ -	\$ 50,382	\$ -	\$ -	\$ 50,382
Industrial and miscellaneous	10,043,280	29,538,778	63,859,896	-	103,441,954
Parent, subsidiaries and affiliates	-	81,533,868	65,576,875	-	147,110,743
Preferred stocks	-	-	287,758	-	287,758
Common stock - subsidiaries and affiliates	233,070,805	-	164,920,846	-	397,991,651
Common stock - unaffiliated	194,455,569	-	305,537,860	-	499,993,429
Derivatives:					
Interest rate swaps	-	6,629,062,841	-	-	6,629,062,841
Options	-	910,876,374	-	-	910,876,374
Currency swaps	-	843,350,847	-	-	843,350,847
Forward contracts	-	106,021,420	-	-	106,021,420
Interest rate caps and floors	-	18,142,286	-	-	18,142,286
Financial futures	-	215,810,517	-	-	215,810,517
Separate account assets	41,358,963,395	22,568,484,678	550,652,512	-	64,478,100,585
Total financial assets carried at fair value	\$ 41,796,533,048	\$ 31,402,871,990	\$ 1,150,835,747	\$ -	\$ 74,350,240,785
Financial liabilities:					
Derivatives:					
Interest rate swaps	\$ -	\$ 4,646,939,586	\$ -	\$ -	\$ 4,646,939,586
Options	-	4,556,715	-	-	4,556,715
Currency swaps	-	231,601,523	-	-	231,601,523
Forward contracts	-	12,189,652	-	-	12,189,652
Credit default swaps	-	117,646	-	-	117,646
Financial futures	-	15,090,134	-	-	15,090,134
Total financial liabilities carried at fair value	\$ -	\$ 4,910,495,256	\$ -	\$ -	\$ 4,910,495,256

For the year ended December 31, 2018, \$298,342,115 of unaffiliated common stock were transferred from Level 2 to Level 1.

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

	Balance as of		Transfers ⁽¹⁾		Gains (Losses) in		Gains (Losses) in		Purchases		Issuances		Sales		Settlements		Balance as of	
	01/01/2019	In	Out	Net Income	Surplus	Purchases	Issuances	Sales	Settlements	3/31/2019								
Financial assets:																		
Bonds:																		
Industrial and miscellaneous	\$ 63,859,896	\$ 1,777,778	\$ (11,838,025)	\$ 1,435,856	\$ (1,673,762)	\$ -	\$ -	\$ -	\$ (12,522,448)	\$ 41,039,295								
Parent, subsidiaries and affiliates	65,576,875	-	(8,120,000)	-	(898,734)	-	-	-	-	56,558,141								
Preferred stock	287,758	10,380,422	-	-	(19,882)	-	-	-	-	10,648,298								
Common stock - subsidiaries and affiliates	164,920,846	-	-	824,411	(46,034,063)	-	-	-	(3,443,665)	116,267,529								
Common stock - unaffiliated	305,537,860	-	(596)	10,729,583	(23,924,986)	2,000,344	-	(60,829,596)	-	233,512,610								
Derivatives:																		
Separate account assets	550,652,512	-	-	11,587,055	-	11,865	-	(142,043,300)	(40,429)	420,167,703								
Total financial assets	\$ 1,150,835,747	\$ 12,158,200	\$ (19,958,621)	\$ 24,576,905	\$ (72,551,426)	\$ 2,012,209	\$ -	\$ (202,872,896)	\$ (16,006,542)	\$ 878,193,576								

⁽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.

NOTES TO FINANCIAL STATEMENTS

	Balance	Transfers ⁽¹⁾		Gains	Gains	Purchases	Issuances	Sales	Settlements	Balance
	as of 01/01/2018	In	Out	(Losses) in Net Income	(Losses) in Surplus					as of 12/31/2018
Financial assets:										
Bonds:										
Industrial and miscellaneous	\$ 55,266,237	\$ 26,264,839	\$ -	\$ (4,286,686)	\$ (5,094,597)	\$ 28,095	\$ 1,149,829	\$ -	\$ (9,467,821)	\$ 63,859,896
Parent, subsidiaries, and affiliates	60,662,659	4,823,319	-	4,095,453	(7,905,019)	9,443,000	-	-	(5,542,537)	65,576,875
Preferred Stock	1,510,480	-	(1,510,480)	-	(258,495)	-	546,253	-	-	287,758
Common stock - subsidiaries and affiliates	109,665,674	13,222,371	-	493,096	19,959,607	15,219,962	6,360,136	-	-	164,920,846
Common stock - unaffiliated	310,576,050	8	-	5,907,774	13,633,102	16,475,759	2,685,166	(133,809)	(43,606,190)	305,537,860
Derivatives:	1,255,252	-	(1,255,252)	-	-	-	-	-	-	-
Separate account assets	709,516,352	-	-	7,025,543	-	112,288,189	-	(277,950,548)	(227,024)	550,652,512
Total financial assets	\$ 1,248,452,704	\$ 44,310,537	\$ (2,765,732)	\$ 13,235,180	\$ 20,334,598	\$ 153,455,005	\$ 10,741,384	\$ (278,084,357)	\$ (58,843,572)	\$ 1,150,835,747
Financial liabilities:										
Derivatives:										
Currency swaps	\$ 193,806	\$ -	\$ (193,806)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	8,432,028	-	(8,432,028)	-	-	-	-	-	-	-
Total financial liabilities	\$ 8,625,834	\$ -	\$ (8,625,834)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

⁽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 maximize the use of observable inputs and minimize the use of unobservable inputs in selecting whether the market or the income approach is used.

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

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

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

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

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

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

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

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

NOTES TO FINANCIAL STATEMENTS

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

	March 31, 2019					Net	Not
	Aggregate	Admitted				Asset	Practicable
	Fair Value	Assets	Level 1	Level 2	Level 3	Value	(Carrying Value)
Financial assets:							
Bonds:							
U. S. government and agencies	\$ 5,839,980,861	\$ 5,410,894,820	\$ -	\$ 5,839,551,327	\$ 429,534	\$ -	-
All other governments	1,710,116,657	1,642,833,016	-	1,642,006,872	68,109,785	-	-
States, territories and possessions	657,818,987	612,747,194	-	657,818,987	-	-	-
Political subdivisions	583,166,843	545,674,452	-	583,166,843	-	-	-
Special revenue	6,620,428,852	5,993,053,722	-	6,610,828,934	9,599,918	-	-
Industrial and miscellaneous	78,963,325,815	77,081,681,605	10,032,962	45,575,317,546	33,377,975,307	-	-
Parent, subsidiaries and affiliates	7,106,280,869	6,983,821,110	-	1,235,880,273	5,870,400,596	-	-
Preferred stocks	756,010,451	747,799,878	11,265,036	-	744,745,415	-	-
Common stocks - subsidiaries and affiliates ⁽¹⁾	924,235,628	924,235,628	807,968,097	-	116,267,531	-	-
Common stocks - unaffiliated	477,340,507	477,340,507	243,827,897	-	233,512,610	-	-
Mortgage loans - commercial	23,871,445,655	23,123,368,381	-	-	23,871,445,655	-	-
Mortgage loans - residential	1,238,909,002	1,278,946,188	-	-	1,238,909,002	-	-
Cash, cash equivalents and short-term investments	3,416,464,421	3,416,464,421	214,455,273	3,202,009,148	-	-	-
Derivatives:							
Interest rate swaps	7,459,499,150	7,230,257,053	-	7,459,499,150	-	-	-
Options	742,808,930	742,808,930	-	742,808,930	-	-	-
Currency swaps	708,078,509	708,078,509	-	708,078,509	-	-	-
Forward contracts	74,707,574	67,662,235	-	74,707,574	-	-	-
Credit default swaps	7,036,375	18,842,502	-	7,036,375	-	-	-
Financial futures	130,443,920	130,443,920	-	130,443,920	-	-	-
Separate account assets	69,072,911,514	69,072,911,514	45,376,143,338	23,276,600,473	420,167,703	-	-
Financial liabilities:							
Repurchase agreements	4,391,259,182	4,391,259,182	-	4,391,259,182	-	-	-
Commercial paper	249,786,188	249,786,188	-	249,786,188	-	-	-
Guaranteed interest contracts	9,663,335,604	9,656,534,096	-	-	9,663,335,604	-	-
Group annuity contracts and other deposits	17,820,904,973	17,906,398,435	-	-	17,820,904,973	-	-
Individual annuity contracts	8,112,146,915	9,000,019,152	-	-	8,112,146,915	-	-
Supplementary contracts	1,176,411,686	1,177,513,085	-	-	1,176,411,686	-	-
Derivatives:							
Interest rate swaps	5,862,173,034	5,397,722,891	-	5,862,173,034	-	-	-
Options	1,923,923	1,923,923	-	1,923,923	-	-	-
Currency swaps	228,593,289	228,593,289	-	228,593,289	-	-	-
Forward contracts	52,143,618	36,521,598	-	52,143,618	-	-	-
Credit default swaps	1,264,445	912,506	-	1,264,445	-	-	-
Financial futures	22,302,069	22,302,069	-	22,302,069	-	-	-

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had a statutory carrying value of \$10,635,934,198.

NOTES TO FINANCIAL STATEMENTS

December 31, 2018

	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	\$ 6,193,428,890	\$ 5,854,233,662	\$ -	\$ 6,192,947,715	\$ 481,174	\$ -	\$ -
All other governments	1,480,982,279	1,486,656,995	-	1,414,689,011	66,293,268	-	-
States, territories and possessions	646,576,736	613,530,541	-	646,576,736	-	-	-
Political subdivisions	571,557,366	547,158,039	-	571,557,366	-	-	-
Special revenue	6,420,868,430	5,927,223,715	-	6,411,389,089	9,479,341	-	-
Industrial and miscellaneous	74,537,526,494	75,125,303,136	10,043,280	42,694,321,928	31,833,161,285	-	-
Parent, subsidiaries and affiliates	7,570,106,836	7,526,017,122	-	1,171,337,829	6,398,769,007	-	-
Preferred stocks	733,775,843	744,092,065	11,668,660	-	722,107,184	-	-
Common stock - subsidiaries and affiliates ⁽¹⁾	397,991,651	397,991,651	233,070,805	-	164,920,846	-	-
Common stock - unaffiliated	499,993,428	499,993,428	194,455,569	-	305,537,860	-	-
Mortgage loans - commercial	22,793,945,324	22,357,118,876	-	-	22,793,945,324	-	-
Mortgage loans - residential	1,210,675,405	1,266,688,652	-	-	1,210,675,405	-	-
Cash, cash equivalents and short-term investments	4,318,003,746	4,318,003,746	175,136,350	4,142,867,396	-	-	-
Derivatives:							
Interest rate swaps	6,858,304,938	6,629,062,841	-	6,858,304,938	-	-	-
Options	910,876,374	910,876,374	-	910,876,374	-	-	-
Currency swaps	843,350,847	843,350,847	-	843,350,847	-	-	-
Forward contracts	113,066,759	106,021,420	-	113,066,759	-	-	-
Credit default swaps	6,238,219	18,044,346	-	6,238,219	-	-	-
Financial futures	215,810,517	215,810,517	-	215,810,517	-	-	-
Separate account assets	64,478,100,587	64,478,100,587	41,358,963,394	22,568,484,678	550,652,512	-	-
Financial liabilities:							
Repurchase agreements	4,768,493,900	4,768,493,900	-	4,768,493,900	-	-	-
Commercial paper	249,786,188	249,786,188	-	249,786,188	-	-	-
Guaranteed investment contracts	8,728,933,859	8,824,880,908	-	-	8,728,933,859	-	-
Group annuity contracts and other deposits	17,950,757,186	17,863,326,686	-	-	17,950,757,186	-	-
Individual annuity contracts	8,925,311,575	8,130,925,014	-	-	8,925,311,575	-	-
Supplementary contracts	1,179,488,114	1,178,326,789	-	-	1,179,488,114	-	-
Derivatives:							
Interest rate swaps	5,111,389,729	4,646,939,586	-	5,111,389,729	-	-	-
Options	4,556,715	4,556,715	-	4,556,715	-	-	-
Currency swaps	231,601,523	231,601,523	-	231,601,523	-	-	-
Forward contracts	27,811,672	12,189,652	-	27,811,672	-	-	-
Credit default swaps	1,957,447	1,605,508	-	1,957,447	-	-	-
Financial futures	15,090,134	15,090,134	-	15,090,134	-	-	-

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$10,347,741,501.

d. As of March 31, 2019 and December 31, 2018, 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 2017 Annual Statement.

Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, morbidity, longevity, persistency, interest rates and other factors. If actual policy experience emerges that is significantly and adversely different from assumptions used in product pricing, the effect could be material to the profitability of the Company. For participating whole life products, the Company's dividends to policyholders primarily reflect the difference between actual investment, mortality, expense and persistency experience and the experience embedded in the whole life premiums and guaranteed elements. The Company also reinsures certain life insurance and other long-term care insurance policies to mitigate the impact of its underwriting risk.

NOTES TO FINANCIAL STATEMENTS

Investment and interest rate risks

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

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

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

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

Currency exchange risk

The Company has currency risk due to its non-U.S. dollar 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.

Political Uncertainties

Political events, domestically or internationally, may directly or indirectly trigger or exacerbate 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 utilize the mitigating actions described above to attempt to reduce the potential impact of each underlying risk factor on the Company.

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

NOTES TO FINANCIAL STATEMENTS

(3) Direct exposure through other investments.

Alt-A:	March 31, 2019			Three Months Ended March 31, 2019
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 209,565,315	\$ 247,261,655	\$ 284,803,959	\$ 97,539
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	15,367,031	17,751,546	20,043,192	5,211
f. Other assets	-	-	-	-
g. Total	<u>\$ 224,932,346</u>	<u>\$ 265,013,201</u>	<u>\$ 304,847,151</u>	<u>\$ 102,750</u>

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

Alt-A:	December 31, 2018			Year Ended December 31, 2018
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 219,822,592	\$ 256,906,006	\$ 296,513,786	\$ 800,251
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	16,095,268	18,430,722	20,861,741	76,979
f. Other assets	-	-	-	-
g. Total	<u>\$ 235,917,860</u>	<u>\$ 275,336,728</u>	<u>\$ 317,375,527</u>	<u>\$ 877,230</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.

(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 May 13, 2019, 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 Statements of Financial Position and before the date of evaluation that would require disclosure.

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 2019 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 – Premium and Annuity Considerations Deferred and Uncollected - No change

Note 34 – Separate Accounts - No change

Note 35 – 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 for the annual filing corresponding to this period.
- 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. 12/31/2014
- 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
Baring International Investment Limited	London, UK				YES
Barings Global Advisers Limited	London, UK				YES
Barings Securities, LLC	Charlotte, NC				YES
HarbourView Asset Management Corporation	New York, NY				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
OC Private Capital, LLC	New York, NY				YES
OFI Advisors, Inc.	New York, NY				YES
OFI Global Asset Management, Inc.	New York, NY				YES
OFI Global Institutional, Inc.	New York, NY				YES
OFI Private Investments, Inc.	New York, NY				YES
OFI SteelPath, Inc.	Dallas, TX				YES
OppenheimerFunds Distributor, Inc.	New York, NY				YES
OppenheimerFunds Inc.	New York, NY				YES
The MassMutual Trust Company, FSB	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 [X] No []
- 9.21 If the response to 9.2 is Yes, provide information related to amendment(s).
Removed picture and quote of Scott Sebastian and replaced it with new quote and picture of Alison Weiss under Working with the government and third parties section.
- 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:
Repurchase agreements, Letter stock or securities restricted as to sale - excluding FHLB Capital Stock, FHLB Capital Stock, On deposit with states, pledged as collateral - excluding collateral pledged to an FHLB and Pledged as collateral to FHLB - including assets backing funding agreements
12. Amount of real estate and mortgages held in other invested assets in Schedule BA: \$ 1,934,424,634
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 Prior Year-End Book/Adjusted Carrying Value	2 Current Quarter Book/Adjusted Carrying Value
14.21 Bonds	\$ 7,526,017,124	\$ 6,983,821,110
14.22 Preferred Stock	\$	\$
14.23 Common Stock	\$ 12,013,931,427	\$ 13,223,605,462
14.24 Short-Term Investments	\$	\$
14.25 Mortgage Loans on Real Estate	\$	\$
14.26 All Other	\$ 5,685,872,120	\$ 5,756,730,296
14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26)	\$ 25,225,820,671	\$ 25,964,156,868
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 []
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 MARCH 31, 2019 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

- 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
Apollo Aviation Group Capital Markets LLC	U.....
OFI Institutional Asset Management, Inc.	A.....
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.....
KA Fund Advisors LLC	U.....
IFM Investors Pty Ltd	U.....
Ashmore Investment Management Limited	U.....
Jefferies Finance LLC	A.....
20 Gates Management, LLC	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 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 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	Apollo Aviation Group Capital Markets LLC		SEC	NO.....
110363	OFI Institutional Asset Management, Inc.		SEC	DS.....
106006	Barings LLC	R6ZXK5P01NP6HXS1S07	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.....
141037	KA Fund Advisors LLC		SEC	NO.....
162754	IFM Investors Pty Ltd		SEC	NO.....
185402	Ashmore Investment Management Limited	R6ZXK5P01NP6HXS1S07	SEC	NO.....
162264	Jefferies Finance LLC		SEC	DS.....
155480	20 Gates Management, LLC		SEC	NO.....

- 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 3/31/2019, 61 issues for 45 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 \$808,816,823 or 0.72% 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]

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 \$ 1,278,946,065
- 1.13 Commercial Mortgages \$ 23,123,368,504
- 1.14 Total Mortgages in Good Standing \$ 24,402,314,569
- 1.2 Long-Term Mortgages In Good Standing with Restructured Terms
- 1.21 Total Mortgages in Good Standing with Restructured Terms \$
- 1.3 Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months
- 1.31 Farm Mortgages \$
- 1.32 Residential Mortgages \$
- 1.33 Commercial Mortgages \$
- 1.34 Total Mortgages with Interest Overdue more than Three Months \$
- 1.4 Long-Term Mortgage Loans in Process of Foreclosure
- 1.41 Farm Mortgages \$
- 1.42 Residential Mortgages \$
- 1.43 Commercial Mortgages \$
- 1.44 Total Mortgages in Process of Foreclosure \$
- 1.5 Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2) \$ 24,402,314,569
- 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 62.201 %
- 2.2 A&H cost containment percent 1.000 %
- 2.3 A&H expense percent excluding cost containment expenses 45.925 %
- 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 MARCH 31, 2019 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
NAIC Company Code	ID Number	Effective Date	Name of Reinsurer	Domiciliary Jurisdiction	Type of Reinsurance Ceded	Type of Reinsurer	Certified Reinsurer Rating (1 through 6)	Effective Date of Certified Reinsurer Rating
.66346	58-0828824	.01/23/2019	Munich American Reassurance (MUV5)	GA	CO/I	Authorized		
.66346	58-0828824	.01/23/2019	Munich American Reassurance (MUV6)	GA	CO/I	Authorized		
.66346	58-0828824	.01/23/2019	Munich American Reassurance (MUV7)	GA	CO/I	Authorized		
.66346	58-0828824	.01/23/2019	Munich American Reassurance (MUV8)	GA	CO/I	Authorized		
.74900	63-0483783	.12/05/2018	Partner Re (PRPK)	AR	YRT/I	Authorized		
.97071	13-3126819	.01/01/2018	SCOR Global Life USA Reins Co (SUE9)	DE	YRT/G	Authorized		
.97071	13-3126819	.01/23/2019	SCOR Global Life USA Reins Co (SUV5)	DE	CO/I	Authorized		
.97071	13-3126819	.01/23/2019	SCOR Global Life USA Reins Co (SUV6)	DE	CO/I	Authorized		
.97071	13-3126819	.01/23/2019	SCOR Global Life USA Reins Co (SUV7)	DE	CO/I	Authorized		
.97071	13-3126819	.01/23/2019	SCOR Global Life USA Reins Co (SUV8)	DE	CO/I	Authorized		
.82627	06-0839705	.01/01/2018	Swiss Re Life & Health America (SRE9)	MO	YRT/G	Authorized		
.82627	06-0839705	.01/23/2019	Swiss Re Life & Health America (SRV5)	MO	CO/I	Authorized		
.82627	06-0839705	.01/23/2019	Swiss Re Life & Health America (SRV6)	MO	CO/I	Authorized		
.82627	06-0839705	.01/23/2019	Swiss Re Life & Health America (SRV7)	MO	CO/I	Authorized		
.82627	06-0839705	.01/23/2019	Swiss Re Life & Health America (SRV8)	MO	CO/I	Authorized		

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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, LLC	06-1041383		Delaware
CML Mezzanine Investor L, LLC	06-1041383		Delaware
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
MML Mezzanine Investor L, LLC	04-1590850		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 Timber Sales, Inc.	20-5305426		New York
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 Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
EM Opportunities LLC	None		Delaware
Jefferies Finance LLC	27-0105644		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Revolver Fund, L.P.	None		Delaware
JFIN Fund III LLC	None		Delaware
JFIN Asset Management LLC	None		Delaware
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
JFAM Loan Fund, LP	None		Delaware
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, 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 High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware

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

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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

PART 1 – ORGANIZATIONAL CHART

12.1

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
JFIN Revolver CLO Holdings LLC	None		Delaware
JFIN CLO 2007 Ltd.	None		Cayman Islands
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 MM CLO 2014 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 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 2018-II Ltd.	None		Cayman Islands
MassMutual MCAM Insurance Company	None		Vermont
MassMutual Mortgage Lending LLC	None		Delaware
MassMutual Retirement Services, LLC	04-1590850		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Mezzanine Investor, LLC	04-1590850		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
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

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

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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>
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		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
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 UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II 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
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
Baring Asset Management (Australia) Pty Limited	98-0457456		Australia
Barings Investment Advisors (Hong Kong) Limited	None		Hong Kong, Special Administrative Region of China
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 Real Estate UK Holdings Limited	None		Delaware

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

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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>
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 Global Advisors Limited	98-1012393		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Barings European Direct Lending 1 GP LLP	None		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
Baring France SAS	98-0497550		France
Baring Fund Managers Limited	98-0457586		United Kingdom
Baring Pension Trustees Limited	98-0457574		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Investment Fund (LUX) GP S.à. r.l.	None		Luxembourg
Barings GPC GP S.à. r.l.	None		Luxembourg
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
MassMutual Baring Holding LLC	04-1590850		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Aland Royalty Holdings LP	None		Delaware
Intermodal Holding II LLC	46-2344300		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Novation Companies, Inc.	None		Maryland
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC*	81-4065378		Connecticut

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

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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

PART 1 – ORGANIZATIONAL CHART

12.4

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
EIP Holdings I, LLC	None		Delaware
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	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
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware
Barings Alternative Investments SLP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Babson Global Loan Feeder Management, LLC	None		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 Multi Asset Income Fund	None		Hong Kong
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings/LAZ Parking Fund GP 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
CREF VIII 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 LLC	04-1590850		Delaware
Mezzco II LLC	02-0767001		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia LLC	90-0666326		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware

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STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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

PART 1 – ORGANIZATIONAL CHART

12.5

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Oppenheimer Acquisition Corp.	84-1149206		Delaware
OppenheimerFunds, Inc.	13-2527171		Colorado
OppenheimerFunds Distributor, Inc.	13-2953455		New York
Oppenheimer Real Asset Management, Inc.	84-1106295		Delaware
OFI Global Institutional, Inc	13-4160541		New York
HarbourView Asset Management Corporation	22-2697140		New York
OC Private Capital, LLC	None		Delaware
OFI Global Trust Company	13-3459790		New York
OFI Global: Emerging Markets Local Debt Fund LP	46-5001122		Delaware
OFI Global: Life Sciences Fund LP	46-5001122		Delaware
OFI International, Ltd.	None		United Kingdom
SNW Asset Management Corporation	None		Delaware
Seattle Northwest Asset Management LLC	None		Washington
Trinity Investment Management Corporation	25-1951632		Pennsylvania
OFI SteelPath, Inc.	84-1128397		Delaware
Shareholder Services, Inc.	84-1066811		Colorado
OFI Advisors, LLC	None		Delaware
Index Management Solutions, LLC	None		Pennsylvania
OFI Global Asset Management, Inc.	84-0765063		Delaware
OFI Private Investments Inc.	91-2036414		New York
Tremont Group Holdings, LLC	62-1210532		New York
Tremont Partners, LLC	06-1121864		Connecticut
Tremont GP, LLC	20-8215352		Delaware
Settlement Agent, LLC	90-0874510		Delaware
Tremont (Bermuda) Limited	None		Bermuda
MassMutual International LLC	04-3313782		Delaware
Yunfeng Financial Group Limited	None		Hong Kong
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
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
Cornerstone Global REIT Corporation	20-8730751		Delaware
Other Affiliates & Funds:			
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
300 South Tryon LLC	04-1590850		Delaware
54 West Capital LLC	20-3887968		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom

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STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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>
Almack Mezzanine Fund III LP*	None		United Kingdom
Barings Asset-Based Income Fund (US) LP	36-4868350		Delaware
Barings Emerging Markets Corporate Bond Fund	None		Ireland
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
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 Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands
Barings Global Inv. Grade Strat Fund	None		Ireland
Barings Global Private Loan Fund	None		Luxembourg
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands
Barings North American Private Loan Fund LP	38-4010344		Delaware
Barings RE Credit Strategies VII LP	98-1332384		Delaware
Barings 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
Cornerstone High Yield Venture LP	36-4770946		Delaware
Barings/LAZ Parking Fund LP	46-5437441		Delaware

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STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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

PART 1 – ORGANIZATIONAL CHART

12.7

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
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
Duchess VII CLO B.V.	None		United Kingdom
E-Wise Land Venture LLC	20-3887968		Delaware
Gateway Mezzanine Partners I LP	80-0691253		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
Kazwell Realty Partners LLC	20-3887968		Delaware
KKR-MM Vector LP	82-1512591		Delaware
Marco Hotel LLC	46-4255307		Delaware
HB Naples Golf Owner LLC	45-3623262		Delaware
MM Debt Participations LLC	81-3000420		Delaware
Oakley Grove Development LLC	20-3887968		Delaware
Old Pasco Properties LLC	20-3887968		Delaware
RB Apartments LLC	82-4411267		Delaware
Reston Arboretum LLC	75-2901061		Delaware
Riva Portland LLC	30-0713071		Delaware
Rockall CLO B.V.	None		United Kingdom
Rockville Town Center LLC	54-2055778		Virginia
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
South Pasco Properties LLC	20-3887968		Delaware
Ten Fan Pier Boulevard LLC	35-2553915		Delaware
Tower Square Capital Partners II, L.P.*	30-0336246		Delaware
Tower Square Capital Partners II-A, L.P.	32-0160190		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
West 46 th Street Hotel LLC	05-1590850		Delaware
Barings Affiliates & Funds:			
Barings Emerging Markets Debt Blended Total Return Fund	None		Ireland
Barings Emerging Markets Debt Short Duration Fund	None		Ireland
Barings Emerging Markets Sovereign Debt Fund	None		Ireland
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings Emerging Markets Debt Blended Total Return Fund	47-3758432		Massachusetts
Barings Global High Yield Fund	47-3790192		Massachusetts
Baring Greater China Equity Fund	None		Hong Kong
Barings Total Return Bond Fund	47-3734770		Massachusetts

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STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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 U.S. High Yield Fund	47-3801860		Massachusetts
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
Farringdon London Holdings LLC*	46-3880526		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 LLC	04-1590850		Delaware
PACO France Logistics 2 LLC	04-1590850		Delaware
PACO France Logistics 3 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
Spain Avalon Holding LLC	04-1590850		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Twenty Two Liberty LLC*	35-2484550		Massachusetts
UK LIW Manager LLC	45-4606547		Delaware
UK LIW Member LLC	45-4606547		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Via Ceresio Milan LLC	82-3281588		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
Waterloo London Holdings LLC	47-1993493		Delaware
WeHo Domain LLC*	46-3122029		Delaware

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STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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>
Ygnatio Valley Funding	20-5481477		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 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

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STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

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 Moderate Fund	45-1618262		Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046		Massachusetts
Oppenheimer Funds:			
OFI Carlyle Private Credit Fund	None		Delaware
OFI Pictet Global Environmental Solution Fund	81-5311583		Delaware
Oppenheimer Developing Markets Fund	93-6305075		Delaware
Oppenheimer Developing Markets Equity UCITS	None		Ireland
Oppenheimer Emerging Markets Innovators UCITS	None		Ireland
Oppenheimer Emerging Markets Local Debt UCITS	3440740DH		Ireland
Oppenheimer Global ILS Fund LP	83-1689208		New York
Oppenheimer Global Equity UCITS	None		Ireland
Oppenheimer Global Focus Equity UCITS Fund	None		Ireland
Oppenheimer Global Multi-Asset Growth Fund	47-3676235		Delaware
Oppenheimer Global Multi-Asset Income Fund	None		Delaware
Oppenheimer Global Real Estate Fund	46-1604428		Delaware
Oppenheimer Global Unconstrained Bond Fund	82-2693880		Delaware
Oppenheimer Macquarie Global Infrastructure Fund	81-1080638		Delaware
Oppenheimer Preferred Securities & Income Fund	82-3462739		Delaware
Oppenheimer Senior Floating Rate Plus Fund	None		Delaware
Oppenheimer Small Cap Value Fund	None		Delaware
Oppenheimer SteelPath MLP & Energy Infrastructure Fund	82-2222426		Delaware
Oppenheimer SteelPath Panoramic Fund	None		Delaware
Oppenheimer Ultra-Short Duration Fund	27-5013457		Delaware
Oppenheimerfunds ICAV - Developing Markets Equity UCITS Fund	None		Ireland
Oppenheimerfunds ICAV - Global Equity UCITS Fund	None		Ireland

12.10

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STATEMENT AS OF MARCH 31, 2019 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	UDP	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	CM Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	RE	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	IA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1041383				CML Mezzanine Investor, LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1041383				CML Mezzanine Investor L, LLC	DE	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			04-1590850				MML Mezzanine Investor L, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MML Special Situations Investor LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	Wood Creek Capital Management LLC	Management		MMLIC		
.0000							Lyme Adirondack Forest Company, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000			20-5305426				Lyme Adirondack Timber Sales, Inc.	NY	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands I, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands II, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Berkshire Way LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MSP-SC, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							EM Opportunities LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				Insurance Road LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Trad Private Equity LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Intellectual Property LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000							Trad Investments I LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000			27-0105644				Jefferies Finance LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		1
.0000							MassMutual MCAM Insurance Company	VT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Mortgage Lending LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Fund, L.P.	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 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							JFAM Loan Fund, LP	DE	NIA	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings II LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Europe GP, S.a.r.l.	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, SCSp	LUX	NIA	Jefferies Finance LLC	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		

STATEMENT AS OF MARCH 31, 2019 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)	*
.0000							JFIN Revolver CLO Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2007 Ltd.	CYM	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 MM CLO 2014 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	90.100	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							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			04-1590850				MassMutual Retirement Services, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Copper Hill Road LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership	1.000	MMLIC		
.0000							MML Investment Advisers, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Mezzanine Investor, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-3238013				MML Strategic Distributors, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB	CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	Y	
.0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.600	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.400	MMLIC		
.0000			90-1005837				MMAF Equipment Finance LLC 2013-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0001			36-4785301				MMAF Equipment Finance LLC 2014-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0002			38-3969560				MMAF Equipment Finance LLC 2015-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0003			32-0489588				MMAF Equipment Finance LLC 2016-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0004			35-2590691				MMAF Equipment Finance LLC 2017-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0005			32-0546197				MMAF Equipment Finance LLC 2017-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0006			82-5335801				MMAF Equipment Finance LLC 2018-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0007			83-3722640				MMAF Equipment Finance LLC 2019-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Placement Investment Company I, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			04-1590850				MM Private Equity Intercontinental LLC	DE	NIA	MML Private Equity Fund Investor LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF MARCH 31, 2019 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)	*
.0000			45-2738137				Pioneers Gate LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-2854319	2392316			MassMutual Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	Y	
.0000			06-1597528				MassMutual Assignment Company	NC	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			37-1732913				Fern Street LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Capital Partners LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Crane Venture Partners LLP	GBR	NIA	MassMutual Holding LLC	Ownership	33.000	MMLIC		
.0000							MassMutual Ventures Management LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures SEA Management Private Limited	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia I LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures UK LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1296410				MassMutual Ventures US I LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US II LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Rothesay Holdco US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1466022				LifeScore Labs, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Investors Services, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Insurance Agency, LLC	MA	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			41-2011634				MMLSI Financial Alliances, LLC	DE	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			45-4000072				MM Asset Management Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			51-0504477				Barings LLC	DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
.0000			98-0524271				Baring Asset Management (Asia) Holdings Limited	HKG	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	BMU	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring Asset Management Korea Limited	KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Management (Shanghai) Limited	HKG	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Overseas Investment Fund Management (Shanghai) Limited	HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457707				Baring SICE (Taiwan) Limited	TWN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0236449				Barings Japan Limited	JPN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457456				Baring Asset Management (Australia) Pty Limited	AUS	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Advisors (Hong Kong) Limited	HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Holding Company Pty Ltd	AUS	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457456				Barings Australia Pty Ltd	AUS	NIA	Baring Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000			80-0875475				Barings Finance LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	DE	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000			04-3238351				Barings Securities LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0437588				Barings Guernsey Limited	GGY	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Europe Limited	GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		

STATEMENT AS OF MARCH 31, 2019 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							Barings Real Estate UK Holdings Limited	.DE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							BREAE AIFM LLP	.GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0654401				Barings Real Estate Advisers (Continental Europe) Limited	.GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0654388				Barings Real Estate Advisers Europe LLP	.GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0654412				Barings Real Estate Advisers Europe Finance LLP	.GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-1194368				Barings Real Estate GmbH	.DEU	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Baring Asset Management Limited	.GBR	NIA	MassMutual Holdings (Bermuda) Limited	Ownership	100.000	MMLIC		
.0000			98-1012393				Barings Global Advisors Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Baring International Investment Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Baring International Investment Management Holdings	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457587							Baring International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0457576				Baring Asset Management UK Holdings Limited	.GBR	NIA	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0465031				Baring Asset Management GmbH	.DEU	NIA	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring International Fund Managers (Ireland) Limited	.IRL	NIA	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0524272							Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring Asset Management Switzerland Sarl	.CHE	NIA	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0497550				Baring France SAS	.FRA	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457586				Baring Fund Managers Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457574				Baring Pension Trustees Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Baring Investment Services Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings GPC GP S.à. r.l	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Fund (LUX) GP S.à. r.l	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Almack Mezzanine GP III Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Almack Holding Partnership GP Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Almack Mezzanine Fund Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Almack Mezzanine Fund II Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Barings (U.K.) Limited	.GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Barings Multifamily Capital Holdings LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Multifamily Capital LLC	.WI	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Multifamily Capital Corporation	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	.CA	NIA	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Baring Holding LLC	.DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
.0000										Massachusetts Mutual Life Insurance Company	Ownership/Influence	30.000	MMLIC		
.0000			81-2244465				Chassis Acquisition Holding LLC	.DE	NIA	Barings LLC	Influence		MMLIC		
.0000			81-2244465				Chassis Acquisition 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			81-4258759				CRA Aircraft Holding LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	26.700	MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	NIA	Company	Ownership		MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	NIA	Barings LLC	Management		MMLIC		
.0000										Massachusetts Mutual Life Insurance Company	Ownership	18.000	MMLIC		
.0000			46-2344300				Intermodal Holdings II LLC	.DE	NIA	Company	Ownership/Influence	18.300	MMLIC		
.0000			47-3055009				Milestone Acquisition Holding, LLC.	.DE	NIA	MassMutual Holding LLC	Ownership/Influence		MMLIC		
.0000			47-3055009				Milestone Acquisition Holding, LLC.	.DE	NIA	Barings LLC	Influence		MMLIC		

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000							Novation Companies, Inc.	MD	NIA	Massachusetts Mutual Life Insurance Company	Ownership	19.400	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	66.700	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			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							EIP Holdings I, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	28.900	MMLIC		
.0000							EIP Holdings I, LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Validus Pharmaceuticals LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	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	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI Funds SLP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Alternative Investments SLP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Asset-Based Income Fund (US) GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Investment Funds (U.S.) Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Babson Global Loan Feeder Management, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings ABIF SLP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings CLO Investment Partners GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Core Property Fund GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Direct Lending GP Ltd.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Energy Infrastructure Advisors, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Multi Asset Income Fund	HKG	NIA	Barings LLC	Ownership	73.000	MMLIC		
.0000							Barings North American Private Loan Fund Management, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Real Assets Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings/LAZ Parking Fund GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0536233				Benton Street Advisors, Inc.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BRECS VII GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CCM Fund I REIT Manager LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CEMF I GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CHY Venture GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CREF X GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CREF VIII GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Great Lakes III GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Lake Jackson LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Loan Strategies Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Mezzco LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF MARCH 31, 2019 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			02-0767001				Mezzco II LLC	DE	NIA	Barings LLC	Ownership	98.400	MMLIC		
.0000			41-2280126				Mezzco III LLC	DE	NIA	Barings LLC	Ownership	99.300	MMLIC		
.0000			80-0920285				Mezzco IV LLC	DE	NIA	Barings LLC	Ownership	99.300	MMLIC		
.0000			90-0666326				Mezzco Australia LLC	DE	NIA	Barings LLC	Ownership	72.000	MMLIC		
.0000							Mezzco Australia II LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							RECSA-NY GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Somerset Special Opportunities Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Oppenheimer Acquisition Corp.	DE	NIA	MassMutual Asset Management Holding LLC	Ownership	97.400	MMLIC		
.0000			84-1149206	2897101			OppenheimerFunds, Inc.	CO	NIA	Oppenheimer Acquisition Corp.	Ownership	100.000	MMLIC		
.0000			13-2527171	2679183			OppenheimerFunds Distributor, Inc.	NY	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			13-2953455				Oppenheimer Real Asset Management, Inc.	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			84-1106295				OFI Global Institutional, Inc.	NY	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			13-4160541	3458125			HarbourView Asset Management Corporation	NY	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
.0000			22-2697140				OC Private Capital, LLC	DE	NIA	OFI Institutional Asset Management, Inc.	Ownership	51.000	MMLIC		
.0000							OFI Global Trust Company	NY	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
.0000							OFI Global: Emerging Markets Local Debt Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-5001122							Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							OFI Global: Life Sciences Fund LP	DE	NIA	Company	Ownership	100.000	MMLIC		
.0000							OFI International, Ltd.	GBR	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
.0000							SNW Asset Management Corporation	DE	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
.0000			60-2233720				Seattle Northwest Asset Management LLC	WA	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
.0000			25-1951632				Trinity Investment Management Corporation	PA	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
.0000			84-1128397				OFI SteelPath, Inc.	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			84-1066811				Shareholder Services, Inc.	CO	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000							OFI Advisors, LLC	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000							Index Management Solutions, LLC	PA	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			84-0765063				OFI Global Asset Management, Inc.	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			91-2036414				OFI Private Investments Inc.	NY	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
.0000			62-1210532				Tremont Group Holdings, LLC	NY	NIA	Oppenheimer Acquisition Corp.	Ownership	100.000	MMLIC		
.0000			06-1121864				Tremont Partners, LLC	CT	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC		
.0000			20-8215352				Tremont GP, LLC	DE	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC		
.0000			90-0874510				Settlement Agent, LLC	DE	NIA	Tremont GP	Ownership	100.000	MMLIC		
.0000							Tremont (Bermuda) Limited	BMJ	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			04-3313782				MassMutual International LLC	DE	NIA	Company	Ownership	100.000	MMLIC	Y	
.0000							Yunfeng Financial Group Limited	HKG	NIA	MassMutual International LLC	Ownership	24.800	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			04-2443240				MML Management Corporation	MA	NIA	Company	Ownership	100.000	MMLIC	Y	
.0000			04-3548444				MassMutual International Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
.0000			04-3341767				MassMutual Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			04-1590850				MML Mezzanine Investor II, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			04-1590850				MML Mezzanine Investor III, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			27-3576835				MassMutual External Benefits Group LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			20-8730751				Cornerstone Global REIT Corporation	DE	NIA	Company	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000			82-2432216				300 South Tryon Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000			04-1590850				300 South Tryon LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-3887968				54 West Capital 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							Almack Mezzanine Fund III LP	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.200	MMLIC		
.0000							Almack Mezzanine Fund III LP	GBR	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC		
.0000							Almack Mezzanine Fund III LP	GBR	NIA	Barings (U.K.) Limited	Management		MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	12.000	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	C.M. Life Insurance Company	Ownership/Influence	1.200	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund			Massachusetts Mutual Life Insurance Company	Ownership/Influence	94.100	MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Company	Ownership/Influence		MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	23.700	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership	1.500	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	77.100	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.700	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	44.400	MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Ownership	17.300	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							Babson 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							Barings Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2016-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	99.300	MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	64.000	MMLIC		

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000							Barings Real Estate European Value Add I SCSp	.GBR	NIA	C.M. Life Insurance Company	Ownership	7.100	MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	.GBR	NIA	Barings LLC	Management		MMLIC		
.0000			82-5330194				Barings Global Em. Markets Equity Fund	.NC	NIA	Barings LLC	Management		MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	.CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	95.200	MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	.CYM	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000							Barings Global Inv. Grade Strat Fund	.IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Private Loan Fund	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	12.700	MMLIC		
.0000							Barings Global Private Loan Fund	.LUX	NIA	Barings LLC	Management		MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	52.800	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	C.M. Life Insurance Company	Ownership	9.300	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	.IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	19.800	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			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	48.100	MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.500	MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			26-4142796				Baring International Small Cap Equity Fund	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	11.600	MMLIC		
.0000			26-4142796				Baring International Small Cap Equity Fund	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000							Braemar Energy Ventures I, L.P.	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	88.000	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	.DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	.DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Core Property Fund SCSp	.LUX	NIA	MassMutual Holding LLC	Ownership/Influence	14.300	MMLIC		
.0000							Barings European Core Property Fund SCSp	.LUX	NIA	C.M. Life Insurance Company	Ownership	0.900	MMLIC		
.0000							Barings European Core Property Fund SCSp	.LUX	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000							Benchmark 2018-B4	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4096530				Benchmark 2018-B8	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000			36-4770946				Cornerstone High Yield Venture LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	49.600	MMLIC		
.0000			36-4770946				Cornerstone High Yield Venture LP	.DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	13.100	MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	.DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	24.900	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	.DE	NIA	C.M. Life Insurance Company	Ownership	2.800	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	.DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	.MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000			46-5437441				Barings/LAZ Parking Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	99.800	MMLIC		
.0000			46-5437441				Barings/LAZ Parking Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000				4007502			Duchess VII CLO B.V.	GBR	NIA	Barings LLC	Influence		MMLIC		
.0000			20-3887968				E-Wise Land Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			80-0691253				Gateway Mezzanine Partners I, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	62.300	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	35.900	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.300	MMLIC		
.0000			90-0991195				Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	38.800	MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000			38-4041011				JPMCC Commercial Mortgage Securities Trust 2017-JP7	NY	NIA	Barings LLC	Management		MMLIC		
.0000			38-4032059				JPMDB Commercial Mortgage Securities Trust 2017-C5	NY	NIA	Barings LLC	Management		MMLIC		
.0000			20-3887968				Kazwell Realty Partners LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			82-1512591				KKR-MM Vector LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	59.300	MMLIC		
.0000			46-4255307				Marco Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			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			20-3887968				Oakley Grove Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-3887968				Old Pasco Properties LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	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			30-0713071				Riva Portland LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Rockall CLO B.V.	GBR	NIA	Barings LLC	Influence		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	58.500	MMLIC		
.0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	2.900	MMLIC		
.0000			20-3887968				South Pasco Properties LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			35-2553915				Ten Fan Pier Boulevard LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			30-0336246				Tower Square Capital Partners II, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	22.400	MMLIC		
.0000			30-0336246				Tower Square Capital Partners II, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.900	MMLIC		

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000			32-0160190				Tower Square Capital Partners II-A, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	85.000	MLLIC		
.0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	MassMutual Holding LLC	Ownership/Influence	15.200	MLLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	94.500	MLLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000			80-0920367				Tower Square Capital Partners IV-A, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	21.300	MLLIC		
.0000			04-1590850				West 46th Street Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Barings Emerging Markets Debt Blended Total Return Fund	IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Emerging Markets Debt Short Duration Fund	IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Emerging Markets Sovereign Debt Fund	IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Babson Capital Loan Strategies Master Fund LP	IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Emerging Markets Debt Blended Total Return Fund	CYM	NIA	Barings LLC	Management		MLLIC		
.0000			47-3758432				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MLLIC		
.0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MLLIC		
.0000			47-3734770				Baring Greater China Equity Fund	HKG	NIA	Baring Asset Management Limited	Management		MLLIC		
.0000			47-3801860				Barings Total Return Bond Fund	MA	NIA	Barings LLC	Management		MLLIC		
.0000			47-3801860				Barings U.S. High Yield Fund	MA	NIA	Barings LLC	Management		MLLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	11.200	MLLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company	Ownership	1.000	MLLIC		
.0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	40.000	MLLIC		
.0000			36-4823011				50 Liberty LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	59.100	MLLIC		
.0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MLLIC		
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.000	MLLIC		
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.000	MLLIC		
.0000			81-4382111				Budapester Strasse LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MLLIC		
.0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MLLIC		
.0000			82-3307907				Cornbrook PRS Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund I LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund II LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund III LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	84.400	MLLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.600	MLLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	98.500	MLLIC		

STATEMENT AS OF MARCH 31, 2019 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)	*
.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	90.000	MMLIC		
.0000			82-1563809				CCB Montford Park LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	94.000	MMLIC		
.0000			82-1563809				CCB Montford Park LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	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	60.000	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
.0000			46-3880526				Farrington London Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	94.500	MMLIC		
.0000			46-3880526				Farrington London Holdings LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	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 LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				PACO France Logistics 2 LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				PACO France Logistics 3 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-IM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MMLIC		
.0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	84.200	MMLIC		
.0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NIA	C.M. Life Insurance Company	Ownership	15.800	MMLIC		
.0000			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	95.000	MMLIC		
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	65.000	MMLIC		
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	C.M. Life Insurance Company	Ownership	35.000	MMLIC		
.0000			45-4606547				UK LIW Manager LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	1.000	MMLIC		
.0000			45-4606547				UK LIW Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC		
.0000			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			82-3281588				Via Ceresio Milan 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	92.000	MMLIC		

13.10

STATEMENT AS OF MARCH 31, 2019 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)	*
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
.0000			47-1993493				Waterloo London Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-3122029				WeHo Domain LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	77.400	MMLIC		
.0000			46-3122029				WeHo Domain LLC	DE	NIA	C.M. Life Insurance Company	Ownership	12.600	MMLIC		
.0000			20-5481477				Ygnatio Valley Funding	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	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	17.300	MMLIC		
.0000			26-3229251		0000927972	00	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.300	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	1.300	MMLIC		
.0000			04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	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	17.100	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	10.400	MMLIC		
.0000			82-3347422		0000916053	00	MassMutual Select T. Rowe Price Retirement 2005 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.700	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 MARCH 31, 2019 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)	*
.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	94.800	MMLIC		
.0000			47-3559064				MML Series II Special Situations Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.200	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	40.300	MMLIC		
.0000			27-1932769		0000916053	OQ	MassMutual RetireSMART 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	67.000	MMLIC		
.0000			46-3289207		0000916053	OQ	MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	16.200	MMLIC		
.0000			47-5326235		0000916053	OQ	MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	76.400	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		MassMutual RetireSMART In Retirement Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	1.100	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		
.0000							OFI Carlyle Private Credit Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	43.500	MMLIC		
.0000			81-5311583				OFI Pictet Global Environmental Solution Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	66.500	MMLIC		
.0000			93-6305075				Oppenheimer Developing Markets Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000							Oppenheimer Developing Markets Equity UCITS	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership	73.600	MMLIC		
.0000							Oppenheimer Developing Markets Equity UCITS	IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
.0000							Oppenheimer Emerging Markets Innovators UCITS	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership	22.600	MMLIC		
.0000							Oppenheimer Emerging Markets Local Debt UCITS	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership	75.800	MMLIC		
.0000			34-40740DH				Oppenheimer Global Equity UCITS	IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
.0000							Oppenheimer Global Focus Equity UCITS Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.200	MMLIC		
.0000			83-1689208				Oppenheimer Global ILS Fund LP	NY	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
.0000			46-1604428		0001562689	OQ	Oppenheimer Global Real Estate Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			47-3676235				Oppenheimer Global Multi-Asset Growth Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	76.000	MMLIC		

13.12

STATEMENT AS OF MARCH 31, 2019 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 Loca-tion	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			47-1714929				Oppenheimer Global Multi-Asset Income Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	43.800	MMLIC		
.0000			82-2693880				Oppenheimer Global Unconstrained Bond Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.300	MMLIC		
.0000			81-1080638				Oppenheimer Macquarie Global Infrastructure Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	8.400	MMLIC		
.0000			82-3462739				Oppenheimer Preferred Securities & Income Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	73.400	MMLIC		
.0000							Oppenheimer Senior Floating Rate Plus Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	1.500	MMLIC		
.0000			47-4835759				Oppenheimer Small Cap Value Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	33.500	MMLIC		
.0000			47-3987967				Oppenheimer SteelPath Panoramic Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	45.000	MMLIC		
.0000			27-5013457				Oppenheimer Ultra-Short Duration Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			82-2222426				Oppenheimer SteelPath MLP & Energy Infrastructure Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	78.300	MMLIC		
.0000							Oppenheimerfunds ICAV - Developing Markets Equity UCITS Fund	IRL	NIA	Tremont Group Holdings, Inc.	Ownership	73.600	MMLIC		
.0000							Oppenheimerfunds ICAV - Global Equity UCITS Fund	IRL	NIA	Tremont Group Holdings, Inc.	Ownership	94.800	MMLIC		

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns 1.78% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own 6.7% 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 5.9% and includes only Great Lakes III, L.P.
5	Debt investors own 7.5% and includes only Great Lakes III, L.P.

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

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

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

Explanation:

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

Bar Code:

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



STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Assets Line 25

	Current Statement Date			4 December 31 Prior Year Net Admitted Assets
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	
2504. Fully refundable deposits, prepayments and miscellaneous assets	154,068,622	142,618,088	11,450,534	22,091,419
2505. Cash advances to agents	232,072,266	232,056,500	15,766	
2506. Pension plan asset	691,289,763	691,289,763		
2507. Disallowed interest maintenance reserve	409,448,410	409,448,410		
2508. Intangible assets	88,422,252	88,422,252		
2509. Commissions and expenses on long-term lease	76,128,289	76,128,289		
2510. Bills receivable	342,672	342,672		
2597. Summary of remaining write-ins for Line 25 from overflow page	1,651,772,274	1,640,305,974	11,466,300	22,091,419

Additional Write-ins for Liabilities Line 25

	1 Current Statement Date	2 December 31 Prior Year
2504. Funds awaiting escheat and other miscellaneous	89,987,256	78,826,501
2505. Deferred income	14,881,012	15,151,127
2597. Summary of remaining write-ins for Line 25 from overflow page	104,868,268	93,977,628

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	23,141,068	33,173,599	118,220,703
08.305. Miscellaneous	8,858,593	3,512,948	15,704,499
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	31,999,661	36,686,547	133,925,202

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. Miscellaneous charges to operations	6,951,259	1,300,635	15,536,263
2705. Change in liability for employee/agent benefit plans	35,366,784	2,817,190	(8,510,950)
2706. Ceded income on funds withheld	51,471,797	50,334,798	200,347,847
2797. Summary of remaining write-ins for Line 27 from overflow page	93,789,840	54,452,623	207,373,160

STATEMENT AS OF MARCH 31, 2019 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	488,306,553	857,001,296
2. Cost of acquired:		
2.1 Actual cost at time of acquisition		57,671,139
2.2 Additional investment made after acquisition	26,477,885	152,570,868
3. Current year change in encumbrances	(2,134,993)	(386,999,179)
4. Total gain (loss) on disposals	7,607,411	170,141,914
5. Deduct amounts received on disposals	27,685,844	275,807,610
6. Total foreign exchange change in book/adjusted carrying value		
7. Deduct current year's other than temporary impairment recognized		2,208,173
8. Deduct current year's depreciation	23,320,889	84,063,702
9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)	469,250,123	488,306,553
10. Deduct total nonadmitted amounts		
11. Statement value at end of current period (Line 9 minus Line 10)	469,250,123	488,306,553

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	23,623,807,529	22,579,846,619
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	957,876,811	3,229,830,662
2.2 Additional investment made after acquisition	108,188,437	468,570,683
3. Capitalized deferred interest and other	11,113,907	39,017,050
4. Accrual of discount	1,400,807	4,764,878
5. Unrealized valuation increase (decrease)		
6. Total gain (loss) on disposals	751,335	(1,214,062)
7. Deduct amounts received on disposals	345,524,049	2,574,815,338
8. Deduct amortization of premium and mortgage interest points and commitment fees	(2,569,745)	(2,704,349)
9. Total foreign exchange change in book value/recorded investment excluding accrued interest	42,130,048	(124,897,312)
10. Deduct current year's other than temporary impairment recognized		
11. Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	24,402,314,570	23,623,807,529
12. Total valuation allowance		
13. Subtotal (Line 11 plus Line 12)	24,402,314,570	23,623,807,529
14. Deduct total nonadmitted amounts		
15. Statement value at end of current period (Line 13 minus Line 14)	24,402,314,570	23,623,807,529

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	8,643,322,029	7,722,717,021
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	75,957,052	1,841,133,266
2.2 Additional investment made after acquisition	255,719,409	2,020,426,390
3. Capitalized deferred interest and other		
4. Accrual of discount		
5. Unrealized valuation increase (decrease)	95,303,908	652,916,795
6. Total gain (loss) on disposals	5,858,939	5,542,359
7. Deduct amounts received on disposals	395,457,307	3,509,181,095
8. Deduct amortization of premium and depreciation	166,385	567,724
9. Total foreign exchange change in book/adjusted carrying value	5,310,504	(60,633,528)
10. Deduct current year's other than temporary impairment recognized	10,017,289	29,031,457
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	8,675,830,860	8,643,322,029
12. Deduct total nonadmitted amounts	31,555,914	43,866,156
13. Statement value at end of current period (Line 11 minus Line 12)	8,644,274,946	8,599,455,873

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	110,650,590,353	106,837,837,246
2. Cost of bonds and stocks acquired	6,701,788,505	28,933,190,148
3. Accrual of discount	67,860,508	277,958,552
4. Unrealized valuation increase (decrease)	332,717,843	1,440,127,883
5. Total gain (loss) on disposals	16,192,962	72,777,254
6. Deduct consideration for bonds and stocks disposed of	5,014,032,500	24,859,504,095
7. Deduct amortization of premium	33,645,491	134,973,241
8. Total foreign exchange change in book/adjusted carrying value	9,948,714	(573,657,471)
9. Deduct current year's other than temporary impairment recognized	17,254,007	1,392,111,397
10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees	5,284,880	48,945,474
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	112,719,451,767	110,650,590,353
12. Deduct total nonadmitted amounts		
13. Statement value at end of current period (Line 11 minus Line 12)	112,719,451,767	110,650,590,353

STATEMENT AS OF MARCH 31, 2019 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)	54,426,947,350	4,733,780,557	4,126,384,986	(198,276,149)	54,836,066,772			54,426,947,350
2. NAIC 2 (a)	39,721,923,702	16,494,972,592	16,782,784,120	273,411,455	39,707,523,629			39,721,923,702
3. NAIC 3 (a)	2,851,626,812	1,271,622,602	1,241,402,054	(89,513,852)	2,792,333,508			2,851,626,812
4. NAIC 4 (a)	2,004,562,945	325,511,200	308,166,503	(124,779,869)	1,897,127,773			2,004,562,945
5. NAIC 5 (a)	1,496,376,273	16,536,307	108,305,274	104,509,882	1,509,117,188			1,496,376,273
6. NAIC 6 (a)	350,616,700	2,864,039	23,256,757	77,828,084	408,052,066			350,616,700
7. Total Bonds	100,852,053,782	22,845,287,297	22,590,299,694	43,179,551	101,150,220,936			100,852,053,782
PREFERRED STOCK								
8. NAIC 1	443,850,000				443,850,000			443,850,000
9. NAIC 2	125,632,088			2,173,600	127,805,688			125,632,088
10. NAIC 3	140,943,708	78,219			141,021,927			140,943,708
11. NAIC 4	669,179				669,179			669,179
12. NAIC 5	16,697,090	10,820		6,345,721	23,053,631			16,697,090
13. NAIC 6	16,300,001	1,422,035		(6,322,583)	11,399,453			16,300,001
14. Total Preferred Stock	744,092,066	1,511,074		2,196,738	747,799,878			744,092,066
15. Total Bonds and Preferred Stock	101,596,145,848	22,846,798,371	22,590,299,694	45,376,289	101,898,020,814			101,596,145,848

(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 \$ 1,003,891,808 ; NAIC 2 \$ 1,875,623,209 ; NAIC 3 \$; NAIC 4 \$; NAIC 5 \$; NAIC 6 \$

SCHEDULE DA - PART 1

Short-Term Investments

	1 Book/Adjusted Carrying Value	2 Par Value	3 Actual Cost	4 Interest Collected Year-to-Date	5 Paid for Accrued Interest Year-to-Date
9199999 Totals	891,059,211	XXX	887,881,857	1,311,056	

SCHEDULE DA - VERIFICATION

Short-Term Investments

	1 Year To Date	2 Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year	447,734,452	508,320,258
2. Cost of short-term investments acquired	707,030,164	2,219,939,077
3. Accrual of discount	4,343,500	9,958,973
4. Unrealized valuation increase (decrease)		
5. Total gain (loss) on disposals	8,174	89,026
6. Deduct consideration received on disposals	268,057,079	2,290,572,883
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)	891,059,211	447,734,452
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	891,059,211	447,734,452

SCHEDULE DB - PART A - VERIFICATION

Options, Caps, Floors, Collars, Swaps and Forwards

1. Book/Adjusted Carrying Value, December 31, prior year (Line 9, prior year)	3,628,605,132
2. Cost Paid/(Consideration Received) on additions	70,474,390
3. Unrealized Valuation increase/(decrease)	(468,227,316)
4. Total gain (loss) on termination recognized	58,735,115
5. Considerations received/(paid) on terminations	187,378,827
6. Amortization	(233,473)
7. Adjustment to the Book/Adjusted Carrying Value of hedged item	
8. Total foreign exchange change in Book/Adjusted Carrying Value	
9. Book/Adjusted Carrying Value at End of Current Period (Lines 1+2+3+4-5+6+7+8)	3,101,975,020
10. Deduct nonadmitted assets	
11. Statement value at end of current period (Line 9 minus Line 10)	3,101,975,020

SCHEDULE DB - PART B - VERIFICATION

Futures Contracts

1. Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	
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	108,141,852
3.14 Section 1, Column 18, prior year	200,720,383 (92,578,531) (92,578,531)
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	108,141,852
3.24 Section 1, Column 19, prior year	200,720,383 (92,578,531) (92,578,531)
3.3 Subtotal (Line 3.1 minus Line 3.2)	
4.1 Cumulative variation margin on terminated contracts during the year	141,900,309
4.2 Less:	
4.21 Amount used to adjust basis of hedged item	
4.22 Amount recognized	(58,820,074) (58,820,074)
4.3 Subtotal (Line 4.1 minus Line 4.2)	200,720,383
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	(200,720,383)
6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)	
7. Deduct total nonadmitted amounts	
8. Statement value at end of current period (Line 6 minus Line 7)	

STATEMENT AS OF MARCH 31, 2019 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*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2	50,000,000	13,094,803	12,689,050	10/01/2012	10/01/2042	Interest Rate Swap		(271,225)	42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	13,094,803	12,960,275
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		11,470,454	12,025,000	10/01/2012	10/01/2042	Interest Rate Swap			320808-AD-0	FIRST MARYLAND CAP I-LIMITED GUARANTEE NOTE	2	11,470,454	12,025,000
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		17,953,090	17,969,013	10/01/2012	10/01/2042	Interest Rate Swap			38136M-AC-2	Goldentree Loan Management US Clo 2 Ltd	1	17,953,090	17,969,013
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		10,000,000	9,898,720	10/01/2012	10/01/2042	Interest Rate Swap			09629L-AE-5	BLUEMOUNTAIN CLO XXIII L-BLUEM 2018-23A B	1	10,000,000	9,898,720
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		5,000,000	4,798,515	10/01/2012	10/01/2042	Interest Rate Swap			03328Y-AG-9	Anchorage Capital CLO Lt-ANCHC 2018-1RA C	1	5,000,000	4,798,515
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3	50,000,000	5,600,000	5,274,539	10/01/2012	10/01/2042	Interest Rate Swap		(325,523)	87246M-AA-0	TICP CLO LTD-SERIES 2016-6A CLASS A	1	5,600,000	5,600,062
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		2,483,711	2,483,711	10/01/2012	10/01/2042	Interest Rate Swap			77277L-A7-2	ROCKALL CLO BV Variable Funding Note- USD	1	2,483,711	2,483,711
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		4,342,418	4,384,178	10/01/2012	10/01/2042	Interest Rate Swap			83149E-AG-2	SLM STUDENT LN TR 2006-5-NOTE CL B	1	4,342,418	4,384,178
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		5,470,000	5,443,777	10/01/2012	10/01/2042	Interest Rate Swap			883310-AE-4	THAYER PARK CLO LTD.-THAYR 2017-1A B	1	5,470,000	5,443,777
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		6,430,000	6,370,870	10/01/2012	10/01/2042	Interest Rate Swap			77342K-AA-8	ROCKFORD TOWER CLO 2018-ROCKT 2018-2A A	1	6,430,000	6,370,870
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		4,000,000	3,906,776	10/01/2012	10/01/2042	Interest Rate Swap			09628F-AE-9	BlueMountain Fuji US Clo-SERIES 2017-3A CLASS B	1	4,000,000	3,906,776
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		4,000,000	3,964,288	10/01/2012	10/01/2042	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	4,000,000	3,964,288
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		15,000,000	14,754,105	10/01/2012	10/01/2042	Interest Rate Swap			88432U-AC-0	Wind River CLO Ltd-SERIES 18-3A CLASS A2	1	15,000,000	14,754,105
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		6,800,000	6,738,950	10/01/2012	10/01/2042	Interest Rate Swap			03762Y-AH-0	Apidos Clo XXV-APID 2016-25A A2R	1	6,800,000	6,738,950
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	264,000,000	19,165,000	16,418,175	11/29/2012	11/29/2042	Interest Rate Swap		(2,555,175)	14316R-ZZ-6	Carlyle US CLO 2017-5 Re Term Loan	1	19,165,000	18,973,350
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,335,553	6,584,091	11/29/2012	11/29/2042	Interest Rate Swap			83149F-AD-6	SLM Student Loan Trust 2006-6 GILBERT PARK CLO LTD-SERIES 17-1A CLASS A	1	6,335,553	6,584,091
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,500,000	15,399,204	11/29/2012	11/29/2042	Interest Rate Swap			375415-AA-4	CARLYLE GLOBAL MKT STRATEGIES CLO 2013-2 LTD MEZZ SECD DEF NT	1	15,500,000	15,399,204
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,500,000	13,052,259	11/29/2012	11/29/2042	Interest Rate Swap			14310D-AY-3	OPC CLO 2017-14 Ltd-SERIES 17-14A CLASS A1B	1	13,500,000	13,052,259
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,100,000	12,837,057	11/29/2012	11/29/2042	Interest Rate Swap			670970-AC-9	MASSMUTUAL ASSET FIN LLC SR SECD	1	13,100,000	12,837,057
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		27,761,873	27,801,646	11/29/2012	11/29/2042	Interest Rate Swap			57542Z-AO-7	REV NT CVP CASCADE CLO LTD-CVPC 2014-2A A1R	1	27,761,873	27,801,646
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		145,192,773	145,195,968	11/29/2012	11/29/2042	Interest Rate Swap			126611-AL-6	WELLFLEET CLO LTD-WELF 2017-1A B	1	145,192,773	145,195,968
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,200,000	6,155,558	11/29/2012	11/29/2042	Interest Rate Swap			94950G-AE-7	ALLEGRO CLO V LTD-SERIES 17-1A CLASS MEZ, FLT	1	6,200,000	6,155,558
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,525,000	5,445,015	11/29/2012	11/29/2042	Interest Rate Swap			01748R-AE-5	Goldentree Loan Opportun-GLD12 2016-12A AJR	1	5,525,000	5,445,015
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,764,215	11/29/2012	11/29/2042	Interest Rate Swap			38137M-AK-3	Apidos CLO-APID 2018-29A B C1FC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	15,000,000	14,764,215
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,500,000	4,347,464	11/29/2012	11/29/2042	Interest Rate Swap			03767M-AJ-7	OPC CLO Ltd-SERIES 18-15A CLASS A3	1	4,500,000	4,347,464
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,964,810	11/29/2012	11/29/2042	Interest Rate Swap			17181T-AA-9	SOUND POINT CLO LTD-SNDPT 2017-1A C	1	5,000,000	4,964,810
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	12,000,000	14,186,189	12/27/2012	12/27/2042	Interest Rate Swap		2,396,297	67112K-AC-3	Carlyle US CLO 2017-3 Ri Term Loan	1	12,000,000	11,789,892
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,000,000	3,984,312	12/27/2012	12/27/2042	Interest Rate Swap			83609R-AE-1	Anchorage Capital CLO 3-ANCHC 2014-3RA B	1	4,000,000	3,984,312
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,800,000	22,731,600	12/27/2012	12/27/2042	Interest Rate Swap			14315J-YY-9	TIAA CLO I Ltd-TIA 2016-1A AR	1	22,800,000	22,731,600
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,200,000	3,148,259	12/27/2012	12/27/2042	Interest Rate Swap			03330A-AC-6		1	3,200,000	3,148,259
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		33,000,000	32,752,203	12/27/2012	12/27/2042	Interest Rate Swap			87271L-AJ-1		1	33,000,000	32,752,203

S105

STATEMENT AS OF MARCH 31, 2019 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*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,800,000	8,653,128	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	8,653,128
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,902,945	16,171,794	12/27/2012	12/27/2042	Interest Rate Swap			24820R-AA-6	Statoil ASA-SENIOR UNSECURED NOTE C1FC Funding 2017-IV Ltd-SERIES 17-	1	13,902,945	16,171,794
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,963,612	4,935,150	12/27/2012	12/27/2042	Interest Rate Swap			12551J-AG-1	4A CLASS B	1	4,963,612	4,935,150
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	14,370,083	16,499,971	12/27/2012	12/27/2042	Interest Rate Swap		2,396,297	92977H-AG-3	WACHOVIA STUDENT LOAN TR-WSLT 2005-1 B	1	14,370,083	14,103,674
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,990,000	18,967,421	12/27/2012	12/27/2042	Interest Rate Swap			04964K-AN-1	ATRIUM CDO CORP-SERIES 9A CLASS BR	1	18,990,000	18,967,421
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,810,000	18,550,046	12/27/2012	12/27/2042	Interest Rate Swap			92912V-AQ-8	VOYA CLO LTD-VOYA 2014-2A A2AR	1	18,810,000	18,550,046
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,800,000	6,791,017	12/27/2012	12/27/2042	Interest Rate Swap			48251B-AA-8	KKR FINANCIAL CLO LTD-KKR 16 A1 Babson CLO Ltd/Cayman Is-BABSON	1	6,800,000	6,791,017
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,000,000	22,600,398	12/27/2012	12/27/2042	Interest Rate Swap			06760P-AE-1	2018-3A A2	1	23,000,000	22,600,398
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,500,000	9,346,537	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	9,346,537
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,937,184	12/27/2012	12/27/2042	Interest Rate Swap			81883A-AC-3	Shackleton 2015-VII-R CL-SERIES 2015-7RA CLASS B	1	8,000,000	7,937,184
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,450,000	3,438,936	12/27/2012	12/27/2042	Interest Rate Swap			14311D-BC-9	CARLYLE GLOBAL MARKET ST-SERIES 15-1A CLASS BR	2	3,450,000	3,438,936
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,000,000	3,913,080	12/27/2012	12/27/2042	Interest Rate Swap			28622J-AB-3	ARROWMARK COLORADO HOLDI-SERIES 17-7A CLASS B	1	4,000,000	3,913,080
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	6,000,000	9,115,268	12/28/2012	12/28/2042	Interest Rate Swap		3,191,210	38138B-AG-5	Goldentree Loan Managem-GLM 2018-3A B1	1	6,000,000	5,924,058
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		29,967,496	29,932,680	12/28/2012	12/28/2042	Interest Rate Swap			56608K-AA-1	Marble Point CLO XIV Ltd-MP14 2018-2A A	1	29,967,496	29,932,680
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,676,277	9,650,975	12/28/2012	12/28/2042	Interest Rate Swap			87155M-AC-5	SYMPHONY CLO V LTD-SR SEC0 NT CL A-2 144A	1	9,676,277	9,650,975
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	7,000,028	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	7,000,028
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,050,000	10,969,070	12/28/2012	12/28/2042	Interest Rate Swap			88432M-AC-8	WIND RIVER CLO LTD-WINDR 2017-1A B	1	11,050,000	10,969,070
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,000,000	22,876,214	12/28/2012	12/28/2042	Interest Rate Swap			22615M-AL-6	Crestline Denali CLO XIV-SERIES16-1A CLASS A1R	1	23,000,000	22,876,214
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,862,856	12/28/2012	12/28/2042	Interest Rate Swap			89852T-AN-8	Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	8,000,000	7,862,856
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,000,000	2,961,675	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	2,961,675
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	986,965	12/28/2012	12/28/2042	Interest Rate Swap			94950J-AA-9	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	1,000,000	986,965
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,000,000	3,936,960	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	3,936,960
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,060,000	4,850,668	12/28/2012	12/28/2042	Interest Rate Swap			92917A-AE-6	Voya CLO Ltd-SERIES 18-1A CLASS B	1	5,060,000	4,850,668
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	59,000,000	61,422,145	12/28/2012	12/28/2042	Interest Rate Swap		3,191,210	94950J-AA-9	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	59,000,000	58,230,935
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,200,000	14,199,716	12/28/2012	12/28/2042	Interest Rate Swap			06759F-AB-2	BABSON CLO LTD 2015-II-SERIES 15-2A CLASS AR	1	14,200,000	14,199,716
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,709,760	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	19,709,760
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,700,000	12,611,189	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	12,611,189
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,200,000	4,036,536	12/28/2012	12/28/2042	Interest Rate Swap			12551R-AE-8	C1FC Funding 2018-I Ltd-SERIES 18-1A CLASS C	1	4,200,000	4,036,536
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,100,000	1,079,939	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,079,939
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	20,000,000	22,885,370	12/28/2012	12/28/2042	Interest Rate Swap		3,191,210	09628N-AQ-5	BlueMountain CLO 2015-4 -SERIES 15-4A CLASS A2R	1	20,000,000	19,694,160
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,910,800	12/28/2012	12/28/2042	Interest Rate Swap			83609G-AN-5	SOUND POINT CLO IX LTD-SERIES 2015-2A CLASS B1R	1	8,000,000	7,910,800

S105.1

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,820,828	3,855,805	12/28/2012	12/28/2042	Interest Rate Swap			38141G-VW-1	GOLDMAN SACHS GROUP INC-SENIOR UNSECURED	1	3,820,828	3,855,805
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,276,287	11,811,161	12/28/2012	12/28/2042	Interest Rate Swap			63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	12,276,287	11,811,161
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,913,000	8,851,717	12/28/2012	12/28/2042	Interest Rate Swap			78447Y-AD-4	SLM STUDENT LOAN TRUST-SLMA 2013-3	1	8,913,000	8,851,717
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,865,765	12/28/2012	12/28/2042	Interest Rate Swap			12550G-AE-3	CIFC Funding Ltd-CIFC 2018-5A B	1	5,000,000	4,865,765
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,900,000	8,863,635	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	8,863,635
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,650,000	8,518,909	12/28/2012	12/28/2042	Interest Rate Swap			33882G-AC-2	FLATIRON CLO LTD-FLAT 2017-1A C	1	8,650,000	8,518,909
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	993,327	12/28/2012	12/28/2042	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	1,000,000	993,327
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,250,000	4,250,017	12/28/2012	12/28/2042	Interest Rate Swap			09626U-AQ-1	BLUEMOUNTAIN CLO LTD-BLUEM 2013-1A BR	1	4,250,000	4,250,017
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,350,000	6,350,171	12/28/2012	12/28/2042	Interest Rate Swap			26249K-AM-3	DRYDEN SENIOR LOAN FUND-SERIES 2014-36A CLASS CR	1	6,350,000	6,350,171
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,794,562	12,948,601	12/28/2012	12/28/2042	Interest Rate Swap			78447M-AD-0	SLM STUDENT LOAN TRUST-SERIES 2013-1 CLASS B	1	12,794,562	12,948,601
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,250,000	4,221,028	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	4,221,028
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	9,550,000	11,078,421	12/28/2012	12/28/2042	Interest Rate Swap		1,595,605	04965F-AG-6	Regatta XIV Funding Ltd-SERIES 18-3A CLASS B	1	9,550,000	9,482,816
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,967,650	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	9,967,650
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,558,952	9,350,114	12/28/2012	12/28/2042	Interest Rate Swap			63940A-AD-0	NAVIENT STUDENT LOAN TRU-SERIES 17-4A CLASS B	1	9,558,952	9,350,114
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,600,000	9,628,003	12/28/2012	12/28/2042	Interest Rate Swap			00191Y-AM-6	ARES CLO LTD-SERIES 2015 1-A CLASS A2R	1	9,600,000	9,628,003
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,503,825	12/28/2012	12/28/2042	Interest Rate Swap			26245C-AE-3	DRYDEN SENIOR LOAN FUND-SERIES 2016-43A CLASS B	1	7,500,000	7,503,825
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,100,000	1,079,939	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,079,939
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,500,000	2,477,680	12/28/2012	12/28/2042	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANYC 2012-1RA B	1	2,500,000	2,477,680
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,400,000	6,337,850	12/28/2012	12/28/2042	Interest Rate Swap			77342K-AC-4	Rockford Tower CLO 2018-2 Ltd	1	6,400,000	6,337,850
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	10,000,000	11,499,055	12/28/2012	12/28/2042	Interest Rate Swap		1,595,605	24380L-AE-3	DEER CREEK CLO LTD 2017-SERIES 17-1A CLASS B	1	10,000,000	9,903,450
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		30,000,000	29,741,580	12/28/2012	12/28/2042	Interest Rate Swap			04624W-AC-1	ASSURANT CLO III LTD-SERIES 2018-2A CLASS A	1	30,000,000	29,741,580
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,570,000	13,436,783	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	13,436,783
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,850,000	4,788,109	12/28/2012	12/28/2042	Interest Rate Swap			08179H-AB-6	BENEFIT STREET PARTNERS -SERIES 2017-12A CLASS A2	1	4,850,000	4,788,109
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	10,000,000	11,559,885	12/28/2012	12/28/2042	Interest Rate Swap		1,595,605	87232A-AE-4	TCI-Flatiron Clo 2018-1 Ltd	1	10,000,000	9,964,280
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,384,612	10,417,172	12/28/2012	12/28/2042	Interest Rate Swap			78442G-PL-4	SLM STUDENT LOAN TRUST-SERIES 2005-4 CLASS B	1	10,384,612	10,417,172
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,920,000	8,919,946	12/28/2012	12/28/2042	Interest Rate Swap			10302V-BC-8	BOWMAN PARK CLO LTD-BOWPK 2014-1A B1R	1	8,920,000	8,919,946
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,850,000	6,788,090	12/28/2012	12/28/2042	Interest Rate Swap			674000-AQ-7	OAKTREE CLO LTD-SERIES 14-1A CLASS A2R	1	6,850,000	6,788,090
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,840,000	6,786,121	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	6,786,121
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,938,145	12/28/2012	12/28/2042	Interest Rate Swap			50188Y-AB-0	LCM LTD PARTNERSHIP-LCM 24A B	1	5,000,000	4,938,145
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,100,000	1,079,939	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,079,939
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,600,000	4,452,202	12/28/2012	12/28/2042	Interest Rate Swap			05875H-AE-3	Ballyrock CLO 2018-1 Ltd-SERIES 2018-1A CLASS B	1	4,600,000	4,452,202

S105.2

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	5,400,000	6,957,071	12/28/2012	12/28/2042	Interest Rate Swap		1,595,605	12548J-AE-2	CIFC FUNDING LTD-SERIES 17-3A CLASS A2	1	5,400,000	5,361,466
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	11,900,000	11,900,000	11,663,380	12/28/2012	12/28/2042	Interest Rate Swap			74988L-AC-8	ALM XIV Ltd-SERIES 14-14A CLASS A2R2	1	11,900,000	11,663,380
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	3,050,000	3,050,000	3,046,291	12/28/2012	12/28/2042	Interest Rate Swap			00191Y-AP-9	APES CLO LTD-SERIES 2015 1-A CLASS B2R	1	3,050,000	3,046,291
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,500,000	4,500,000	4,500,041	12/28/2012	12/28/2042	Interest Rate Swap			50184K-AII-8	LOM LTD PARTNERSHIP-SERIES 13A CLASS CR	1	4,500,000	4,500,041
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	5,000,000	5,000,000	5,000,550	12/28/2012	12/28/2042	Interest Rate Swap			08181L-AA-5	BENEFIT STREET PARTNERS -BSP 2016-10A A1	1	5,000,000	5,000,550
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	11,200,000	11,200,000	11,052,474	12/28/2012	12/28/2042	Interest Rate Swap			08181B-AS-8	Benefit Street Partners -SERIES 16-9A CLASS BR	1	11,200,000	11,052,474
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	8,000,000	8,000,000	7,935,328	12/28/2012	12/28/2042	Interest Rate Swap			94951D-AC-7	Wellfleet CLO 2018-3 Ltd-SERIES 18-3A CLASS A1B	1	8,000,000	7,935,328
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	3,900,000	3,900,000	3,899,914	12/28/2012	12/28/2042	Interest Rate Swap			05875F-AC-1	BALLYROCK LTD-SERIES 16-1A CLASS B1	1	3,900,000	3,899,914
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	20,000,000	20,743,116	12/31/2012	12/31/2042	Interest Rate Swap		870,116	36248M-AJ-6	GT Loan Financing I Ltd -SERIES 2013-1A CLASS AR	1	20,000,000	19,873,000
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	20,982,568	20,982,568	20,789,529	12/31/2012	12/31/2042	Interest Rate Swap			14315J-MM-8	Carlyle US CLO 2013-2 Re Term Loan	1	20,982,568	20,789,529
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	7,550,000	7,550,000	7,482,156	12/31/2012	12/31/2042	Interest Rate Swap			74982L-AS-9	RACE POINT CLO LTD-SERIES 13-8A CLASS CR	1	7,550,000	7,482,156
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	5,850,000	5,850,000	5,752,358	12/31/2012	12/31/2042	Interest Rate Swap			64131Q-AC-4	NEUBERGER BERMAN LOAN AD-SERIES 2017-26A CLASS B	1	5,850,000	5,752,358
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	9,900,000	10,706,172	12/31/2012	12/31/2042	Interest Rate Swap		870,116	67707C-AE-8	Oak Hill Credit Partners-OAKC 2014-10RA A2A	1	9,900,000	9,836,056
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	25,000,000	25,000,000	24,636,375	12/31/2012	12/31/2042	Interest Rate Swap			67104L-AF-4	OHA Loan Funding 2013-2 -OHAF 2013-2A BR	1	25,000,000	24,636,375
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	13,850,000	13,850,000	13,713,356	12/31/2012	12/31/2042	Interest Rate Swap			38137P-AU-4	GALAXY CLO LTD-GALXY 2014-18A AR	1	13,850,000	13,713,356
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	2,000,000	2,000,000	2,000,000	12/31/2012	12/31/2042	Interest Rate Swap			94184B-D8-9	Waters Corporation Gtd Senior Note Series H	2	2,000,000	2,000,000
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	3,800,000	3,800,000	3,638,416	12/31/2012	12/31/2042	Interest Rate Swap			74988L-AJ-3	ALM XIV Ltd-SERIES 14-14A CLASS BR2	1	3,800,000	3,638,416
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	14,300,000	15,170,545	12/31/2012	12/31/2042	Interest Rate Swap		870,116	55820J-AC-4	MADISON PARK FUNDING LTD-SERIES 2016-21A CLASS A2	1	14,300,000	14,300,429
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	15,000,000	15,000,000	14,830,755	12/31/2012	12/31/2042	Interest Rate Swap			48250W-AJ-4	KKR CLO 14 Ltd-KKR 14 BR	1	15,000,000	14,830,755
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	5,000,000	5,000,000	4,936,125	12/31/2012	12/31/2042	Interest Rate Swap			87248K-AS-3	TICP CLO VI 2016-5 LTD-TICP 2016-5A A2R	1	5,000,000	4,936,125
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,350,000	4,350,000	4,352,945	12/31/2012	12/31/2042	Interest Rate Swap			020053-AS-3	ALM LOAN FUNDING-SERIES 13-8A CLASS A1R	1	4,350,000	4,352,945
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	1,023,024	1,023,024	984,263	12/31/2012	12/31/2042	Interest Rate Swap			63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	1,023,024	984,263
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	8,700,000	8,700,000	8,700,931	12/31/2012	12/31/2042	Interest Rate Swap			59983H-AB-5	MILL CREEK CLO II LTD-SR SEC2 NT CL B-1 144A	1	8,700,000	8,700,931
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,000,000	4,000,000	3,913,080	12/31/2012	12/31/2042	Interest Rate Swap			28622J-AB-3	ARROWMARK COLORADO HOLDI-SERIES 17-7A CLASS B	1	4,000,000	3,913,080
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	8,800,000	9,559,931	12/31/2012	12/31/2042	Interest Rate Swap		870,116	38137P-AS-9	Goldentree Loan Opportun-SERIES 2015-10A CLASS AJR	1	8,800,000	8,689,815
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	7,400,000	7,400,000	7,301,713	12/31/2012	12/31/2042	Interest Rate Swap			92916M-AC-5	VOYA CLO LTD-VOYA 2017-1A B	1	7,400,000	7,301,713
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	5,350,000	5,350,000	5,324,941	12/31/2012	12/31/2042	Interest Rate Swap			69689A-AN-0	PALMER SQUARE CLO LTD-SERIES 15-1A CLASS A2R	1	5,350,000	5,324,941
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	7,500,000	7,500,000	7,298,753	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	7,298,753
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	13,900,000	13,900,000	13,644,337	12/31/2012	12/31/2042	Interest Rate Swap			03328Y-AE-4	Anchorage Capital CLO Lt-ANCHC 2018-TRA B	1	13,900,000	13,644,337
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	12,740,000	12,740,000	12,726,980	12/31/2012	12/31/2042	Interest Rate Swap			09626U-AN-8	BLUEMOUNTAIN CLO LTD-BLUEM 2013-1A A2R	1	12,740,000	12,726,980
57629*ASO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	10,011,284	10,770,443	12/31/2012	12/31/2042	Interest Rate Swap		870,116	46616K-AE-4	JFIN CLO 2013 LTD SR SEC2 DEF NT CL B	1	10,011,284	9,900,327

STATEMENT AS OF MARCH 31, 2019 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*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,829,880	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	7,829,880
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,773,890	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	14,773,890
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	10,000,040	12/31/2012	12/31/2042	Interest Rate Swap			50188Q-AE-1	LCM XIX LTD PARTNERSHIP DEF MEZZ NT CL C	1	10,000,000	10,000,040
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,300,000	8,200,533	12/31/2012	12/31/2042	Interest Rate Swap			00900P-AE-5	AIMCO CLO Series 2018-B-SERIES 18-BA CLASS B	1	8,300,000	8,200,533
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,100,000	1,079,939	12/31/2012	12/31/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,079,939
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	10,000,000	10,720,606	12/31/2012	12/31/2042	Interest Rate Swap		870,116	87248W-AC-2	TIOP CLO VIII LTD-SERIES 2017-8A CLASS A2	1	10,000,000	9,850,490
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,430,000	3,414,548	12/31/2012	12/31/2042	Interest Rate Swap			674000-AS-3	OAKTREE CLO LTD-SERIES 14-1A CLASS BR	1	3,430,000	3,414,548
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,900,000	5,833,082	12/31/2012	12/31/2042	Interest Rate Swap			48251F-AB-7	KKR FINANCIAL CLO LTD-SERIES 17 CLASS B	1	5,900,000	5,833,082
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,000,000	11,803,896	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	11,803,896
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,650,000	22,539,015	12/31/2012	12/31/2042	Interest Rate Swap			14315C-ZZ-0	Carlyle US CLO 2017-4 Ri Term Loan	1	22,650,000	22,539,015
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	6,830,000	6,684,361	04/09/2013	04/09/2043	Interest Rate Swap		1,845,899	55953E-AN-0	MAGNETITE CLO LTD-SERIES 14-11A CLASS BR	1	6,830,000	6,684,361
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,600,000	5,562,525	04/09/2013	04/09/2043	Interest Rate Swap			12550Y-AG-9	CIFC FUNDING LTD-CIFC 2017-2A C	1	5,600,000	5,562,525
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,280,000	4,236,930	04/09/2013	04/09/2043	Interest Rate Swap			09629C-AE-5	BLUEMOUNTAIN CLO LTD-SERIES 17-1A CLASS B	1	4,280,000	4,236,930
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,250,000	4,244,700	04/09/2013	04/09/2043	Interest Rate Swap			00163K-AS-7	ALM LOAN FUNDING-ALM 2013-TRA A2R	1	4,250,000	4,244,700
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,000,000	5,952,888	04/09/2013	04/09/2043	Interest Rate Swap			81883A-AC-3	Shackleton 2015-VII-R CL-SERIES 2015-TRA CLASS B	1	6,000,000	5,952,888
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,414,688	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	7,414,688
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,100,000	6,027,258	04/09/2013	04/09/2043	Interest Rate Swap			94951M-AC-7	WELLFLEET CLO 2017-2 LTD-SERIES 17-2A CLASS A2	1	6,100,000	6,027,258
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,330,000	4,298,668	04/09/2013	04/09/2043	Interest Rate Swap			64130H-AE-1	NEUBERGER BERMAN CLO LTD-NEUB 2017-24A C	1	4,330,000	4,298,668
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,560,000	13,532,256	04/09/2013	04/09/2043	Interest Rate Swap			64129J-AQ-3	NEUBERGER BERMAN CLO LTD-NEUB 2013-14A A1R	1	13,560,000	13,532,256
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	60,000,000	17,970,000	20,343,108	04/09/2013	04/09/2043	Interest Rate Swap		2,013,708	74992*-AD-7	RXR Realty, LLC Senior Secured	2	17,970,000	18,329,400
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,500,000	18,073,279	04/09/2013	04/09/2043	Interest Rate Swap			50188G-AX-1	LCM XVIII LP-LGM 18A A2R	1	18,500,000	18,073,279
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,750,000	12,750,191	04/09/2013	04/09/2043	Interest Rate Swap			27830B-AQ-7	EATON VANCE CDO LTD-SERIES 2013-1A CLASS A2R	1	12,750,000	12,750,191
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,800,000	12,786,906	04/09/2013	04/09/2043	Interest Rate Swap			67102Q-AK-4	CHA CREDIT PARTNERS LTD-SERIES 2012-7A CLASS B1R	1	12,800,000	12,786,906
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,000,000	1,974,650	04/09/2013	04/09/2043	Interest Rate Swap			62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	2,000,000	1,974,650
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	26,000,000	27,632,759	04/09/2013	04/09/2043	Interest Rate Swap		1,925,675	83609Y-AC-0	Sounds Point CLO IV-R LT-SERIES 13-3RA CLASS A	1	26,000,000	25,707,084
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,041,461	5,991,799	04/09/2013	04/09/2043	Interest Rate Swap			78442G-OA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	6,041,461	5,991,799
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,775,000	10,694,166	04/09/2013	04/09/2043	Interest Rate Swap			74982L-AQ-3	RACE POINT CLO LTD-SERIES 13-8A CLASS BR	1	10,775,000	10,694,166
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,350,000	15,107,470	04/09/2013	04/09/2043	Interest Rate Swap			14315J-RR-2	Carlyle US CLO 2013-4 Re Term Loan	1	15,350,000	15,107,470
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	4,450,000	6,376,311	04/09/2013	04/09/2043	Interest Rate Swap		1,925,675	55820R-AG-7	MADISON PARK FUNDING LTD-SERIES 17-25A CLASS C	2	4,450,000	4,450,636
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,950,000	1,934,260	04/09/2013	04/09/2043	Interest Rate Swap			55954K-AE-5	MAGNETITE CLO LTD-SERIES 2017-19A CLASS C	1	1,950,000	1,934,260
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,850,000	22,815,268	04/09/2013	04/09/2043	Interest Rate Swap			14311C-RR-1	Carlyle US CLO 2017-1 Ri Term Loan	1	22,850,000	22,815,268

S105.4

STATEMENT AS OF MARCH 31, 2019 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*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,892,280	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	9,892,280
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,190,000	5,189,875	04/09/2013	04/09/2043	Interest Rate Swap			00900A-AN-8	AIMCO-SERIES 14-AA CLASS C1R LCM XIX LTD PARTNERSHIP SR NT CL B	1	5,190,000	5,189,875
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	7,000,112	04/09/2013	04/09/2043	Interest Rate Swap			50188Q-AC-5	Babson CLO Ltd 2016-II-BABSN 2016-2A BR	1	7,000,000	7,000,112
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,300,000	3,288,724	04/09/2013	04/09/2043	Interest Rate Swap			06761C-AC-3	Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	3,300,000	3,288,724
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	982,857	04/09/2013	04/09/2043	Interest Rate Swap			89852T-AN-8	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	1,000,000	982,857
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	991,072	04/09/2013	04/09/2043	Interest Rate Swap			13876J-AE-2		1	1,000,000	991,072
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	28,800,000	30,424,187	04/09/2013	04/09/2043	Interest Rate Swap		1,618,686	67110H-AA-6	OZLM XIV LTD SR SEC2 NT CL A-1A BENEFIT STREET PARTNERS -BSP 2017-11A A2A	1	28,800,000	28,805,501
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,922,645	04/09/2013	04/09/2043	Interest Rate Swap			08179C-AE-1	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	15,000,000	14,922,645
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,900,000	13,621,931	04/09/2013	04/09/2043	Interest Rate Swap			05875H-AC-7	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	13,900,000	13,621,931
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	987,325	04/09/2013	04/09/2043	Interest Rate Swap			62848F-AC-6	Marble Point CLO XI Ltd-MP11 2017-2A A	1	1,000,000	987,325
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	60,000,000	21,900,000	23,453,301	04/09/2013	04/09/2043	Interest Rate Swap		1,765,840	56607F-AA-3	NORTHSTAR EDUCATION FINA-SERIES 04-2 CLASS B	1	21,900,000	21,687,461
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,186,872	17,248,671	04/09/2013	04/09/2043	Interest Rate Swap			66704J-BD-9	NORTHSTAR EDUCATION FINA-SERIES 05-1 CLASS B	1	19,186,872	17,248,671
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,676,231	16,251,786	04/09/2013	04/09/2043	Interest Rate Swap			66704J-BK-3	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	16,676,231	16,251,786
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,500,000	3,449,989	04/09/2013	04/09/2043	Interest Rate Swap			94950J-AC-5	Crestline Denali CLO Ltd-SERIES 2018-1A CLASS C	1	3,500,000	3,449,989
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,200,000	3,018,659	04/09/2013	04/09/2043	Interest Rate Swap			22615E-AE-0	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	3,200,000	3,018,659
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	987,325	04/09/2013	04/09/2043	Interest Rate Swap			62848F-AC-6	Allegro CLO VII Ltd-ALLEG 2018-1A A	1	1,000,000	987,325
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	34,500,000	35,457,861	04/09/2013	04/09/2043	Interest Rate Swap		1,479,811	01750C-AA-1	KKR CLO 14 Ltd-KKR 14 AR	1	34,500,000	33,978,050
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,931,036	04/09/2013	04/09/2043	Interest Rate Swap			48250W-AG-0	Waters Corporation Gtd Senior Note Series H	2	7,000,000	6,931,036
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,100,000	7,100,000	04/09/2013	04/09/2043	Interest Rate Swap			941848-D8-9	Carlisle Global Market St-CGMS 2014-2RA A2	1	7,100,000	7,100,000
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,897,395	04/09/2013	04/09/2043	Interest Rate Swap			14314L-AE-5	CVP CASCADE CLO LTD-CVPC 2013-CLO1 A1R	1	5,000,000	4,897,395
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	20,764,217	22,243,800	04/09/2013	04/09/2043	Interest Rate Swap		1,479,811	126612-AJ-9	DRYDEN 64 CLO LTD-DRSLF 2018-64A A	1	20,764,217	20,763,989
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,850,000	22,505,468	04/09/2013	04/09/2043	Interest Rate Swap			26251L-AC-8	Babson CLO Ltd 2016-II-BABSN 2016-2A BR	1	22,850,000	22,505,468
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,400,000	3,388,382	04/09/2013	04/09/2043	Interest Rate Swap			06761C-AC-3	Neuberger Berman CLO Ltd-NEUB 2019-32A B	1	3,400,000	3,388,382
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,479,195	04/09/2013	04/09/2043	Interest Rate Swap			64132D-AC-2	VOYA CLO LTD-SERIES 2017-3A CLASS A1B	1	7,500,000	7,479,195
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	6,800,000	17,619,069	03/05/2014	03/05/2034	Interest Rate Swap		10,951,764	92915Q-AE-3	THL CREDIT WIND RIVER 20-SERIES 2017-3A CLASS B	1	6,800,000	6,667,305
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,780,000	6,735,293	03/05/2014	03/05/2034	Interest Rate Swap			88434G-AC-9	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS BR	1	6,780,000	6,735,293
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,920,000	4,861,068	03/05/2014	03/05/2034	Interest Rate Swap			48249V-AS-0	MADISON PARK FUNDING LTD-SERIES 15-17A CLASS AR	1	4,920,000	4,861,068
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,100,000	21,103,144	03/05/2014	03/05/2034	Interest Rate Swap			55818Y-BA-8	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS A1R	1	21,100,000	21,103,144
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,015,000	20,907,655	03/05/2014	03/05/2034	Interest Rate Swap			48249V-AN-1	CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS A	1	21,015,000	20,907,655
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,800,000	20,755,509	03/05/2014	03/05/2034	Interest Rate Swap			22616C-AA-1	KKR CLO 14 Ltd-KKR 14 AR	1	20,800,000	20,755,509
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,931,036	03/05/2014	03/05/2034	Interest Rate Swap			48250W-AG-0		1	7,000,000	6,931,036

S105.5

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,200,000	12,199,610	03/05/2014	03/05/2034	Interest Rate Swap			55818P-AS-9	MADISON PARK FUNDING LTD-HDPK 2014-12A CR	1	12,200,000	12,199,610
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	20,092,471	33,091,817	03/05/2014	03/05/2034	Interest Rate Swap	10,977,111		346845-AC-4	FORT BENNING FAM-UNSECURED	1	20,092,471	22,114,706
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,800,000	11,752,387	03/05/2014	03/05/2034	Interest Rate Swap			14311D-AY-2	CARLYLE GLOBAL MARKET ST-SERIES 15-1A CLASS BR	1	11,800,000	11,752,387
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,978,130	03/05/2014	03/05/2034	Interest Rate Swap			38137Y-AG-6	Goldentree Loan Managem-GLM 2019-4A B	1	15,000,000	14,978,130
57629*BC4	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		44,762,848	44,934,736	03/05/2014	03/05/2034	Interest Rate Swap			16892D-AC-2	CHINA SOUTHERN POWER GRI-SENIOR UNSECURED	1	44,762,848	44,934,736
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,850,000	10,717,218	03/05/2014	03/05/2034	Interest Rate Swap			883310-AC-8	THAYER PARK CLO LTD.-THAYR 2017-1A A2	1	10,850,000	10,717,218
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	2,800,000	21,997,616	05/19/2014	05/19/2044	Interest Rate Swap	19,197,616		48661Y-AA-2	Kayne CLO 4 Ltd-SERIES 19-4A CLASS B1	1	2,800,000	2,800,000
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		45,000,000	44,796,645	05/19/2014	05/19/2044	Interest Rate Swap			13876J-AC-6	Canyon Capital CLO Ltd-CANVC 2012-18A A	1	45,000,000	44,796,645
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,100,000	8,979,370	05/19/2014	05/19/2044	Interest Rate Swap			40436V-AC-5	HIGHBRIDGE LOAN MANAGEME-HLM 11A-17 C	1	9,100,000	8,979,370
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,950,000	8,876,861	05/19/2014	05/19/2044	Interest Rate Swap			50184N-AP-7	LOM LTD PARTNERSHIP-SERIES 15A CLASS CR	1	8,950,000	8,876,861
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,600,000	4,602,977	05/19/2014	05/19/2044	Interest Rate Swap			65341K-AJ-5	NEXTGEAR FLOORPLAN WASTE-SERIES 2016-1A CLASS A1	1	4,600,000	4,602,977
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,100,000	12,826,053	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	12,826,053
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		44,982,148	44,520,030	05/19/2014	05/19/2044	Interest Rate Swap			42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	44,982,148	44,520,030
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,971,429	22,905,730	05/19/2014	05/19/2044	Interest Rate Swap			14315J-ZZ-5	Carlyle US CLO 2017-2 Ri Term Loan	1	22,971,429	22,905,730
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	20,000,000	29,968,402	05/19/2014	05/19/2034	Interest Rate Swap	10,011,882		67105V-AW-4	CHA CREDIT PARTNERS LTD-CAKC 2013-9A B1R	1	20,000,000	19,956,520
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		50,000,000	49,413,150	05/19/2014	05/19/2034	Interest Rate Swap			77342J-AA-1	Rockford Tower CLO 2018--SERIES 18-1A CLASS A	1	50,000,000	49,413,150
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,901,272	05/19/2014	05/19/2034	Interest Rate Swap			64130P-AE-3	Neuberger Berman CLO Ltd-NEUB 2018-28A B	1	7,000,000	6,901,272
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,938,660	05/19/2014	05/19/2034	Interest Rate Swap			13080B-AB-7	SYMPHONY CLO LTD-SERIES 13-12A CLASS B1R	1	20,000,000	19,938,660
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,900,000	19,762,730	05/19/2014	05/19/2034	Interest Rate Swap			39808P-AL-0	Greywolf CLO V Ltd-GWOLF 2015-1A A1R	1	19,900,000	19,762,730
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,000,000	8,894,583	05/19/2014	05/19/2034	Interest Rate Swap			040170-AE-5	ARES CLO Ltd-SERIES 18-28RA CLASS B	1	9,000,000	8,894,583
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	28,888,535	48,067,689	05/19/2014	05/19/2044	Interest Rate Swap	19,475,936		42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	28,888,535	28,591,753
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,086,133	17,047,527	05/19/2014	05/19/2044	Interest Rate Swap			83715R-AG-7	SOUTH CAROLINA STUDENT L-SERIES 2014-1 CLASS B	1	17,086,133	17,047,527
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,000,000	3,971,848	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	3,971,848
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,308,212	6,246,163	05/19/2014	05/19/2044	Interest Rate Swap			38021B-AG-5	GOAL CAPITAL FUNDING TRU-SERIES 2006-1 CLASS B	1	6,308,212	6,246,163
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,180,215	4,449,149	05/19/2014	05/19/2044	Interest Rate Swap			429827-AS-7	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2	1	4,180,215	4,449,149
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,733,180	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	9,733,180
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,050,000	8,846,782	05/19/2014	05/19/2044	Interest Rate Swap			06760E-AE-6	Babson CLO Ltd 2013-1-SERIES 2013-1A CLASS CR	1	9,050,000	8,846,782
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,500,000	9,367,732	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	9,367,732
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,750,000	7,609,066	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	7,609,066
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,217,685	05/19/2014	05/19/2044	Interest Rate Swap			03330A-AE-2	Anchorage Capital CLO 3--ANHC 2014-3RA C	1	7,500,000	7,217,685
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,817,672	05/19/2014	05/19/2044	Interest Rate Swap			38137H-BW-7	Goldentree Loan Opportun-SERIES 2015-11A CLASS BR2	1	8,000,000	7,817,672

S105.6

STATEMENT AS OF MARCH 31, 2019 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*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,906,328	05/19/2014	05/19/2044	Interest Rate Swap			39808P-AN-6	Greywolf CLO V Ltd-GWOLF 2015-1A A2R	1	8,000,000	7,906,328
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,050,000	7,754,613	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	7,754,613
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,800,000	5,553,152	05/19/2014	05/19/2044	Interest Rate Swap			01749B-AC-3	Allegro CLO VI Ltd-ALLEG 2017-2A C	1	5,800,000	5,553,152
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,000,000	15,796,480	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	15,796,480
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	8,650,000	27,934,337	05/19/2014	05/19/2044	Interest Rate Swap		19,425,981	55818R-BC-9	Madison Park Funding XIV-HDPK 2014-14A CR	1	8,650,000	8,508,356
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,414,620	2,352,892	05/19/2014	05/19/2044	Interest Rate Swap			784424-AE-3	SLC STUDENT LOAN TRUST 2-SERIES 07-1 CLASS B	1	2,414,620	2,352,892
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,999,595	05/19/2014	05/19/2044	Interest Rate Swap			67091H-AK-7	CHA LOAN FUNDING LTD-CHALF 2012-1A B1R	1	15,000,000	14,999,595
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,600,000	14,612,687	05/19/2014	05/19/2044	Interest Rate Swap			09628W-AC-6	BLUEMOUNTAIN CLO LTD-SERIES 16-2A CLASS A2	1	14,600,000	14,612,687
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,000,000	15,931,200	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	15,931,200
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,850,000	13,864,930	05/19/2014	05/19/2044	Interest Rate Swap			11014P-AB-1	BRISTOL PARK CLO LTD-SERIES 2016-1A CLASS B	1	13,850,000	13,864,930
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,150,000	12,131,435	05/19/2014	05/19/2044	Interest Rate Swap			05682B-AC-0	BAIN CAPITAL CREDIT CLO -SERIES BCC 2016-2A CLASS B	1	12,150,000	12,131,435
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,024,613	3,073,105	05/19/2014	05/19/2044	Interest Rate Swap			23340L-AA-2	DBR PRIME STUDENT LOAN T-SERIES 2015-B CLASS A1	1	3,024,613	3,073,105
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		67,299,982	68,242,182	05/19/2014	05/19/2044	Interest Rate Swap			22101F-AA-6	CORVIAS CAMPUS LIVING - HU, LLC - Sr Secd Note	2	67,299,982	68,242,182
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	133,500,000	150,866,224	05/19/2014	05/19/2044	Interest Rate Swap		19,083,434	858102-AX-4	Steele Creek CLO 2016-1 -SERIES 2016-1A CLASS AR	1	133,500,000	131,782,790
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,836,170	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	9,836,170
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,931,036	05/19/2014	05/19/2044	Interest Rate Swap			48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	7,000,000	6,931,036
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	130,000,000	148,083,604	05/19/2014	05/19/2044	Interest Rate Swap		19,083,434	85816W-AC-8	Steele Creek CLO 2014-1 -SERIES 14-1RA CLASS A	1	130,000,000	129,000,170
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,999,655	05/19/2014	05/19/2044	Interest Rate Swap			88322U-AM-1	THACHER PARK CLO-THRPK 2014-1A BR Harbor Park CLO, Ltd-HAR-HARB 2018-1A B1	1	15,000,000	14,999,655
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,200,000	5,151,962	05/19/2014	05/19/2044	Interest Rate Swap			41154X-AG-0	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	5,200,000	5,151,962
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	5,000,000	24,105,335	05/19/2014	05/19/2044	Interest Rate Swap		19,140,525	17181T-AA-9	ATLAS SENIOR LOAN FUND L-SERIES 2017-8A CLASS B	1	5,000,000	4,964,810
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		25,300,000	25,106,708	05/19/2014	05/19/2044	Interest Rate Swap			04943A-AC-3	SYMPHONY CLO LTD-SYMP 2014-14A B1R	1	25,300,000	25,106,708
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,800,000	12,800,333	05/19/2014	05/19/2044	Interest Rate Swap			871590-BG-2	Harbour Aircraft Investm Series 2017-1 C	1	12,800,000	12,800,333
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,615,816	23,939,227	05/19/2014	05/19/2044	Interest Rate Swap			64301U-AH-7	CHA Loan Funding 2013-2 -OHALF 2013-2A AR	1	23,615,816	23,939,227
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		79,100,000	78,381,614	05/19/2014	05/19/2044	Interest Rate Swap			67104L-AE-7	Wellfleet CLO 2016-1 Ltd-WELF 2016-1A CR	1	79,100,000	78,381,614
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,000,000	3,939,704	05/19/2014	05/19/2044	Interest Rate Swap			94949R-AW-7	LOM 30A B	1	4,000,000	3,939,704
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,200,000	3,200,000	05/19/2014	05/19/2044	Interest Rate Swap			50200Y-AG-3	Kingsland Ltd-SERIES 18-8A CLASS A	1	3,200,000	3,200,000
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	44,982,148	63,674,828	05/19/2014	05/19/2044	Interest Rate Swap		19,154,798	42086P-AC-7	SASOL CHEMICALS (USA) LL TERM LOAN	1	44,982,148	44,520,030
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,316,316	16,871,322	05/19/2014	05/19/2044	Interest Rate Swap			67818N-ZZ-5	AEGIS ASSET BACKED SECUR-SERIES 2005-4 CLASS M1	1	17,316,316	16,871,322
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,790,357	5,960,949	05/19/2014	05/19/2044	Interest Rate Swap			00764M-GG-6	EAI V Delta MSN 15181	1	5,790,357	5,960,949
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,145,899	3,829,741	05/19/2014	05/19/2044	Interest Rate Swap			247358-CC-6	Oak Hill Credit Partners-OAKC 2014-10RA B	1	4,145,899	3,829,741
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,886,195	05/19/2014	05/19/2044	Interest Rate Swap			67707C-AJ-7		1	15,000,000	14,886,195

S105.7

STATEMENT AS OF MARCH 31, 2019 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*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,560,000	13,522,073	05/19/2014	05/19/2044	Interest Rate Swap			64130H-AA-9	NEUBERGER BERMAN CLO LTD-NEUB 2017-24A A	1	13,560,000	13,522,073
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,600,000	13,452,753	05/19/2014	05/19/2044	Interest Rate Swap			64130H-AC-5	NEUBERGER BERMAN CLO LTD-NEUB 2017-24A B1	1	13,600,000	13,452,753
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,999,715	05/19/2014	05/19/2044	Interest Rate Swap			817176-AN-0	SENECA PARK CLO LTD-SPARK 2014-1A B1R	1	15,000,000	14,999,715
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,800,000	15,621,918	05/19/2014	05/19/2044	Interest Rate Swap			50512#-AE-2	LA Stadium Finance Compa Senior Secured	2	15,800,000	15,621,918
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,917,685	4,905,568	05/19/2014	05/19/2044	Interest Rate Swap			64033L-AD-2	NELNET STUDENT LOAN TRUS-SERIES 2014-2A CLASS B	1	4,917,685	4,905,568
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	135,000,000	104,081,171	121,719,741	05/19/2014	05/19/2044	Interest Rate Swap		17,637,529	05363U-AS-2	EVERETT POINT CLO LTD-SERIES 14-1A CLASS AR	1	104,081,171	104,082,212
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,600,000	5,560,587	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	5,560,587
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		27,700,000	26,960,438	05/19/2014	05/19/2044	Interest Rate Swap			38176D-AJ-8	GoLub Capital Partners C-GOCAP 2015-26A A2R	1	27,700,000	26,960,438
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	85,000,000	27,406,967	32,899,967	05/09/2014	05/09/2034	Interest Rate Swap		7,992,582	77277L-B8-9	ROCKFORD CLO BV Variable Funding Note - GBP	1	27,406,967	24,907,385
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,765,505	05/09/2014	05/09/2034	Interest Rate Swap			03765W-BC-1	Apollo Credit Funding IV-SERIES 4A CLASS A1BR	1	15,000,000	14,765,505
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,570,000	13,514,580	05/09/2014	05/09/2034	Interest Rate Swap			04016P-AC-2	ARES CLO LTD-SERIES 17-43A CLASS B	1	13,570,000	13,514,580
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,570,000	13,398,774	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	13,398,774
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,570,000	13,445,210	05/09/2014	05/09/2034	Interest Rate Swap			77342K-AA-8	ROCKFORD TOWER CLO 2018-ROCKT 2018-2A A	1	13,570,000	13,445,210
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,900,000	3,757,264	05/09/2014	05/09/2034	Interest Rate Swap			05683L-AG-1	Bain Capital Credit CLO -SERIES 1A CLASS C	1	3,900,000	3,757,264
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	13,100,000	28,226,772	07/22/2014	07/22/2044	Interest Rate Swap		15,425,884	67707B-AB-6	OHA Credit Partners XV L-SERIES 17-15A CLASS B	1	13,100,000	12,800,888
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,300,000	13,080,989	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	13,080,989
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,902,832	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	7,902,832
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,732,880	07/22/2014	07/22/2044	Interest Rate Swap			17180W-AC-9	CIFC Funding 2018-II Ltd-CIFC 2018-2A A2	1	15,000,000	14,732,880
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,500,000	13,345,317	07/22/2014	07/22/2044	Interest Rate Swap			03329A-AE-5	Anchorage Capital CLO Lt-SERIES 2014-5RA CLASS B	1	13,500,000	13,345,317
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,532,886	9,576,982	07/22/2014	07/22/2044	Interest Rate Swap			247361-PP-9	DELTA AIR LINES INC AIRBUS A330-200 N856NW	1	9,532,886	9,576,982
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		35,000,000	34,835,920	07/22/2014	07/22/2044	Interest Rate Swap			14315J-AL-3	CARLYLE GLOBAL MARKET ST-SERIES 17-2A CLASS A1B	1	35,000,000	34,835,920
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,900,000	5,837,106	07/22/2014	07/22/2044	Interest Rate Swap			40436X-AG-2	HIGHBRIDGE LOAN MANAGEMEN-SERIES 2014 CLASS BR	1	5,900,000	5,837,106
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,500,000	14,397,790	07/22/2014	07/22/2044	Interest Rate Swap			553205-AC-9	MP CLO III LTD-MP3 2013-1A AR	1	14,500,000	14,397,790
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	20,000,000	35,310,838	07/22/2014	07/22/2044	Interest Rate Swap		15,437,838	36248M-AJ-6	GT Loan Financing I Ltd -SERIES 2013-1A CLASS AR	1	20,000,000	19,873,000
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,797,410	07/22/2014	07/22/2044	Interest Rate Swap			48251M-AS-5	KKR CLO 15 Ltd-KKR 15 A2R	1	15,000,000	14,797,410
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,590,000	19,437,590	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	19,437,590
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,500,000	19,458,348	07/22/2014	07/22/2044	Interest Rate Swap			04016P-AA-6	ARES CLO LTD-ARES 2017-43A A	1	19,500,000	19,458,348
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,500,000	8,401,698	07/22/2014	07/22/2044	Interest Rate Swap			15032T-AW-6	CEDAR FUNDING LTD-SERIES 13-1A CLASS BR	1	8,500,000	8,401,698
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,955,968	07/22/2014	07/22/2044	Interest Rate Swap			12551J-AE-6	CIFC FUNDING LTD-SERIES 17-4A CLASS A2	1	8,000,000	7,955,968
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,100,000	5,100,163	07/22/2014	07/22/2044	Interest Rate Swap			06760B-AJ-1	BARSON CLO LTD-SERIES 17-1A CLASS C	1	5,100,000	5,100,163
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,100,000	5,047,659	07/22/2014	07/22/2044	Interest Rate Swap			566061-AE-7	MARBLE POINT CLO X LTD-SERIES 2017-1A CLASS B	1	5,100,000	5,047,659

S105.8

STATEMENT AS OF MARCH 31, 2019 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*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,400,000	3,400,269	04/09/2013	04/09/2043	Interest Rate Swap			55818Y-BG-5	MADISON PARK FUNDING LTD-SERIES 15-17A CLASS CR	1	3,400,000	3,400,269
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,975,000	2,975,173	04/09/2013	04/09/2043	Interest Rate Swap			671020-AP-3	OHA CREDIT PARTNERS LTD-SERIES 2012-7A CLASS CR	1	2,975,000	2,975,173
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,540,000	6,541,079	04/09/2013	04/09/2043	Interest Rate Swap			87231L-AC-5	TCI-CENT CLO 2016-1 LTD--TCENT 2016-1A A2	1	6,540,000	6,541,079
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,250,000	9,246,568	04/09/2013	04/09/2043	Interest Rate Swap			94950G-AA-5	WELLFLEET CLO LTD-WELF 2017-1A A1	1	9,250,000	9,246,568
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,000,000	3,888,520	04/09/2013	04/09/2043	Interest Rate Swap			41154X-AL-9	Harbor Park CLO, Ltd-HARB 2018-1A C	1	4,000,000	3,888,520
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	17,000,000	32,423,133	07/22/2014	07/22/2044	Interest Rate Swap		15,437,838	04014W-AL-9	ARES CLO LTD-ARES 2014-1A A2R Steele Creek Clo 2018-2 -SERIES 2018-2A CLASS A	1	17,000,000	16,985,295
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,988,513	15,831,824	07/22/2014	07/22/2044	Interest Rate Swap			85816L-AA-6	Carlyle US CLO 2013-1 Re Term Loan	1	15,988,513	15,831,824
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,550,000	22,493,625	07/22/2014	07/22/2044	Interest Rate Swap			14315J-SS-9	MADISON PARK FUNDING LTD-MDPK 2014-12A B1R	1	22,550,000	22,493,625
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,000,000	16,999,592	07/22/2014	07/22/2044	Interest Rate Swap			55818P-AN-0	MADISON PARK FUNDING LTD-MDPK 2016-24A C1	1	17,000,000	16,999,592
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,125,000	8,124,821	07/22/2014	07/22/2044	Interest Rate Swap			55820N-AE-1	GoldenTree Loan Managem-GLM 2017-1A C	1	8,125,000	8,124,821
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,900,000	6,850,127	07/22/2014	07/22/2044	Interest Rate Swap			38136F-AL-7	LGM LTD PARTNERSHIP-SERIES 15A CLASS BR	1	6,900,000	6,850,127
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,650,000	5,610,009	07/22/2014	07/22/2044	Interest Rate Swap			50184N-AN-2	MOSAIC CO/THE-SENIOR UNSECURED NOTE	2	5,650,000	5,610,009
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,064,825	9,063,667	07/22/2014	07/22/2044	Interest Rate Swap			61945C-AA-1	RRPF Engine Leasing Ltd Senior Secured	1	9,064,825	9,063,667
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,000,000	21,390,299	07/22/2014	07/22/2044	Interest Rate Swap			67332F-AG-8	ARES CLO Ltd-SERIES 18-28RA CLASS B	1	23,000,000	21,390,299
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	7,000,000	22,308,032	07/22/2014	07/22/2044	Interest Rate Swap		15,390,023	04017Q-AE-5	REGATTA VIII FUNDING LTD-SERIES 2017-1A CLASS B	1	7,000,000	6,918,009
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,600,000	7,558,633	07/22/2014	07/22/2044	Interest Rate Swap			75888K-AC-8	AIMCO-AIMCO 2017-AA A Ares XXXIR CLO Ltd-SERIES 14-31RA CLASS A2	1	7,600,000	7,558,633
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,460,000	7,454,047	07/22/2014	07/22/2044	Interest Rate Swap			00900C-AA-2	DRYDEN SENIOR LOAN FUND-SERIES 17-49A CLASS B	1	7,460,000	7,454,047
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		28,400,000	27,700,394	07/22/2014	07/22/2044	Interest Rate Swap			04017T-AC-3	Kingsland Ltd-SERIES 18-8A CLASS A	1	28,400,000	27,700,394
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,805,835	11,699,688	07/22/2014	07/22/2044	Interest Rate Swap			26244Q-AB-9	BAIN CAPITAL CREDIT CLO -SERIES 2017-2A CLASS AR	1	11,805,835	11,699,688
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		41,983,338	41,552,028	07/22/2014	07/22/2044	Interest Rate Swap			42086P-AC-7	Wind River CLO Ltd-SERIES 18-3A CLASS B	1	41,983,338	41,552,028
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,500,000	12,499,725	07/22/2014	07/22/2044	Interest Rate Swap			05683H-AC-9	EAIV Delta MSN 15166	1	12,500,000	12,499,725
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,500,000	9,366,962	07/22/2014	07/22/2044	Interest Rate Swap			88432U-AE-6	STATE BOARD OF REGENTS 0-SERIES JSBR 2017-1 CLASS B	2	9,500,000	9,366,962
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	4,071,125	19,168,528	07/22/2014	07/22/2044	Interest Rate Swap		15,401,976	247358-XT-6	SLM STUDENT LOAN TRUST 2-SERIES 06-9 CLASS B	1	4,071,125	3,766,552
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,978,199	6,921,216	07/22/2014	07/22/2044	Interest Rate Swap			91754R-ZG-5	TICP CLO VI 2016-5 Ltd-TICP 2016-5A BR	1	6,978,199	6,921,216
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,301,798	5,153,209	07/22/2014	07/22/2044	Interest Rate Swap			78443K-AK-2	MASTR ASSET BACKED SECUR-SERIES 2004-OPT2 CLASS A1	1	5,301,798	5,153,209
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,200,000	14,998,083	07/22/2014	07/22/2044	Interest Rate Swap			87248K-AL-8	APIDOS CLO-SERIES 17-26A CLASS B	1	15,200,000	14,998,083
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,440,454	4,445,880	07/22/2014	07/22/2044	Interest Rate Swap			57643L-FG-6	Madison Park Funding XXI-MDPK 2016-22A B	1	4,440,454	4,445,880
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,295,000	5,295,169	07/22/2014	07/22/2044	Interest Rate Swap			03766G-AG-7	FLATIRON CLO LTD-FLAT 2017-1A A	1	5,295,000	5,295,169
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,986,995	11,991,984	07/22/2014	07/22/2044	Interest Rate Swap			55819X-AC-6	CEDAR FUNDING LTD-SERIES 14-4A CLASS BR	1	11,986,995	11,991,984
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,300,000	16,271,671	07/22/2014	07/22/2044	Interest Rate Swap			33882G-AA-6		1	16,300,000	16,271,671
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,280,000	16,089,752	07/22/2014	07/22/2044	Interest Rate Swap			150323-AQ-6		1	16,280,000	16,089,752

S105.9

STATEMENT AS OF MARCH 31, 2019 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*B1W0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,410,000	9,378,429	07/22/2014	07/22/2044	Interest Rate Swap			04943A-AE-9	ATLAS SENIOR LOAN FUND L-SERIES 17-8A CLASS C	1	9,410,000	9,378,429
57629*B1W0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,900,000	11,619,743	07/22/2014	07/22/2044	Interest Rate Swap			44330G-AE-3	Highbridge Loan Managem-SERIES 4A-2014 CLASS A2R	1	11,900,000	11,619,743
57629*B1W0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,250,000	4,250,162	07/22/2014	07/22/2044	Interest Rate Swap			76761R-AE-9	Riserva Clo Ltd-SERIES 2016-3A CLASS C1	1	4,250,000	4,250,162
57629*B1W0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,500,000	8,509,775	07/22/2014	07/22/2044	Interest Rate Swap			87231L-AA-9	TCI-CENT CLO 2016-1 LTD.-TCENT 2016-1A A1	1	8,500,000	8,509,775
57629*B1W0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	987,325	07/22/2014	07/22/2044	Interest Rate Swap			62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	1,000,000	987,325
57629*B1W0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,864,505	07/22/2014	07/22/2044	Interest Rate Swap			00900P-AG-0	AIMCO CLO Series 2018-B-SERIES 18-8A CLASS C	1	5,000,000	4,864,505
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	10,860,252	15,987,863	08/27/2014	08/27/2044	Interest Rate Swap		5,243,307	78443G-AJ-4	SLM STUDENT LOAN TRUST 2-SERIES 06-7 CLASS B	1	10,860,252	10,744,556
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,900,000	7,738,232	08/27/2014	08/27/2044	Interest Rate Swap			92916Q-AC-6	VOYA CLO 2017-4 LTD-SERIES 17-4A CLASS B	1	7,900,000	7,738,232
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,845,350	08/27/2014	08/27/2044	Interest Rate Swap			14314B-AC-1	CARLYLE GLOBAL MARKET ST-CGMS 2017-1A A2	1	15,000,000	14,845,350
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,560,000	8,506,346	08/27/2014	08/27/2044	Interest Rate Swap			85816B-CQ-1	STEELE CREEK CLO LTD-SERIES 15-1A CLASS BR	1	8,560,000	8,506,346
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,050,000	9,022,814	08/27/2014	08/27/2044	Interest Rate Swap			92912V-AN-5	VOYA CLO LTD-VOYA 2014-2A A1R	1	9,050,000	9,022,814
57629*CA7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	60,500,000	65,761,826	08/27/2014	08/27/2044	Interest Rate Swap		5,262,491	126612-AJ-9	CVP CASCADE CLO LTD-CVPC 2013-CLO1 A1R	1	60,500,000	60,499,335
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	6,800,000	12,014,233	08/27/2014	08/27/2044	Interest Rate Swap		5,214,532	388080-AN-1	GREYWOLF CLO LTD-SERIES 2014-2A CLASS BR	1	6,800,000	6,799,701
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,800,000	6,792,411	08/27/2014	08/27/2044	Interest Rate Swap			00900A-AJ-7	AIMCO-SERIES 14-AA CLASS B1R	1	6,800,000	6,792,411
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,250,000	14,028,698	08/27/2014	08/27/2044	Interest Rate Swap			67112K-AB-5	CCP CLO LTD-SERIES 18-15A CLASS A2	1	14,250,000	14,028,698
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,300,000	3,288,724	08/27/2014	08/27/2044	Interest Rate Swap			06761C-AC-3	Babson CLO Ltd 2016-11-BABSON 2016-2A BR	1	3,300,000	3,288,724
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,100,000	14,101,692	08/27/2014	08/27/2044	Interest Rate Swap			06759Y-AA-3	BARINGS CLO LTD-BABSON 2016-3A A1	1	14,100,000	14,101,692
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,350,000	2,326,582	08/27/2014	08/27/2044	Interest Rate Swap			14954W-AQ-9	BAIN CAPITAL CREDIT CLO -SERIES 2017-2A CLASS CR	1	2,350,000	2,326,582
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,652,569	2,648,728	08/27/2014	08/27/2044	Interest Rate Swap			045487-AA-3	ASSOC BANC-CORP-SR UNSECURED Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A1	2	2,652,569	2,648,728
57629*CC3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	22,488,463	27,437,129	08/27/2014	08/27/2044	Interest Rate Swap		5,180,961	94949J-AA-3	ALM XIV Ltd-SERIES 14-14A CLASS A1R2	1	22,488,463	22,256,168
57629*CC3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,900,000	15,746,374	08/27/2014	08/27/2044	Interest Rate Swap			74988L-AA-2	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS A1	1	15,900,000	15,746,374
57629*CC3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,475,000	16,208,731	08/27/2014	08/27/2044	Interest Rate Swap			06760G-AA-9	Kingsland VI Ltd-KING 2013-6A AR	1	16,475,000	16,208,731
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	100,000,000	114,215,552	09/08/2014	09/08/2044	Interest Rate Swap		15,621,752	42086Q-AA-9	AUST & NZ BANKING GROUP-SUBORDINATED NOTE	1	100,000,000	98,593,800
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,465,000	27,752,382	09/08/2014	09/08/2044	Interest Rate Swap			ZZ2066-36-8	WIND RIVER CLO LTD-SERIES 17-2A CLASS C1	1	21,465,000	27,752,382
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,400,000	8,330,104	09/08/2014	09/08/2044	Interest Rate Swap			48252Y-AE-9	KKR CLO 23 Ltd-KKR 23 B	1	8,400,000	8,330,104
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,750,000	2,619,188	09/08/2014	09/08/2044	Interest Rate Swap			04015U-AK-4	Ares XXXVIII CLO Ltd-SERIES 2015-38A CLASS CR	1	2,750,000	2,619,188
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,590,000	2,564,284	09/08/2014	09/08/2044	Interest Rate Swap			88433R-AG-7	AIMCO CLO Series 2015-A-SERIES 15-AA CLASS CR	1	2,590,000	2,564,284
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,500,000	2,414,830	09/08/2014	09/08/2044	Interest Rate Swap			00900L-AJ-3	Carlyle Global Market St-SERIES 14-38A CLASS A1B	1	2,500,000	2,414,830
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,500,000	10,332,378	09/08/2014	09/08/2044	Interest Rate Swap			14315L-AC-8	KREF 2018-FL1 Ltd-KREF 2018-FL1 C	1	10,500,000	10,332,378
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,770,000	4,735,081	09/08/2014	09/08/2044	Interest Rate Swap			48275P-AG-6	Madison Park Funding XVI-MDPK 2015-18A BR	1	4,770,000	4,735,081
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	9,832,287	13,312,508	10/06/2014	10/06/2034	Interest Rate Swap		3,355,238	55819B-AN-0		1	9,832,287	9,957,270

S105.10

STATEMENT AS OF MARCH 31, 2019 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*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,100,000	19,602,485	10/06/2014	10/06/2034	Interest Rate Swap			06760G-AB-7	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS A2	1	20,100,000	19,602,485
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,100,000	20,031,318	10/06/2014	10/06/2034	Interest Rate Swap			77341D-AA-5	Rockford Tower CLO 2017--ROCKT 2017-3A A	1	20,100,000	20,031,318
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	5,004,745	10/06/2014	10/06/2034	Interest Rate Swap			817176-AS-9	SENECA PARK CLO LTD-SPARK 2014-1A CR	1	5,000,000	5,004,745
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	42,526,712	52,385,726	10/06/2014	10/06/2044	Interest Rate Swap		9,854,187	28108R-AA-0	EdLine Student Loan Fund-ESLFT 2017-A A	1	42,526,712	42,531,539
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,184,705	6,189,544	10/06/2014	10/06/2044	Interest Rate Swap			61744C-NB-8	MORGAN STANLEY CAPITAL I-SERIES 2005-HE2 CLASS M1	1	6,184,705	6,189,544
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,900,000	4,864,862	10/06/2014	10/06/2044	Interest Rate Swap			12481K-AC-2	CBAM 2017-2 LTD-SERIES 17-2A CLASS B1	1	4,900,000	4,864,862
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,950,000	2,944,469	10/06/2014	10/06/2044	Interest Rate Swap			13080B-AD-3	SYMPHONY CLO LTD-SERIES 13-12A CLASS CR	1	2,950,000	2,944,469
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,875,740	10/06/2014	10/06/2044	Interest Rate Swap			94950G-AC-1	WELLFLEET CLO LTD-WELF 2017-1A A2	1	20,000,000	19,875,740
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,775,390	10/06/2014	10/06/2044	Interest Rate Swap			55952Y-AR-8	Magnetite VIII Ltd-MAGNE 2014-8A BR2	1	15,000,000	14,775,390
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,400,000	4,345,585	10/06/2014	10/06/2044	Interest Rate Swap			88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	4,400,000	4,345,585
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,600,000	3,466,462	10/06/2014	10/06/2044	Interest Rate Swap			87249C-AE-1	TICOP CLO X LTD-SERIES 18-10A CLASS C	1	3,600,000	3,466,462
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,700,000	3,700,000	10/06/2014	10/06/2044	Interest Rate Swap			04009G-AE-7	ARES L CLO Ltd-SERIES 19-53A CLASS B	1	3,700,000	3,700,000
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2	175,000,000	60,000,000	73,596,084	10/10/2014	10/10/2044	Interest Rate Swap		14,689,584	67332F-AD-5	RRPF Engine Leasing Ltd Senior Secured	2	60,000,000	58,906,500
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		27,479,434	28,027,500	10/10/2014	10/10/2044	Interest Rate Swap			629394-AA-5	NTC CAPITAL I-UNSECURED BOND CULLEN/FROST CAP TR II-SUBORDINATED	2	27,479,434	28,027,500
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		21,027,556	20,802,903	10/10/2014	10/10/2044	Interest Rate Swap			230000-AB-7	NOTE BLUEMOUNTAIN CLO LTD-SERIES 2015-1A CLASS A2R	2	21,027,556	20,802,903
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		20,500,000	20,492,354	10/10/2014	10/10/2044	Interest Rate Swap			09627X-AW-1	CHENANGO PARK CLO LTD-SERIES 18-1A CLASS A1B	1	20,500,000	20,492,354
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		16,200,000	15,850,906	10/10/2014	10/10/2044	Interest Rate Swap			16409T-AC-3	Taconic Park CLO Ltd 201-SERIES 2016-1A CLASS A2	1	16,200,000	15,850,906
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		16,100,000	16,081,630	10/10/2014	10/10/2044	Interest Rate Swap			873549-AC-3	GRIFFEN PARK CLO LTD-SERIES 17-1A CLASS B	1	16,100,000	16,081,630
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		7,000,000	6,952,372	10/10/2014	10/10/2044	Interest Rate Swap			39862E-AB-0	Dryden XXVIII Senior Loa-DRSLF	1	7,000,000	6,952,372
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		3,554,555	3,524,827	10/10/2014	10/10/2044	Interest Rate Swap			26251B-AN-6	2013-28A A2LR	1	3,554,555	3,524,827
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	2		5,815,623	6,349,472	10/10/2014	10/10/2044	Interest Rate Swap			78442G-RC-2	SLMA 2005-9 STUDENT LN-BKD NT CL B	1	5,815,623	6,349,472
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	80,000,000	89,863,967	11/04/2014	11/04/2044	Interest Rate Swap		10,464,687	87271L-AJ-1	TIIA CLO I Ltd-TIA 2016-1A AR	1	80,000,000	79,399,280
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,742,080	11/04/2014	11/04/2044	Interest Rate Swap			55819D-AE-6	Madison Park Funding XXX-MDPK 2018-31A A2A	1	20,000,000	19,742,080
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		35,000,000	34,756,015	11/04/2014	11/04/2044	Interest Rate Swap			22616T-AA-4	Crestline Denali CLO XVI-DEN17 2018-1A A	1	35,000,000	34,756,015
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	110,000,000	113,819,488	11/04/2014	11/04/2044	Interest Rate Swap		10,488,788	06761N-AE-5	Barings Middle Market CL-BMM 2018-11 COM	2	110,000,000	103,330,700
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,445,000	22,154,607	11/04/2014	11/04/2044	Interest Rate Swap			08181J-AA-0	Benefit Street Partners -SERIES 18-5BA CLASS A1A	1	22,445,000	22,154,607
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,000,000	993,327	11/04/2014	11/04/2044	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	1,000,000	993,327
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	34,504,612	45,262,013	11/04/2014	11/04/2044	Interest Rate Swap		10,681,593	50188G-AT-0	LCM XVIII LP-LQM 18A A1R	1	34,504,612	34,580,420
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		45,981,751	45,509,364	11/04/2014	11/04/2044	Interest Rate Swap			42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	45,981,751	45,509,364
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		30,000,000	30,008,940	11/04/2014	11/04/2044	Interest Rate Swap			38172X-AG-4	GOLUB CAPITAL PARTNERS C-SERIES 13-16A CLASS A1R	1	30,000,000	30,008,940
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,200,000	1,191,992	11/04/2014	11/04/2044	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	1,200,000	1,191,992

S105.11

STATEMENT AS OF MARCH 31, 2019 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*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,196,854	15,170,772	11/04/2014	11/04/2044	Interest Rate Swap			03328Y-AA-2	ANCHORAGE CAPITAL CLO 1--ANCHC 2018-1RA A1	1	15,196,854	15,170,772
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	14,173,507	24,553,363	11/04/2014	11/04/2044	Interest Rate Swap		10,705,694	G6776M-ZZ-9	ORANGE GROVE ENERGY, L.P DELAYED DRAW TE	2	14,173,507	13,847,669
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,750,239	3,497,139	11/04/2014	11/04/2044	Interest Rate Swap			247358-BB-9	EAIIV Delta MSN 15153	1	3,750,239	3,497,139
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,642,851	3,391,680	11/04/2014	11/04/2044	Interest Rate Swap			247358-DD-3	EAIIV Delta MSN 15161	1	3,642,851	3,391,680
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,759,546	3,507,833	11/04/2014	11/04/2044	Interest Rate Swap			247358-PP-3	EAIIV Delta MSN 15147	1	3,759,546	3,507,833
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,759,695	3,444,726	11/04/2014	11/04/2044	Interest Rate Swap			247358-RR-7	EAIIV 2017 Delta MSN 15146	1	3,759,695	3,444,726
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,642,851	3,391,680	11/04/2014	11/04/2044	Interest Rate Swap			247358-RII-6	EAIIV Delta MSN 15162	1	3,642,851	3,391,680
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		45,318,094	47,330,580	11/04/2014	11/04/2044	Interest Rate Swap			83416T-RR-3	Arpad Solar Borrower LLC Term Loan	2	45,318,094	47,330,580
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		26,700,000	26,644,411	11/04/2014	11/04/2044	Interest Rate Swap			29108Q-AY-8	EMERSON PARK CLO LTD-SERIES 13-1A	1	26,700,000	26,644,411
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,500,000	22,790,250	11/04/2014	11/04/2044	Interest Rate Swap			G1093*-AA-7	BIF I1 SAFE HARBOR HOLDINGS LLC ATRIUM CDO CORP-SERIES 9A CLASS AR	1	22,500,000	22,790,250
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	48,000,000	58,756,012	11/04/2014	11/04/2044	Interest Rate Swap		10,777,996	04964K-AL-5	BAIN CAPITAL CREDIT CLO -SERIES 18-2A CLASS A1	1	48,000,000	47,978,016
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		28,500,000	28,245,296	11/04/2014	11/04/2044	Interest Rate Swap			05682V-AA-3		1	28,500,000	28,245,296
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		55,348,843	55,670,517	11/04/2014	11/04/2044	Interest Rate Swap			13345*-AA-5	CAMERON LNG CONSTRUCTION FA JFIN CLO LTD-SERIES 14-2A CLASS A1AR	1	55,348,843	55,670,517
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	62,282,188	73,205,224	11/04/2014	11/04/2044	Interest Rate Swap		10,922,600	46617N-AQ-0		1	62,282,188	62,282,624
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		37,400,000	37,400,000	11/04/2014	11/04/2044	Interest Rate Swap			74992*-AB-1	RXR Realty, LLC Senior Secured HPS Loan Management 13-2-HLM 13A-18	2	37,400,000	37,400,000
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,490,000	10,349,602	11/04/2014	11/04/2044	Interest Rate Swap			40437L-AG-7	HPS Loan Management 9-20-HLM 9A-2016 A1BR	1	10,490,000	10,349,602
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,815,060	11/04/2014	11/04/2044	Interest Rate Swap			40436Q-AL-6		1	10,000,000	9,815,060
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,375,000	6,356,200	11/04/2014	11/04/2044	Interest Rate Swap			04622A-AC-1	Assurant CLO IV LTD Voya CLO 2014-1 Ltd-INGIM 2014-1A ABR2	1	6,375,000	6,356,200
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	16,600,000	27,055,346	11/04/2014	11/04/2044	Interest Rate Swap		10,898,500	92915P-AK-1	EVERY POINT IV CLO LTD-SERIES 14-1A CLASS CR	1	16,600,000	16,156,846
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,660,000	13,668,387	11/04/2014	11/04/2044	Interest Rate Swap			05363U-AW-3	ATRIUM CDO CORP-SERIES 9A CLASS CR	1	13,660,000	13,668,387
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,660,000	13,617,463	11/04/2014	11/04/2044	Interest Rate Swap			04964K-AS-0	RRPF Engine Leasing Ltd Senior Secured Atlas Senior Loan Fund X-ATCLO 2018-11A B	1	13,660,000	13,617,463
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,000,000	11,570,975	11/04/2014	11/04/2044	Interest Rate Swap			G7332#-AH-6		1	13,000,000	11,570,975
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,836,690	11/04/2014	11/04/2044	Interest Rate Swap			04941Y-AJ-8	TCI-CENT CLO 2016-1 LTD.-SERIES 17-1A CLASS A1	1	10,000,000	9,836,690
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		30,000,000	29,972,520	11/04/2014	11/04/2044	Interest Rate Swap			87806L-AC-0		1	30,000,000	29,972,520
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,974,340	11/04/2014	11/04/2044	Interest Rate Swap			12550Y-AC-8	CIFC FUNDING LTD-CIFC 2017-2A A Wellfleet CLO 2018-3 Ltd-SERIES 18-3A CLASS A2	1	20,000,000	19,974,340
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,410,578	11/04/2014	11/04/2044	Interest Rate Swap			94951D-AJ-2		1	7,500,000	7,410,578
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,798,256	1,795,033	11/04/2014	11/04/2044	Interest Rate Swap			664397-AK-2	EVERSOURCE ENERGY-UNSECURED NOTE MADISON PARK FUNDING LTD-SERIES 2015-16A CLASS A2R	2	1,798,256	1,795,033
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	12,740,000	23,681,541	11/04/2014	11/04/2044	Interest Rate Swap		10,946,701	55818X-AY-9	MAGNETITE CLO LTD-SERIES 14-11A CLASS A1R	1	12,740,000	12,734,840
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,675,000	12,680,805	11/04/2014	11/04/2044	Interest Rate Swap			55953E-AJ-9		1	12,675,000	12,680,805
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,240,000	12,154,271	11/04/2014	11/04/2044	Interest Rate Swap			03766G-AE-2	APIDOS CLO-SERIES 17-26A CLASS A2 CATSKILL PARK CLO LTD.-SERIES 17-1A CLASS A2	1	12,240,000	12,154,271
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,980,000	11,890,162	11/04/2014	11/04/2044	Interest Rate Swap			149420-AE-1		1	11,980,000	11,890,162

S105.12

STATEMENT AS OF MARCH 31, 2019 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*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,938,165	11/04/2014	11/04/2044	Interest Rate Swap			88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	5,000,000	4,938,165
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,100,000	21,053,242	11/04/2014	11/04/2044	Interest Rate Swap			48250L-AL-3	KKR FINANCIAL CLO LTD-SERIES 9 CLASS AR	1	21,100,000	21,053,242
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,100,000	22,674,660	11/04/2014	11/04/2044	Interest Rate Swap			24824T-AQ-3	Denali Capital Clo XII L-DEN12 2016-1A A1R	1	23,100,000	22,674,660
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,250,000	10,034,074	11/04/2014	11/04/2044	Interest Rate Swap			44330Q-AB-7	Highbridge Loan Managem-SERIES 12A-18 CLASS A1B	1	10,250,000	10,034,074
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,100,000	18,084,054	11/04/2014	11/04/2044	Interest Rate Swap			40436V-AA-9	HIGHBRIDGE LOAN MANAGEM-HLM 11A-17 A	1	18,100,000	18,084,054
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	35,491,159	39,793,898	12/16/2014	12/16/2044	Interest Rate Swap		3,595,366	39808C-A8-4	GRIDIRON FDG LLC Term Facility	2	35,491,159	36,198,532
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		27,109,287	25,399,804	12/16/2014	12/16/2044	Interest Rate Swap			66704J-CB-2	NORTHSTAR EDUCATION FINA-SERIES 07-1 CLASS B	1	27,109,287	25,399,804
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,313,777	17,343,656	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	17,313,777	17,343,656
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,914,800	12/16/2014	12/16/2044	Interest Rate Swap			03331J-AA-0	2018-10A A1A	1	20,000,000	19,914,800
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,200,000	15,795,227	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	15,795,227
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,700,000	6,598,897	12/16/2014	12/16/2044	Interest Rate Swap			06760B-AC-6	BABSON CLO LTD-SERIES 17-1A CLASS A2	1	6,700,000	6,598,897
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,960,000	4,935,974	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	4,935,974
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,575,000	2,499,859	12/16/2014	12/16/2044	Interest Rate Swap			08179H-AC-4	Benefit Street Partners -BSP 2017-12A B	1	2,575,000	2,499,859
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,904,990	12/16/2014	12/16/2044	Interest Rate Swap			79410U-AQ-4	SALEM FIELDS CLO LTD SR SECD NT CL A-2-R	1	10,000,000	9,904,990
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,475,000	4,474,781	12/16/2014	12/16/2044	Interest Rate Swap			033291-AC-9	ANCHORAGE 2019-13A B	1	4,475,000	4,474,781
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,425,000	6,250,773	12/16/2014	12/16/2044	Interest Rate Swap			08180X-AQ-5	Benefit Street Partners -BSP 2015-8A A1BR	1	6,425,000	6,250,773
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	24,662,500	28,305,210	12/16/2014	12/16/2044	Interest Rate Swap		3,305,210	144577-TT-0	Carrix, Inc. Senior Term Loa	2	24,662,500	25,000,000
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,470,000	14,453,200	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	14,453,200
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		34,959,807	34,390,335	12/16/2014	12/16/2044	Interest Rate Swap			04941Y-AC-3	Atlas Senior Loan Fund X-SERIES 18-11A CLASS A1L	1	34,959,807	34,390,335
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,336,978	6,280,383	12/16/2014	12/16/2044	Interest Rate Swap			92557W-AE-3	VIBRANT CLO IV LTD-SR SECD NT CL B 144A	1	6,336,978	6,280,383
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		65,000,000	64,440,090	12/16/2014	12/16/2044	Interest Rate Swap			04624W-AC-1	ASSURANT CLO III LTD-SERIES 2018-2A CLASS A	1	65,000,000	64,440,090
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,446,785	9,311,501	12/16/2014	12/16/2044	Interest Rate Swap			48252W-AC-7	KKR CLO LTD 22-SERIES 22A CLASS B	1	9,446,785	9,311,501
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,999,790	12/16/2014	12/16/2044	Interest Rate Swap			05618D-AN-4	BABSON CLO LTD-BABSON 2014-1A BR	1	7,000,000	6,999,790
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,045,000	2,004,288	12/16/2014	12/16/2044	Interest Rate Swap			056162-AQ-3	Babson CLO Ltd 2015-I-BABSON 2015-1A BR	1	2,045,000	2,004,288
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,900,000	3,721,622	12/16/2014	12/16/2044	Interest Rate Swap			69703P-AE-9	Palmer Square CLO 2018-1-PLMRS 2018-1A B	1	3,900,000	3,721,622
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	250,000,000	36,000,000	42,655,755	12/16/2014	12/16/2044	Interest Rate Swap		6,137,355	39808C-AA-3	Gridiron Fdg Llc Sr Secd Nt	2	36,000,000	36,518,400
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		25,900,000	25,357,835	12/16/2014	12/16/2044	Interest Rate Swap			14307P-AE-5	Carlyle Global Market St-SERIES C17A CLASS A1BR	1	25,900,000	25,357,835
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,500,000	23,499,460	12/16/2014	12/16/2044	Interest Rate Swap			05618D-AL-8	BABSON CLO LTD-BABSON 2014-1A A2R	1	23,500,000	23,499,460
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,100,000	23,007,600	12/16/2014	12/16/2044	Interest Rate Swap			83610K-AA-1	SOUND POINT CLO LTD-SERIES 2017-2A CLASS A	1	23,100,000	23,007,600
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,750,000	12,736,166	12/16/2014	12/16/2044	Interest Rate Swap			50184K-AU-2	LCM LTD PARTNERSHIP-SERIES 13A CLASS BR	1	12,750,000	12,736,166
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,558,702	13,286,336	12/16/2014	12/16/2044	Interest Rate Swap			88576P-AE-3	321 HENDERSON RECEIVABLE-SERIES 05-1A CLASS A1	1	13,558,702	13,286,336

S105.13

STATEMENT AS OF MARCH 31, 2019 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*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,781,564	13,763,918	12/16/2014	12/16/2044	Interest Rate Swap			92917A-AA-4	VOYA 2018-1A A1	1	13,781,564	13,763,918
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,000,000	19,826,560	12/16/2014	12/16/2044	Interest Rate Swap			58806P-AC-2	MERCER FIELD CLO LP-MERCL 2017-1A A2	1	20,000,000	19,826,560
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,500,000	11,499,975	12/16/2014	12/16/2044	Interest Rate Swap			64034B-AB-7	Nelnet Student Loan Trus-NSLT 2018-5A B	1	11,500,000	11,499,975
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,488,463	22,256,168	12/16/2014	12/16/2044	Interest Rate Swap			94949J-AA-3	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A1	1	22,488,463	22,256,168
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,950,000	5,949,804	12/16/2014	12/16/2044	Interest Rate Swap			10302V-BG-9	BOWMAN PARK CLO LTD-BOIWK 2014-1A CR	1	5,950,000	5,949,804
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,495,538	8,500,119	12/16/2014	12/16/2044	Interest Rate Swap			03328Q-AN-1	ANCHORAGE CAPITAL CLO LT-SERIES 2015-6A CLASS AR	1	8,495,538	8,500,119
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,718,306	11,725,173	12/16/2014	12/16/2044	Interest Rate Swap			817176-AL-4	SENECA PARK CLO LTD-SPARK 2014-1A AR	1	11,718,306	11,725,173
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,500,000	13,416,300	12/16/2014	12/16/2044	Interest Rate Swap			38136F-AG-8	Goldentree Loan Managem-GLM 2017-1A B1	1	13,500,000	13,416,300
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,100,000	10,854,146	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	10,854,146
57629*CU3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	250,000,000	328,073,426	333,761,963	12/16/2014	12/16/2044	Interest Rate Swap		5,218,527	57542Z-AO-7	REVENUE ANCHORAGE CAPITAL CLO LT-SERIES	1	328,073,426	328,543,436
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	200,000,000	16,891,128	20,688,183	12/16/2014	12/16/2044	Interest Rate Swap		3,787,946	03328Q-AN-1	2015-6A CLASS AR	1	16,891,128	16,900,237
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,928,555	12/16/2014	12/16/2044	Interest Rate Swap			94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	5,000,000	4,928,555
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,780,000	6,729,191	12/16/2014	12/16/2044	Interest Rate Swap			33882G-AB-4	FLATIRON CLO LTD-FLAT 2017-1A B	1	6,780,000	6,729,191
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,750,000	9,697,730	12/16/2014	12/16/2044	Interest Rate Swap			36361U-AC-4	GALLATIN CLO LTD-SERIES 17-1A CLASS B	1	9,750,000	9,697,730
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,400,000	10,269,116	12/16/2014	12/16/2044	Interest Rate Swap			67115W-AE-0	OHA Credit Funding 1 LTD-SERIES 18-1A CLASS A2	1	10,400,000	10,269,116
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,681,414	21,670,242	12/16/2014	12/16/2044	Interest Rate Swap			26245R-AA-8	Dryden 58 Clo Ltd-DRSLF 2018-58A A1	1	21,681,414	21,670,242
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,675,000	9,643,392	12/16/2014	12/16/2044	Interest Rate Swap			08179H-AA-8	BENEFIT STREET PARTNERS -SERIES 2017-12A CLASS A1	1	9,675,000	9,643,392
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,500,000	8,440,364	12/16/2014	12/16/2044	Interest Rate Swap			78109Q-AE-8	RR 2 LTD-SERIES 17-2A CLASS A2	1	8,500,000	8,440,364
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,120,000	17,119,572	12/16/2014	12/16/2044	Interest Rate Swap			67400Q-AN-4	OAKTREE CLO LTD-SERIES 14-1A CLASS A1R	1	17,120,000	17,119,572
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,075,000	18,861,360	12/16/2014	12/16/2044	Interest Rate Swap			14315J-NN-5	Carlyle US CLO 2013-3 Re Term Loan	1	19,075,000	18,861,360
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,383,041	21,332,109	12/16/2014	12/16/2044	Interest Rate Swap			74982L-AN-0	RACEP 2013-8A	1	21,383,041	21,332,109
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		56,000,000	56,080,228	12/16/2014	12/16/2044	Interest Rate Swap			57542Z-AO-7	REVENUE ANCHORAGE CAPITAL CLO LT-SERIES	1	56,000,000	56,080,228
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,400,000	6,303,731	12/16/2014	12/16/2044	Interest Rate Swap			00900L-AH-7	AIMCO CLO Series 2015-A-SERIES 15-AA CLASS BR	1	6,400,000	6,303,731
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	4,963,612	(3,012,626)	02/05/2015	02/05/2045	Interest Rate Swap		(7,947,776)	12551J-AG-1	CIFC Funding 2017-IV Ltd-SERIES 17-4A CLASS B	1	4,963,612	4,935,150
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,020,000	9,917,235	02/05/2015	02/05/2045	Interest Rate Swap			92912V-AS-4	VOYA CLO LTD-VOYA 2014-2A BR	1	10,020,000	9,917,235
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,508,871	10,448,131	02/05/2015	02/05/2045	Interest Rate Swap			564759-QB-7	MANUF & TRADERS TRUST CO-SUBORDINATED NOTE	1	10,508,871	10,448,131
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,500,000	13,389,260	02/05/2015	02/05/2045	Interest Rate Swap			87806L-AE-6	TC1-CENT CLO 2016-1 LTD.-SERIES 17-1A CLASS A2	1	13,500,000	13,389,260
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,500,000	13,366,431	02/05/2015	02/05/2045	Interest Rate Swap			06760B-AE-2	BABSON CLO LTD-SERIES 17-1A CLASS B1	1	13,500,000	13,366,431
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,700,000	12,691,770	02/05/2015	02/05/2045	Interest Rate Swap			39808Q-AL-5	GREYWOLF CLO LTD-SERIES 2014-2A CLASS A2R	1	12,700,000	12,691,770
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,700,000	12,559,043	02/05/2015	02/05/2045	Interest Rate Swap			40436X-AE-7	HIGHBRIDGE LOAN MANAGEM-SERIES 2014 CLAS A2R	1	12,700,000	12,559,043
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,400,000	11,353,454	02/05/2015	02/05/2045	Interest Rate Swap			14954W-AN-6	BAIN CAPITAL CREDIT CLO -SERIES 17-2A CLASS BR	1	11,400,000	11,353,454

S105.14

STATEMENT AS OF MARCH 31, 2019 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*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,200,000	11,199,776	02/05/2015	02/05/2045	Interest Rate Swap			056820-AC-0	BAIN CAPITAL CREDIT CLO -SERIES 17-1A CLASS A1	1	11,200,000	11,199,776
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,900,000	13,650,106	02/05/2015	02/05/2045	Interest Rate Swap			09628J-AN-1	BlueMountain CLO 2015-3 -BLUEM 2015-3A A2R	1	13,900,000	13,650,106
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,300,000	11,299,763	02/05/2015	02/05/2045	Interest Rate Swap			053633-AH-6	AVERY POINT CLO LTD-SERIES 13-3A CLASS B1R	1	11,300,000	11,299,763
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,741,924	6,786,055	02/05/2015	02/05/2045	Interest Rate Swap			00287Y-AL-3	AbbVie Inc-SENIOR UNSECURED NOTE	2	6,741,924	6,786,055
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,400,000	7,197,677	02/05/2015	02/05/2045	Interest Rate Swap			55821T-AC-1	Madison Park Funding Ltd-SERIES 18-30A CLASS B	1	7,400,000	7,197,677
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,085,000	1,066,400	02/05/2015	02/05/2045	Interest Rate Swap			89852T-AN-8	Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	1,085,000	1,066,400
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	5,280,000	(2,898,883)	02/05/2015	02/05/2045	Interest Rate Swap		(8,143,317)	00900C-AE-4	AIMCO-AIMCO 2017-AA C	1	5,280,000	5,244,434
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,393,498	13,398,507	02/05/2015	02/05/2045	Interest Rate Swap			053633-AG-8	AVERY POINT CLO LTD-SERIES 13-3A CLASS AR	1	13,393,498	13,398,507
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		32,100,000	32,099,198	02/05/2015	02/05/2045	Interest Rate Swap			05363U-AU-7	AVERY POINT IV CLO LTD-SERIES 14-1A CLASS BR	1	32,100,000	32,099,198
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		24,849,471	24,389,075	02/05/2015	02/05/2045	Interest Rate Swap			66704J-AY-4	NORTHSTAR EDUCATION FINA-SERIES 2004-1 CLASS B1	1	24,849,471	24,389,075
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		27,000,000	26,649,783	02/05/2015	02/05/2045	Interest Rate Swap			75887X-AA-5	Regatta Funding Ltd.-REG11 2018-1A A	1	27,000,000	26,649,783
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,900,000	11,749,572	02/05/2015	02/05/2045	Interest Rate Swap			449258-AA-0	10G US CLO 2018-1 LTD-SERIES 2018-1A CLASS A1	1	11,900,000	11,749,572
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,266,744	5,343,765	02/05/2015	02/05/2045	Interest Rate Swap			00507U-AS-0	ACTAVIS FUNDING SCS-SENIOR UNSECURED NOTE	2	5,266,744	5,343,765
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,966,110	02/05/2015	02/05/2045	Interest Rate Swap			64132M-AC-2	Neuberger Berman CLO Ltd-NEUB 2018-30A A2	1	10,000,000	9,966,110
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,200,000	11,048,318	02/05/2015	02/05/2045	Interest Rate Swap			17181T-AC-5	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A2	1	11,200,000	11,048,318
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	24,425,000	16,388,366	02/05/2015	02/05/2045	Interest Rate Swap		(7,970,687)	14315J-TT-6	Carlyle US CLO 2015-1 Ri Term Loan	1	24,425,000	24,359,053
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	14,886,750	02/05/2015	02/05/2045	Interest Rate Swap			55818R-BA-3	Madison Park Funding XIV-HDPK 2014-14A BRR	1	15,000,000	14,886,750
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,600,000	11,303,945	02/05/2015	02/05/2045	Interest Rate Swap			04942J-AE-1	Atlas Senior Loan Fund X-ATCLO 2018-10A B	1	11,600,000	11,303,945
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,090,000	17,957,762	02/05/2015	02/05/2045	Interest Rate Swap			77340E-AC-0	ROCKFORD TOWER CLO LTD-ROCKT 2017-1A B	1	18,090,000	17,957,762
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,730,000	5,710,409	02/05/2015	02/05/2045	Interest Rate Swap			64129J-AU-4	NEUBERGER BERMAN CLO LTD-NEUB 2013-14A B1R	1	5,730,000	5,710,409
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		25,900,000	25,274,800	02/05/2015	02/05/2045	Interest Rate Swap			04016V-AC-9	ARES XLVII CLO Ltd-SERIES 18-47A CLASS A2	1	25,900,000	25,274,800
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,300,000	4,275,649	02/05/2015	02/05/2045	Interest Rate Swap			87248T-AE-5	TICP CLO LTD-SERIES 2017 CLASS 7A	1	4,300,000	4,275,649
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,400,000	11,177,187	02/05/2015	02/05/2045	Interest Rate Swap			67097Q-AE-5	COOP CLO 2017-14 Ltd-SERIES 17-14A CLASS A2	1	11,400,000	11,177,187
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,400,000	12,949,184	02/05/2015	02/05/2045	Interest Rate Swap			08179L-AC-5	Benefit Street Partners -SERIES 18-14A CLASS A2	1	13,400,000	12,949,184
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,928,555	02/05/2015	02/05/2045	Interest Rate Swap			94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	5,000,000	4,928,555
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,949,684	02/05/2015	02/05/2045	Interest Rate Swap			14315R-AE-1	Carlyle Global Market St-SERIES 18-4A CLASS A2	1	7,000,000	6,949,684
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,100,000	3,092,684	02/05/2015	02/05/2045	Interest Rate Swap			04943A-AG-4	ATLAS SENIOR LOAN FUND L-SERIES 17-8A CLASS C	1	3,100,000	3,092,684
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	45,000,000	36,711,420	02/05/2015	02/05/2045	Interest Rate Swap		(8,287,590)	05683H-AC-9	BAIN CAPITAL CREDIT CLO -SERIES 2017-2A CLASS AR	1	45,000,000	44,999,010
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,325,000	7,260,379	02/05/2015	02/05/2045	Interest Rate Swap			55954K-AC-9	MAGNETITE CLO LTD-SERIES 17-19A CLASS B	1	7,325,000	7,260,379
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,200,000	7,128,007	02/05/2015	02/05/2045	Interest Rate Swap			92915Q-AG-8	VOYA CLO LTD-SERIES 2017-3A CLASS A2	1	7,200,000	7,128,007
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,750,000	12,583,702	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	12,583,702

S105.15

STATEMENT AS OF MARCH 31, 2019 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 Corp Bonds	1		8,000,000	7,991,072	02/05/2015	02/05/2045	Interest Rate Swap			00900A-AJ-7	AIMCO-SERIES 14-AA CLASS B1R	1	8,000,000	7,991,072
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		25,000,000	24,718,550	02/05/2015	02/05/2045	Interest Rate Swap			872490-AA-8	TICP CLO Ltd-TICP 2018-11A A Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS AR	1	25,000,000	24,718,550
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,398,098	14,306,571	02/05/2015	02/05/2045	Interest Rate Swap			06760E-AA-4		1	14,398,098	14,306,571
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,129,673	24,577,866	02/05/2015	02/05/2045	Interest Rate Swap			24820R-AA-6	Statoil ASA-SENIOR UNSECURED NOTE Grupo Aeromexico S.A.B. Floating Rate S	1	21,129,673	24,577,866
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	4,840,889	4,870,108	12/05/2016	12/05/2046	Interest Rate Swap		(53,642)	MXP001-TT-1	SMB PRIVATE ED LN TR 201-SMB PRIVATE ED LN TR 2016-A NT NAVIENT STUDENT LOAN TRU-SERIES 16-2 CLASS A3	1	4,840,889	4,923,750
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,628,692	21,023,177	12/05/2016	12/05/2046	Interest Rate Swap			78449F-AC-5	ECMC GROUP STUDENT LOAN -SERIES 2016-1A CLASS A	1	20,628,692	21,023,177
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,420,000	23,038,640	12/05/2016	12/05/2046	Interest Rate Swap			63940F-AC-1	Atlas Senior Loan Fund V-SERIES 16-7A CLASS A1R	1	22,420,000	23,038,640
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,790,529	10,892,142	12/05/2016	12/05/2046	Interest Rate Swap			26827X-AA-1		1	10,790,529	10,892,142
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,500,000	23,435,704	12/05/2016	12/05/2046	Interest Rate Swap			04941T-AS-9		1	23,500,000	23,435,704
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,500,000	11,407,299	12/05/2016	12/05/2046	Interest Rate Swap			92916M-AB-7	VOYA CLO LTD-VOYA 2017-1A A2 Oak Hill Credit Partners-SERIES 15-12A CLASS A2R	1	11,500,000	11,407,299
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,785,910	12/05/2016	12/05/2046	Interest Rate Swap			67109Y-AN-4	STEELE CREEK CLO LTD-SERIES 15-1A CLASS CR	1	10,000,000	9,785,910
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,330,000	4,310,896	12/05/2016	12/05/2046	Interest Rate Swap			85816B-CS-7	Benefit Street Partners -BSP 2015-8A BR	1	4,330,000	4,310,896
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,200,000	4,023,676	12/05/2016	12/05/2046	Interest Rate Swap			08180X-AU-6	CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS C	1	4,200,000	4,023,676
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,380,000	4,287,740	12/05/2016	12/05/2046	Interest Rate Swap			22616C-AE-3		1	4,380,000	4,287,740
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,878,040	12/05/2016	12/05/2046	Interest Rate Swap			04965L-AE-8	TRIUM XIV LLC-ATRM 14A A2A Grupo Aeromexico S.A.B. Floating Rate S	1	10,000,000	9,878,040
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	10,923,033	11,081,841	12/05/2016	12/05/2046	Interest Rate Swap		(28,159)	MXP001-TT-1	SLM STUDENT LOAN TRUST-SERIES 2005-5 CLASS A4	1	10,923,033	11,110,000
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,439,259	12,551,341	12/05/2016	12/05/2046	Interest Rate Swap			78442G-PQ-3	KEYCORP STUDENT LOAN TRU-SERIES 2006-A CLASS 244	1	12,439,259	12,551,341
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		372,781	372,893	12/05/2016	12/05/2046	Interest Rate Swap			49327H-AG-0	NELNET STUDENT LOAN TRUS-SERIES 2005-1 CLASS A5	1	372,781	372,893
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,921,006	8,911,816	12/05/2016	12/05/2046	Interest Rate Swap			640310-BR-1	SMB PRIVATE EDUCATION LO-SMB 2015-B A3	1	8,921,006	8,911,816
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,968,492	12,132,854	12/05/2016	12/05/2046	Interest Rate Swap			78448Q-AD-0	SLM STUDENT LN TR 2006-2 LN BKD NT	1	11,968,492	12,132,854
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,270,356	10,651,151	12/05/2016	12/05/2046	Interest Rate Swap			78442G-RX-6	SLM STUDENT LOAN TRUST-SERIES 2002-7CLASS A11	1	10,270,356	10,651,151
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,266,773	4,350,471	12/05/2016	12/05/2046	Interest Rate Swap			78442G-EX-0	BRAZOS HIGHER EDUCATION -SER 2006-2 STUDENT LN REV NT	1	4,266,773	4,350,471
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,006,929	10,097,423	12/05/2016	12/05/2046	Interest Rate Swap			10620N-AX-6	NELNET STUDENT LOAN TRUS-SERIES 2005-2 CLASS A5	1	10,006,929	10,097,423
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,467,741	7,521,799	12/05/2016	12/05/2046	Interest Rate Swap			640310-BX-8	SOUTH CAROLINA STUDENT L-SERIES 14-1 CLASS A2	1	7,467,741	7,521,799
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,848,791	10,105,920	12/05/2016	12/05/2046	Interest Rate Swap			83715R-AF-9	ACCESS GROUP INC-SERIES 2003-A CLASS A3	1	9,848,791	10,105,920
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,370,707	2,371,979	12/05/2016	12/05/2046	Interest Rate Swap			00432C-AV-3		1	2,370,707	2,371,979
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,999,815	12/05/2016	12/05/2046	Interest Rate Swap			88322U-AN-9	THACHER PARK CLO-THPRK 2014-1A CR Regatta Funding Ltd -REG11 2018-1A	1	5,000,000	4,999,815
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,000,000	12,794,184	12/05/2016	12/05/2046	Interest Rate Swap			75887X-AC-1	ROCKALL CLO BV Variable Funding Note- USD	1	13,000,000	12,794,184
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,626,289	4,626,289	12/05/2016	12/05/2046	Interest Rate Swap			77277L-A7-2	VIBRANT CLO LTD-SERIES 2016-5A CLASS A	1	4,626,289	4,626,289
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,300,000	4,303,440	12/05/2016	12/05/2046	Interest Rate Swap			92558A-AA-8	CIFC Funding 2018-I Ltd-SERIES 18-1A CLASS B	1	4,300,000	4,303,440
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,350,000	7,212,555	12/05/2016	12/05/2046	Interest Rate Swap			12551R-AC-2		1	7,350,000	7,212,555

S105.16

STATEMENT AS OF MARCH 31, 2019 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*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,938,165	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	4,938,165
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	16,260,424	16,176,766	12/05/2016	12/05/2046	Interest Rate Swap		(361,984)	MXP001-TT-1	Grupo Aeromexico S.A.B. Floating Rate S	1	16,260,424	16,538,750
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		65,300,000	67,157,570	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	67,157,570
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,157,349	23,573,508	12/05/2016	12/05/2046	Interest Rate Swap			61205P-AL-3	MONTANA HIGHER EDUCATION-SERIES 12-1 CLASS A3	1	23,157,349	23,573,508
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,878,040	12/05/2016	12/05/2046	Interest Rate Swap			04965L-AE-8	TRIUM XIV LLC-ATRM 14A A2A	1	10,000,000	9,878,040
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		898,555	901,024	12/05/2016	12/05/2046	Interest Rate Swap			78442G-EW-2	SLM STUDENT LOAN TRUST-SERIES 2002-7 CLASS A10	1	898,555	901,024
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,827,323	1,841,394	12/05/2016	12/05/2046	Interest Rate Swap			429827-AK-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A10	1	1,827,323	1,841,394
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,193,412	1,241,555	12/05/2016	12/05/2046	Interest Rate Swap			429827-AP-3	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A14	1	1,193,412	1,241,555
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,110,689	1,135,222	12/05/2016	12/05/2046	Interest Rate Swap			429827-AB-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A2	1	1,110,689	1,135,222
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,867,823	1,889,269	12/05/2016	12/05/2046	Interest Rate Swap			83715A-AJ-8	SOUTH CAROLINA STUDENT L-SR UNSECURED	1	1,867,823	1,889,269
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,669,034	1,768,226	12/05/2016	12/05/2046	Interest Rate Swap			784427-AF-3	SLC STUDENT LN TR 2006-1 ASSET BK NT CL A-6	1	1,669,034	1,768,226
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,704,343	1,718,066	12/05/2016	12/05/2046	Interest Rate Swap			640330-AC-3	NELNET STUDENT LOAN TRUS-SERIES 2015-2A CLASS B	1	1,704,343	1,718,066
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,861,057	1,935,882	12/05/2016	12/05/2046	Interest Rate Swap			462590-JT-8	IOWA STUDENT LOAN LIQUID-SERIES 2012-1 CLASS B	1	1,861,057	1,935,882
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,234,550	1,225,950	12/05/2016	12/05/2046	Interest Rate Swap			709163-GJ-2	PENNSYLVANIA ST HGR EDU -SERIES 2006 CL B	1	1,234,550	1,225,950
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,170,396	1,190,082	12/05/2016	12/05/2046	Interest Rate Swap			17284L-AB-0	CIT EDUCATION LOAN TRUST-SERIES 2007-1 CLASS B	1	1,170,396	1,190,082
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,344,972	1,339,297	12/05/2016	12/05/2046	Interest Rate Swap			78448C-AH-2	SLM STUDENT LOAN TRUST-SERIES 2013-6 CLASS B	1	1,344,972	1,339,297
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,180,000	3,068,837	12/05/2016	12/05/2046	Interest Rate Swap			056162-AS-9	Babson CLO Ltd 2015-1-BABSN 2015-1A CR	1	3,180,000	3,068,837
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	13,653,791	13,528,064	12/05/2016	12/05/2046	Interest Rate Swap		(359,436)	MXP001-TT-1	Grupo Aeromexico S.A.B. Floating Rate S	1	13,653,791	13,887,500
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,297,148	6,535,776	12/05/2016	12/05/2046	Interest Rate Swap			78448R-AD-8	SMB PRIVATE ED LN TR 2015-C LN BCK NT CL A-3	1	6,297,148	6,535,776
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,518,122	5,709,089	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	5,518,122	5,709,089
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,080,157	4,064,794	12/05/2016	12/05/2046	Interest Rate Swap			19458L-BH-2	COLLEGIATE FUNDING SERVI-SERIES 2005-B CLASS A4	1	4,080,157	4,064,794
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,683,630	3,694,357	12/05/2016	12/05/2046	Interest Rate Swap			78446D-AC-3	SLM STUDENT LOAN TRUST-SERIES 2011-A CLASS A3	1	3,683,630	3,694,357
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,835,588	3,918,788	12/05/2016	12/05/2046	Interest Rate Swap			63939E-AD-6	NAVIENT STUDENT LOAN TRU-SERIES 2014-1 CLASS A4	1	3,835,588	3,918,788
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,258,743	16,290,881	12/05/2016	12/05/2046	Interest Rate Swap			840555-DA-1	SOUTH TX HIGHER ED AUTH REV SER 1 CL A-3	1	16,258,743	16,290,881
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,415,673	8,547,176	12/05/2016	12/05/2046	Interest Rate Swap			00432C-CW-9	ACCESS GROUP INC-SERIES 2005-B CLASS A3	1	8,415,673	8,547,176
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,041,332	10,500,267	12/05/2016	12/05/2046	Interest Rate Swap			28148W-AC-7	EDUCATIONAL FUNDING OF T-SERIES 2011-1 CLASS B	1	10,041,332	10,500,267
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,337,262	9,654,671	12/05/2016	12/05/2046	Interest Rate Swap			78444C-AE-3	SLM STUDENT LOAN TRUST-SERIES 07-6 CLASS A5	1	9,337,262	9,654,671
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,269,259	8,742,163	12/05/2016	12/05/2046	Interest Rate Swap			78443F-AF-4	SLM STUDENT LOAN TRUST-SERIES 2007-5 CLASS A6	1	8,269,259	8,742,163
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,060,906	7,163,046	12/05/2016	12/05/2046	Interest Rate Swap			00400V-AB-3	ACADEMIC LOAN FUNDING TR-ALFT 2012-1A A2	1	7,060,906	7,163,046
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		747,362	815,015	12/05/2016	12/05/2046	Interest Rate Swap			462592-AD-8	IOWA STUDENT LOAN LIQUID-SERIES 2005-1 CLASS B	1	747,362	815,015
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,151,766	9,076,537	12/05/2016	12/05/2046	Interest Rate Swap			78442G-OA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	9,151,766	9,076,537

S105.17

STATEMENT AS OF MARCH 31, 2019 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*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,662,920	1,782,318	12/05/2016	12/05/2046	Interest Rate Swap			38021F-AB-7	GOAL CAPITAL FUNDING TRU-SERIES 2015-1 CLASS B	2	1,662,920	1,782,318
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,683,733	1,778,795	12/05/2016	12/05/2046	Interest Rate Swap			28138J-AB-0	EDUCATIONAL SERVICES OF -SERIES 15-2 CLASS B	1	1,683,733	1,778,795
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,357,832	2,307,347	12/05/2016	12/05/2046	Interest Rate Swap			78442G-GM-2	SLM STUDENT LOAN TRUST 2003-4 LN BKD CTF CL B	2	2,357,832	2,307,347
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,358,263	1,359,791	12/05/2016	12/05/2046	Interest Rate Swap			28090A-AB-5	EDUCATIONAL SERVICES OF -2014-4 SERIES B	1	1,358,263	1,359,791
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		355,955	357,647	12/05/2016	12/05/2046	Interest Rate Swap			83401L-AA-2	SOCIAL PROFESSIONAL LOAN-SERIES 2015-A CLASS A1	1	355,955	357,647
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,200,000	7,042,579	12/05/2016	12/05/2046	Interest Rate Swap			03767M-AE-8	Api dos CLO-SERIES 18-29A CLASS A1B	1	7,200,000	7,042,579
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,400,000	4,300,692	12/05/2016	12/05/2046	Interest Rate Swap			39729R-AC-2	Greenwood Park CLO Ltd-SERIES 18-1A CLASS B	1	4,400,000	4,300,692
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	4,955,360	12/05/2016	12/05/2046	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-18A B	1	5,000,000	4,955,360
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	7,546,650	5,723,069	12/06/2016	12/06/2046	Interest Rate Swap		(1,635,405)	281397-AP-4	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A1	1	7,546,650	7,358,474
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,916,036	12,120,000	12/05/2016	12/05/2046	Interest Rate Swap			MXP001-TT-1	Grupo Aeromexico S.A.B. Floating Rate S	1	11,916,036	12,120,000
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,940,282	4,040,219	12/06/2016	12/06/2046	Interest Rate Swap			66705R-AA-7	NORTHSTAR EDUCATION FINA-NEF 2016-1 A	1	3,940,282	4,040,219
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,670,814	6,829,517	12/06/2016	12/06/2046	Interest Rate Swap			281397-AB-5	EDUCATION LOAN ASSET-BAC-SERIES 2003-1 CLASS A2	1	6,670,814	6,829,517
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,348,791	5,612,412	12/06/2016	12/06/2046	Interest Rate Swap			64031Q-CK-5	MELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R1	2	5,348,791	5,612,412
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,825,398	5,014,173	12/06/2016	12/06/2046	Interest Rate Swap			78443G-AJ-0	SLM STUDENT LOAN TRUST-SERIES 2006-7 CLASS A6B	1	4,825,398	5,014,173
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,335,259	5,012,226	12/06/2016	12/06/2046	Interest Rate Swap			106238-LJ-5	BRAZOS TX HGR EDU AUTH REVENUE BOND	1	4,335,259	5,012,226
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,622,523	5,929,318	12/06/2016	12/06/2046	Interest Rate Swap			28108Q-AB-0	EDLINC STUDENT LOAN FUND-SERIES 2012-1 CLASS B	1	5,622,523	5,929,318
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		413,850	398,909	12/06/2016	12/06/2046	Interest Rate Swap			281397-AQ-2	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A2	1	413,850	398,909
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,552,997	2,607,059	12/06/2016	12/06/2046	Interest Rate Swap			38021E-AA-2	GOAL CAPITAL FUNDING TR 2010-1 STUDENT LN BKD NT	1	2,552,997	2,607,059
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,608,187	4,135,461	12/06/2016	12/06/2046	Interest Rate Swap			64031Q-OM-1	MELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R2	2	3,608,187	4,135,461
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,753,146	3,836,062	12/06/2016	12/06/2046	Interest Rate Swap			65826Z-GD-6	NORTH CAROLINA STATE EDU-SERIES 2011-2 CLASS A3	1	3,753,146	3,836,062
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,902,152	1,974,085	12/06/2016	12/06/2046	Interest Rate Swap			78442G-KW-5	SLM STUDENT LOAN TRUST-SERIES 2004-1 CLASS A6	1	1,902,152	1,974,085
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,800,597	14,942,929	12/06/2016	12/06/2046	Interest Rate Swap			83149E-AG-2	SLM STUDENT LN TR 2006-5-NOTE CL B	1	14,800,597	14,942,929
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,900,000	13,585,818	12/06/2016	12/06/2046	Interest Rate Swap			26251L-AE-4	Dryden 64 CLO Ltd-DRSLF 2018-64A B	1	13,900,000	13,585,818
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,080,012	3,131,928	12/06/2016	12/06/2046	Interest Rate Swap			23341K-AA-3	DRB PRIME STUDENT LOAN T-SERIES 2015-D CLASS A1	1	3,080,012	3,131,928
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,816,642	8,880,731	12/06/2016	12/06/2046	Interest Rate Swap			64031C-AB-8	MELNET STUDENT LOAN TRUS-SERIES 2012-2A CLASS B	1	8,816,642	8,880,731
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,864,642	12,944,430	12/06/2016	12/06/2046	Interest Rate Swap			78442G-PS-9	SLM STUDENT LOAN TRUST-SERIES 2005-5 CLASS B	1	12,864,642	12,944,430
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,900,000	3,900,047	12/06/2016	12/06/2046	Interest Rate Swap			87244A-BC-3	WIND RIVER CLO LTD-SERIES 12-1A CLASS BR	1	3,900,000	3,900,047
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,000,000	7,907,840	12/06/2016	12/06/2046	Interest Rate Swap			03328T-AS-4	ANCHORAGE CAPITAL CLO 7 -ANCHC	1	8,000,000	7,907,840
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,000,000	2,948,571	12/06/2016	12/06/2046	Interest Rate Swap			89852T-AN-8	2015-7A B1R Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	3,000,000	2,948,571
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	10,923,033	9,754,927	12/06/2016	12/06/2046	Interest Rate Swap		(1,168,106)	MXP001-TT-1	Grupo Aeromexico S.A.B. Floating Rate S	1	10,923,033	11,110,000
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,656,725	9,634,906	12/05/2016	12/05/2046	Interest Rate Swap			83715R-AG-7	SOUTH CAROLINA STUDENT L-SERIES 2014-1 CLASS B	1	9,656,725	9,634,906

S105.18

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,081,929	6,445,840	12/06/2016	12/06/2046	Interest Rate Swap			784420-AE-1	SLC STUDENT LOAN TRUST-SERIES 2005-1 CLASS B	1	6,081,929	6,445,840
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,363,256	5,547,454	12/06/2016	12/06/2046	Interest Rate Swap			78442G-OT-6	SLM STUDENT LOAN TRUST-SERIES 2005-8 CLASS B	1	5,363,256	5,547,454
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,582,267	5,771,208	12/06/2016	12/06/2046	Interest Rate Swap			78442G-PD-2	SLM STUDENT LOAN TRUST-SERIES 2005-3 CLASS B	1	5,582,267	5,771,208
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,790,161	2,914,596	12/06/2016	12/06/2046	Interest Rate Swap			493268-AU-0	KEYCORP STUDENT LOAN TRU-SERIES 1999-B CLASS CTFS	1	2,790,161	2,914,596
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,670,528	6,918,649	12/06/2016	12/06/2046	Interest Rate Swap			78446C-AB-7	SLM STUDENT LOAN TRUST-SERIES 2013-2 CLASS B	1	6,670,528	6,918,649
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,955,000	6,470,200	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	6,470,200
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,662,279	4,534,976	12/06/2016	12/06/2046	Interest Rate Swap			64031A-AJ-5	NELNET STUDENT LOAN TRUS-SERIES 2006-3 CLASS B	1	4,662,279	4,534,976
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,210,533	6,716,005	12/06/2016	12/06/2046	Interest Rate Swap			63939L-AC-1	NAVIENT STUDENT LOAN TRU-SERIES 2015-3 CLASS B	1	6,210,533	6,716,005
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,517,095	6,595,557	12/06/2016	12/06/2046	Interest Rate Swap			78447M-AD-0	SLM STUDENT LOAN TRUST-SERIES 2013-1 CLASS B	1	6,517,095	6,595,557
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,391,990	5,489,131	12/06/2016	12/06/2046	Interest Rate Swap			64033J-AB-1	NELNET STUDENT LOAN TRUS-SERIES 2014-1A CLASS B	1	5,391,990	5,489,131
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,427,688	3,465,916	12/06/2016	12/06/2046	Interest Rate Swap			194266-AE-2	COLLEGE LOAN CORPORATION-SERIES 2005-2 CLASS B	1	3,427,688	3,465,916
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,488,955	4,687,082	12/06/2016	12/06/2046	Interest Rate Swap			64033N-AB-2	NELNET STUDENT LOAN TRUS-SERIES 2014-5A CLASS B	1	4,488,955	4,687,082
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		394,711	415,781	12/06/2016	12/06/2046	Interest Rate Swap			194262-CF-6	COLLEGE LOAN CORPORATION-SERIES 2004-1 CLASS B	1	394,711	415,781
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,647,275	2,723,183	12/06/2016	12/06/2046	Interest Rate Swap			78442G-LJ-3	SLM STUDENT LOAN TRUST-SERIES 2004-3 CLASS B	1	2,647,275	2,723,183
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,650,000	3,408,056	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	3,408,056
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,097,842	3,374,268	12/06/2016	12/06/2046	Interest Rate Swap			64032F-AH-7	NELNET STUDENT LOAN TRUS-SERIES 2007-2A CLASS A4A2	1	3,097,842	3,374,268
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,294,849	3,286,730	12/06/2016	12/06/2046	Interest Rate Swap			64033L-AD-2	NELNET STUDENT LOAN TRUS-SERIES 2014-2A CLASS B	1	3,294,849	3,286,730
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,240,000	3,204,394	12/06/2016	12/06/2046	Interest Rate Swap			64033K-AB-8	NELNET STUDENT LOAN TRUS-SERIES 2014-3A CLASS B	1	3,240,000	3,204,394
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,750,000	14,592,647	12/06/2016	12/06/2046	Interest Rate Swap			03767M-AG-3	Apidos CLO-SERIES 18-29A CLASS A2	1	14,750,000	14,592,647
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,500,000	4,382,888	12/06/2016	12/06/2046	Interest Rate Swap			55952Y-AT-4	Magnetite VIII Ltd-MAGNE 2014-8A CR2	1	4,500,000	4,382,888
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,700,000	6,539,180	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	6,539,180
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,000,000	2,979,981	12/06/2016	12/06/2046	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	3,000,000	2,979,981
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	8,900,000	7,175,773	12/06/2016	12/06/2046	Interest Rate Swap		(1,724,601)	04964H-AN-8	ATRIUM CDO CORP-SERIES 8A CLASS BR	1	8,900,000	8,900,374
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		993,003	1,010,000	12/05/2016	12/05/2046	Interest Rate Swap			MXP001-TT-1	Grupo Aeromexico S.A.B. Floating Rate S	1	993,003	1,010,000
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,900,000	8,900,854	12/06/2016	12/06/2046	Interest Rate Swap			87246M-AB-8	TIOP CLO LTD-SERIES 2016-6A CLASS B	1	8,900,000	8,900,854
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,843,974	9,831,370	12/06/2016	12/06/2046	Interest Rate Swap			92917A-AA-4	VOYA 2018-1A A1	1	9,843,974	9,831,370
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,850,000	8,849,938	12/06/2016	12/06/2046	Interest Rate Swap			14309Y-AQ-7	CARLYLE GLOBAL MARKET ST-SERIES 2012-4A CLASS BR	1	8,850,000	8,849,938
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,500,000	1,486,608	12/06/2016	12/06/2046	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANYC 2012-1RA B	1	1,500,000	1,486,608
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,491,983	12/06/2016	12/06/2046	Interest Rate Swap			06759Y-AC-9	BARINGS CLO LTD-BABSN 2016-3A A2	1	7,500,000	7,491,983
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,050,000	10,943,721	12/06/2016	12/06/2046	Interest Rate Swap			03331J-AJ-1	Anchorage Capital CLO Lt-ANCHC 2018-10A B	1	11,050,000	10,943,721
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,575,000	12,422,805	12/06/2016	12/06/2046	Interest Rate Swap			056162-AN-0	Babson CLO Ltd 2015-1-BABSN 2015-1A AR	1	12,575,000	12,422,805

S105.19

STATEMENT AS OF MARCH 31, 2019 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*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	9,850,310	12/06/2016	12/06/2046	Interest Rate Swap			83609Y-AE-6	Sounds Point CLO IV-R LT-SERIES 13-3RA CLASS B	1	10,000,000	9,850,310
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,200,000	3,193,582	12/06/2016	12/06/2046	Interest Rate Swap			78448A-AD-5	SLM STUDENT LOAN TRUST-SERIES 2013-4 CLASS B	1	3,200,000	3,193,582
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,703,747	1,869,516	12/06/2016	12/06/2046	Interest Rate Swap			00432C-DE-8	ACCESS GROUP INC-SERIES 2006-1 CLASS B	1	1,703,747	1,869,516
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,278,846	2,280,765	12/06/2016	12/06/2046	Interest Rate Swap			78442G-KN-5	SLM STUDENT LOAN TRUST-SERIES 2003-14 CLASS A6	1	2,278,846	2,280,765
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,676,166	1,635,889	12/06/2016	12/06/2046	Interest Rate Swap			49326B-BW-5	KEYCORP STUDENT LOAN TRU-SERIES 2004-A CLASS 1B	1	1,676,166	1,635,889
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		605,750	655,610	12/06/2016	12/06/2046	Interest Rate Swap			429827-AR-9	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B1	1	605,750	655,610
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,034,813	2,165,723	12/06/2016	12/06/2046	Interest Rate Swap			429827-AS-7	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2	1	2,034,813	2,165,723
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,953,471	2,139,594	12/06/2016	12/06/2046	Interest Rate Swap			64033T-AB-9	INELNET STUDENT LOAN TRUS-SERIES 2015-3A CLASS B	1	1,953,471	2,139,594
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,490,079	1,458,212	12/06/2016	12/06/2046	Interest Rate Swap			19458L-BD-1	COLLEGIATE FUNDING SERVI-SERIES 2005-A CLASS B	1	1,490,079	1,458,212
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,889,458	1,963,432	12/06/2016	12/06/2046	Interest Rate Swap			00435T-AB-7	ACCESS GROUP INC-SERIES 2015-1 CLASS B	1	1,889,458	1,963,432
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,782,270	2,787,334	12/06/2016	12/06/2046	Interest Rate Swap			78442G-RY-4	SLM STUDENT LOAN TRUST-SERIES 2006-2 CLASS B	1	2,782,270	2,787,334
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,211,575	3,135,356	12/06/2016	12/06/2046	Interest Rate Swap			194267-AM-2	COLLEGE LOAN CORPORATION-SERIES 2007-1 CLASS B2	1	3,211,575	3,135,356
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,368,677	2,241,756	12/06/2016	12/06/2046	Interest Rate Swap			92978J-AH-6	WACHOVIA STUDENT LOAN TR-SERIES 2006-1 CLASS B	1	2,368,677	2,241,756
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,906,735	1,973,401	12/06/2016	12/06/2046	Interest Rate Swap			83715R-AH-5	SOUTH CAROLINA STUDENT L-SERIES 15-A CLASS A	1	1,906,735	1,973,401
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,493,659	2,455,804	12/06/2016	12/06/2046	Interest Rate Swap			28137T-AB-9	EDUCATIONAL SERVICES OF -SERIES 2014-2 CLASS B	1	2,493,659	2,455,804
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,812,582	1,837,712	12/06/2016	12/06/2046	Interest Rate Swap			78443B-AK-2	SLM STUDENT LOAN TRUST-SERIES 2006-10 CLASS B	1	1,812,582	1,837,712
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,393,873	2,329,865	12/06/2016	12/06/2046	Interest Rate Swap			69340Q-AB-2	PENNSYLVANIA HIGHER EDUC-SERIES 2015-1A CLASS B	1	2,393,873	2,329,865
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,153,034	2,182,327	12/06/2016	12/06/2046	Interest Rate Swap			28137B-AB-5	EDUCATIONAL SERVICES OF -SERIES 2015-1 CLASS B	1	2,153,034	2,182,327
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,253,250	1,341,335	12/06/2016	12/06/2046	Interest Rate Swap			00432C-AR-2	ACCESS GROUP-STUDENT LN REVENUE NT	1	1,253,250	1,341,335
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,088,377	7,056,182	12/06/2016	12/06/2046	Interest Rate Swap			63939D-AD-7	NAVIENT STUDENT LOAN TRUST 2014-8 CL B	1	7,088,377	7,056,182
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,900,000	9,693,041	12/06/2016	12/06/2046	Interest Rate Swap			69688X-AU-5	Palmer Square CLO 2014-1-SERIES 2014-1A CLASS A2PR	1	9,900,000	9,693,041
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	23,500,000	21,519,529	12/06/2016	12/06/2046	Interest Rate Swap		(1,719,504)	92558V-AC-8	Vibrant CLO Ltd-SERIES 18-9A CLASS A2	1	23,500,000	23,239,033
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,800,000	10,662,008	12/06/2016	12/06/2046	Interest Rate Swap			94949J-AC-9	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A2	1	10,800,000	10,662,008
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,584,068	13,246,607	12/06/2016	12/06/2046	Interest Rate Swap			04017E-AE-2	ARES XXXIIR CLO LTD-SERIES 14-32RA CLASS A1B	1	13,584,068	13,246,607
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,790,000	8,553,320	12/06/2016	12/06/2046	Interest Rate Swap			55951P-BC-0	Magnette VII Ltd-MAGNE 2012-7A A2R2	1	8,790,000	8,553,320
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,560,000	13,481,854	12/06/2016	12/06/2046	Interest Rate Swap			40436V-AB-7	HIGHBRIDGE LOAN MANAGEME-HLM 11A-17 B	1	13,560,000	13,481,854
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,200,000	8,199,713	12/06/2016	12/06/2046	Interest Rate Swap			04964H-AQ-1	ATRIUM VIII-DEF NT CL C-R	1	8,200,000	8,199,713
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,516,250	7,515,942	12/06/2016	12/06/2046	Interest Rate Swap			06759Y-AE-5	BARINGS CLO LTD-BABSN 2016-3A B LOM LTD PARTNERSHIP-SERIES 25A	1	7,516,250	7,515,942
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,500,000	2,487,245	12/06/2016	12/06/2046	Interest Rate Swap			50189P-AN-2	CLASS C2	1	2,500,000	2,487,245
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,767,216	6,739,676	12/06/2016	12/06/2046	Interest Rate Swap			87244A-BE-9	WIND RIVER CLO LTD-WINDR 2012-1A CR	1	6,767,216	6,739,676
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,700,000	6,699,853	12/06/2016	12/06/2046	Interest Rate Swap			14309Y-AY-0	CARLYLE GLOBAL MARKET ST-SERIES 2012-4A CLASS C1R	1	6,700,000	6,699,853

S105.20

STATEMENT AS OF MARCH 31, 2019 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*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,516,421	7,471,064	12/06/2016	12/06/2046	Interest Rate Swap			66704J-AJ-7	Northstar Education Fina-REVENUE BONDS	1	7,516,421	7,471,064
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	5,000,040	12/06/2016	12/06/2046	Interest Rate Swap			03328W-AE-8	ANCHORAGE CAPITAL CLO LT-ANCHC 2016-9A C	1	5,000,000	5,000,040
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,750,000	4,749,896	12/06/2016	12/06/2046	Interest Rate Swap			55820N-AE-1	MADISON PARK FUNDING LTD-MDPK 2016-24A C1	1	4,750,000	4,749,896
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,500,000	4,499,834	12/06/2016	12/06/2046	Interest Rate Swap			67091H-AP-6	CHA LOAN FUNDING LTD-SERIES 2012-1A CLASS CR	1	4,500,000	4,499,834
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,750,000	6,605,037	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	6,605,037
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,375,000	4,374,847	12/06/2016	12/06/2046	Interest Rate Swap			48251B-AE-0	KKR FINANCIAL CLO LTD-KKR 16 B1 US TREASURY STRIP 0% DUE 05/15/2023	1	4,375,000	4,374,847
Awaiting PPN	Inverse JPY Long Term Bond	1Z	50,000,000	64,641,734	75,084,206	03/28/2017	04/01/2019	Currency Forward		2,304,013	912833-LN-8	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	64,641,734	72,780,193
Awaiting PPN	Inverse JPY Long Term Bond	1Z	50,000,000	55,150,122	58,757,078	04/11/2017	04/15/2019	Currency Forward		2,440,086	912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	55,150,122	56,316,992
Awaiting PPN	Inverse JPY Long Term Bond	1Z	50,000,000	53,144,663	55,851,717	05/01/2017	05/08/2019	Currency Forward		1,582,616	912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	53,144,663	54,269,101
Awaiting PPN	Inverse JPY Long Term Bond	1Z	75,000,000	79,215,630	82,998,039	05/02/2017	05/09/2019	Currency Forward		2,106,360	912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	79,215,630	80,891,679
91283# AP8	Inverse JPY Long Term Bond	1	90,000,000	77,210,171	81,157,651	05/03/2017	05/09/2019	Currency Forward		2,313,862	912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	77,210,171	78,843,789
91283# AP8	Inverse JPY Long Term Bond	1		6,400,000	6,264,358	05/03/2017	05/09/2019	Currency Forward			01749B-AB-5	Allegro CLO VI Ltd-ALLEG 2017-2A B	1	6,400,000	6,264,358
91283# AP8	Inverse JPY Long Term Bond	1		4,400,000	4,300,692	05/03/2017	05/09/2019	Currency Forward			39729R-AC-2	Greenwood Park CLO Ltd-SERIES 18-1A CLASS B	1	4,400,000	4,300,692
91283# AP8	Inverse JPY Long Term Bond	1		5,095,000	4,916,894	05/03/2017	05/09/2019	Currency Forward			056162-AS-9	Babson CLO Ltd 2015-I-BABSN 2015-IA CR	1	5,095,000	4,916,894
91283# AP8	Inverse JPY Long Term Bond	1		4,000,000	3,906,776	05/03/2017	05/09/2019	Currency Forward			09628F-AE-9	BlueMountain Fuji US CLO-SERIES 2017-3A CLASS B	1	4,000,000	3,906,776
91283# AP8	Inverse JPY Long Term Bond	1		2,000,000	1,957,872	05/03/2017	05/09/2019	Currency Forward			22616C-AE-3	CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS C	1	2,000,000	1,957,872
91283# AP8	Inverse JPY Long Term Bond	1		1,995,000	1,958,763	05/03/2017	05/09/2019	Currency Forward			06760E-AC-0	Babson CLO Ltd 2013-I-SERIES 2013-IS CLASS BR	1	1,995,000	1,958,763
Awaiting PPN	Inverse JPY Long Term Bond	1Z	50,000,000	59,500,438	61,318,674	05/10/2017	05/13/2019	Currency Forward		573,361	912810-RU-4	US TREASURY 2.875% DUE 11/15/2046	1	59,500,438	60,745,313
Awaiting PPN	Inverse JPY Long Term Bond	1Z	50,000,000	59,500,438	61,315,000	05/11/2017	05/15/2019	Currency Forward		569,687	912810-RU-4	US TREASURY 2.875% DUE 11/15/2046	1	59,500,438	60,745,313
Awaiting PPN	Inverse JPY Long Term Bond	1Z	25,000,000	34,708,589	35,865,911	05/16/2017	05/20/2019	Currency Forward		431,145	912810-RU-4	US TREASURY 2.875% DUE 11/15/2046	1	34,708,589	35,434,766
Awaiting PPN	Inverse JPY Long Term Bond	1Z	25,000,000	34,708,589	36,152,312	05/17/2017	05/20/2019	Currency Forward		717,546	912810-RU-4	US TREASURY 2.875% DUE 11/15/2046	1	34,708,589	35,434,766
Awaiting PPN	Inverse JPY Long Term Bond	1Z	25,000,000	34,708,589	36,301,177	05/17/2017	05/20/2019	Currency Forward		866,411	912810-RU-4	US TREASURY 2.875% DUE 11/15/2046	1	34,708,589	35,434,766
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1	250,000,000	21,249,107	11,919,225	09/15/2017	09/15/2047	Interest Rate Swap		(9,059,480)	03073E-AM-7	AmeriSourceBergen Corp-SENIOR UNSECURED	2	21,249,107	20,978,705
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		28,604,273	33,599,741	09/15/2017	09/15/2047	Interest Rate Swap			055450-AH-3	BHP Billiton Finance USA-DEBENTURE	1	28,604,273	33,599,741
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		31,150,618	31,349,506	09/15/2017	09/15/2047	Interest Rate Swap			12572Q-AG-0	OME GROUP INC-SR UNSECURED	1	31,150,618	31,349,506
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		19,645,384	20,282,195	09/15/2017	09/15/2047	Interest Rate Swap			29364N-AS-7	ENTERGY MISSISSIPPI INC-SECURED NOTE	1	19,645,384	20,282,195
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		25,701,020	31,342,606	09/15/2017	09/15/2047	Interest Rate Swap			313747-AF-4	FEDERAL REALTY INVESTMEN-NOTE REID	1	25,701,020	31,342,606
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		20,834,672	21,529,523	09/15/2017	09/15/2047	Interest Rate Swap			375558-AH-3	GILEAD SCIENCES INC-SENIOR UNSECURED NOTE	1	20,834,672	21,529,523
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		19,429,889	19,379,304	09/15/2017	09/15/2047	Interest Rate Swap			384780-AA-0	GRAIN SPECTRUM FUND II-SECURED NOTE	1	19,429,889	19,379,304
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		28,502,778	28,840,714	09/15/2017	09/15/2047	Interest Rate Swap			75972Y-AA-9	RENAISSANCE FINANCE-SR UNSECURED	1	28,502,778	28,840,714
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		25,030,792	26,351,653	09/15/2017	09/15/2047	Interest Rate Swap			884315-AG-7	THOMAS & BETTS CORP-NOTE	1	25,030,792	26,351,653
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		19,104,241	19,441,818	09/15/2017	09/15/2047	Interest Rate Swap			958587-BJ-5	WEST MASS ELECTRIC CO-SENIOR UNSECURED NOTE	1	19,104,241	19,441,818
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		3,200,000	3,018,659	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	3,018,659
57629* DMO	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		8,000,000	7,743,064	09/15/2017	09/15/2047	Interest Rate Swap			67104L-AG-2	CHA Loan Funding 2013-2 -QHAF 2013-2A CR	1	8,000,000	7,743,064

S105.21

STATEMENT AS OF MARCH 31, 2019 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* DM0	Evergreen Basket of Inverse Floating Rate Corporate Bonds	1		7,000,000	6,952,372	09/15/2017	09/15/2047	Interest Rate Swap			39862E-AB-0	GRIFFEN PARK CLO LTD-SERIES 17-1A CLASS B	1	7,000,000	6,952,372
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2	250,000,000	31,944,650	23,601,885	09/15/2017	09/15/2047	Interest Rate Swap	(8,669,715)		031162-CJ-7	AMGEN INC-SENIOR UNSECURED HOST HOTELS & RESORTS LP-SENIOR UNSECURED NOTE	2	31,944,650	32,271,600
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		36,250,719	37,318,952	09/15/2017	09/15/2047	Interest Rate Swap			44107T-AT-3	UNSECURED NOTE	2	36,250,719	37,318,952
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		33,302,656	34,251,440	09/15/2017	09/15/2047	Interest Rate Swap			445658-CD-7	UNSECURED NOTE	2	33,302,656	34,251,440
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		35,136,111	38,165,222	09/15/2017	09/15/2047	Interest Rate Swap			456866-AM-4	INGERSOLL-RAND CO-DEBTURE	2	35,136,111	38,165,222
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		42,893,412	42,816,521	09/15/2017	09/15/2047	Interest Rate Swap			664397-AK-2	EVERSOURCE ENERGY-UNSECURED NOTE	2	42,893,412	42,816,521
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		32,851,441	32,977,646	09/15/2017	09/15/2047	Interest Rate Swap			760759-AP-5	Republic Services Inc-SENIOR UNSECURED NOTE	2	32,851,441	32,977,646
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		37,898,550	38,239,353	09/15/2017	09/15/2047	Interest Rate Swap			94106L-BA-6	Waste Management Inc-SR UNSECURED	2	37,898,550	38,239,353
57629* DL2	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		36,568,259	36,055,651	09/15/2017	09/15/2047	Interest Rate Swap			A05830-41-6	SPARC EM SPC PANAMA METR-SECURED	2	36,568,259	36,055,651
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2	250,000,000	23,452,974	15,144,650	09/15/2017	09/15/2047	Interest Rate Swap	(8,461,840)		00287Y-AL-3	AbbVie Inc-SENIOR UNSECURED NOTE	2	23,452,974	23,606,490
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		6,470,856	6,565,486	09/15/2017	09/15/2047	Interest Rate Swap			00507U-AS-0	ACTAVIS FUNDING SCS-SENIOR UNSECURED NOTE	2	6,470,856	6,565,486
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		6,228,237	6,367,880	09/15/2017	09/15/2047	Interest Rate Swap			195869-AP-7	COLONIAL PIPELINE CO-SR UNSECURED	1	6,228,237	6,367,880
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		50,116,303	50,971,180	09/15/2017	09/15/2047	Interest Rate Swap			254709-AM-0	DISCOVER FINANCIAL SVS-SENIOR UNSECURED	2	50,116,303	50,971,180
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		25,120,520	25,332,862	09/15/2017	09/15/2047	Interest Rate Swap			444859-BA-9	Humana Inc-SENIOR UNSECURED NOTE	2	25,120,520	25,332,862
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		23,516,803	23,513,801	09/15/2017	09/15/2047	Interest Rate Swap			61945C-AA-1	MOSAIC CO/THE-SENIOR UNSECURED NOTE	2	23,516,803	23,513,801
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		24,563,518	24,466,008	09/15/2017	09/15/2047	Interest Rate Swap			718549-AB-4	PHILLIPS 66 PARTNERS LP-SENIOR UNSECURED	2	24,563,518	24,466,008
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		26,498,553	26,990,405	09/15/2017	09/15/2047	Interest Rate Swap			756109-AN-4	REALTY INCOME CORP-SENIOR UNSECURED NOTE RE1D	1	26,498,553	26,990,405
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		17,902,665	18,304,569	09/15/2017	09/15/2047	Interest Rate Swap			09247X-AJ-0	BlackRock Inc-SENIOR UNSECURED NOTE	1	17,902,665	18,304,569
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		27,532,350	28,102,607	09/15/2017	09/15/2047	Interest Rate Swap			883203-BQ-3	Tetron Inc-NOTE	2	27,532,350	28,102,607
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		19,583,984	19,659,220	09/15/2017	09/15/2047	Interest Rate Swap			760759-AP-5	Republic Services Inc-SENIOR UNSECURED NOTE	2	19,583,984	19,659,220
57629* DP3	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		8,800,000	8,538,464	09/15/2017	09/15/2047	Interest Rate Swap			05683L-AC-0	Bain Capital Credit CLO -BCC 2018-1A A2	1	8,800,000	8,538,464
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2	250,000,000	22,530,833	13,568,649	09/15/2017	09/15/2047	Interest Rate Swap	(8,929,558)		045487-AA-3	ASSOC BANC-CORP-SR UNSECURED	2	22,530,833	22,498,207
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		21,874,071	22,033,346	09/15/2017	09/15/2047	Interest Rate Swap			378272-AL-2	GLENCORE FUNDING LLC-SR UNSECURED	2	21,874,071	22,033,346
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		22,880,811	23,296,097	09/15/2017	09/15/2047	Interest Rate Swap			45167R-AF-1	IDEX Corp-SENIOR UNSECURED NOTE	2	22,880,811	23,296,097
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		22,094,506	21,938,537	09/15/2017	09/15/2047	Interest Rate Swap			49245P-AA-4	KERRY GROUP FIN SERVICES-SENIOR UNSECURED NOTE	2	22,094,506	21,938,537
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		21,135,586	21,079,280	09/15/2017	09/15/2047	Interest Rate Swap			67103H-AF-4	O'REILLY AUTOMOTIVE INC-SENIOR UNSECURED	2	21,135,586	21,079,280
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		22,275,400	22,357,587	09/15/2017	09/15/2047	Interest Rate Swap			72925P-AD-7	PLUM CREEK TIMBERLANDS-SENIOR UNSECURED NOTE	2	22,275,400	22,357,587
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		25,268,757	25,293,561	09/15/2017	09/15/2047	Interest Rate Swap			759351-AG-4	Reinsurance Group of Ame-SENIOR UNSECURED NOTE	2	25,268,757	25,293,561
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		25,866,899	26,660,556	09/15/2017	09/15/2047	Interest Rate Swap			806851-AG-6	SCHLUMBERGER HLDGS CORP-SR UNSECURED	2	25,866,899	26,660,556
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		22,692,241	23,669,128	09/15/2017	09/15/2047	Interest Rate Swap			92936M-AB-3	YPPP FINANCE 2010-SENIOR UNSECURED NOTE	2	22,692,241	23,669,128
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		21,878,733	21,075,880	09/15/2017	09/15/2047	Interest Rate Swap			98310W-AL-2	WYNDHAM WORLDWIDE CORP-SENIOR UNSECURED NOTE	3	21,878,733	21,075,880

S105.22

STATEMENT AS OF MARCH 31, 2019 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* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		21,118,331	20,854,535	09/15/2017	09/15/2047	Interest Rate Swap				98956P-AF-9	Zimmer Biomet Holdings I-SR UNSECURED	2	21,118,331	20,854,535
57629* DN8	Evergreen Basket of Inverse Floating Rate Corporate Bonds	2		21,050,933	22,155,000	09/15/2017	09/15/2047	Interest Rate Swap				EK5851-40-8	ISRAEL ELECTRIC CORP LTD-SECURED NOTE	2	21,050,933	22,155,000
Awaiting PPN	Sovereign Bond of Peru	1Z	5,000,000	10,893,784	10,463,210	12/20/2018	06/20/2024	5 Yr Credit Default Swap	64,053	85,085		912810-RP-5	UNITED STATES TREASURY 3.00% DUE 11/15/45	1	10,829,731	10,378,125
Awaiting PPN	Sovereign Bond of Mexico	1Z	15,000,000	16,125,042	16,135,042	12/20/2018	06/20/2024	5 Yr Credit Default Swap	(165,817)	(165,817)		912833-LI-2	US TREASURY DUE 2/15/2023	1	16,360,028	18,300,859
Awaiting PPN	Sovereign Bond of Mexico	1Z	5,000,000	19,913,643	20,698,210	12/20/2018	06/20/2024	5 Yr Credit Default Swap	(74,602)	(55,696)		912810-RV-2	US TREASURY 3.0% DUE 2/15/2044	1	19,988,245	20,753,906
Awaiting PPN	Sovereign Bond of Brazil	1Z	5,000,000	29,832,647	30,952,104	12/20/2018	06/20/2024	5 Yr Credit Default Swap	(149,720)	(178,755)		912810-RV-2	US TREASURY 3.0% DUE 2/15/2044	1	29,982,367	31,130,859
Awaiting PPN	Sovereign Bond of Columbia	1Z	30,000,000	30,738,407	32,037,151	12/20/2018	06/20/2024	5 Yr Credit Default Swap	(243,372)	(131,404)		912810-RV-2	US TREASURY 3.0% DUE 2/15/2044	1	30,981,779	32,168,555
Awaiting PPN	Sovereign Bond of India	1Z	40,000,000	34,876,311	36,240,721	12/20/2018	06/20/2024	5 Yr Credit Default Swap	(103,117)	(78,615)		912810-RV-2	US TREASURY 3.0% DUE 2/15/2044	1	34,979,428	36,319,336
Awaiting PPN	Sovereign Bond of India	1Z		14,875,109	15,186,328	12/20/2018	06/20/2024	5 Yr Credit Default Swap				912810-RU-4	US TREASURY N/B-UNSECURED 2.875% DUE 11/15/2046	1	14,875,109	15,186,328
Awaiting PPN	Sovereign Bond of Malaysia	1Z	10,000,000	15,033,523	15,370,326	12/20/2018	06/20/2024	5 Yr Credit Default Swap	158,414	183,998		912810-RU-4	US TREASURY N/B-UNSECURED 2.875% DUE 11/15/2046	1	14,875,109	15,186,328
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z	517,000,000	272,478,437	278,449,264	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index	8,760,581	9,151,647		912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	263,717,856	269,297,617
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z		257,061,189	269,578,394	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index				76116F-AG-2	RFSCP PRINCIPAL STRIP	1	257,061,189	269,578,394
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z	226,000,000	254,511,950	259,986,854	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index	3,829,577	4,000,526		912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	250,682,373	255,986,328
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z	257,000,000	94,594,239	96,704,349	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index	4,348,585	4,549,271		912828-PX-2	US TREASURY N/B Note 3.625% DUE 02/15/2021	1	90,245,654	92,155,078
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z		80,217,676	84,123,754	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index				76116F-AG-2	RFSCP PRINCIPAL STRIP	1	80,217,676	84,123,754
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z		87,421,544	113,120,508	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index				912810-QK-7	US Treasury 3.875% DUE 8/15/2040	1	87,421,544	113,120,508
Awaiting PPN	Inverse JPY Long Term Bond	1Z	76,207,323	20,200,542	19,521,472	05/31/2018	05/20/2019	Currency Forward		(3,222,338)		912833-LN-8	US TREASURY STRIP 0% DUE 05/15/2023	1	20,200,542	22,743,810
Awaiting PPN	Inverse JPY Long Term Bond	1Z		87,763,146	89,599,336	05/31/2018	05/20/2019	Currency Forward				912810-RU-4	US TREASURY 2.875% DUE 11/15/2046	1	87,763,146	89,599,336
Awaiting PPN	Inverse JPY Long Term Bond	1Z	49,665,019	70,030,985	68,173,022	05/31/2018	04/15/2019	Currency Forward		(2,114,087)		912828-LJ-7	US TREAS N/B-NOTE 3.625% 08/15/2019	1	70,030,985	70,287,109
Awaiting PPN	Inverse JPY Long Term Bond	1Z		167,790,725	180,079,675	05/31/2018	05/09/2019	Currency Forward		(7,145,397)		912828-LJ-7	US TREAS N/B-NOTE 3.625% 08/15/2019	1	180,079,675	180,738,281
Awaiting PPN	Inverse JPY Long Term Bond	1Z	49,878,194	70,030,985	68,125,600	05/31/2018	04/01/2019	Currency Forward		(2,161,509)		912828-LJ-7	US TREAS N/B-NOTE 3.625% 08/15/2019	1	70,030,985	70,287,109
Awaiting PPN	Inverse JPY Long Term Bond	1Z	50,616,145	70,030,985	68,167,544	05/31/2018	05/08/2019	Currency Forward		(2,119,565)		912828-LJ-7	US TREAS N/B-NOTE 3.625% 08/15/2019	1	70,030,985	70,287,109
Awaiting PPN	Inverse JPY Long Term Bond	1Z		51,627,893	70,030,985	05/31/2018	05/13/2019	Currency Forward		(2,119,556)		912828-LJ-7	US TREAS N/B-NOTE 3.625% 08/15/2019	1	70,030,985	70,287,109
Awaiting PPN	Inverse JPY Long Term Bond	1Z	51,630,473	70,030,985	68,177,215	05/31/2018	05/15/2019	Currency Forward		(2,109,894)		912828-LJ-7	US TREAS N/B-NOTE 3.625% 08/15/2019	1	70,030,985	70,287,109
Awaiting PPN	Credit Default Indices (CDIG032/CDX.NA.IG.32)	2Z	100,000,000	111,616,638	115,916,628	03/20/2019	06/20/2024	5 Yr Credit Default Swap Index	1,681,292	1,770,144		912810-RV-2	US TREASURY 3.0% DUE 2/15/2044	1	109,935,346	114,146,484
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	130,000,000	33,225,308	13,231,758	11/07/2018	11/07/2048	Interest Rate Swap		(20,626,789)		873050-CM-1	TTX CO-SENIOR UNSECURED	1	33,225,308	33,858,547
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		31,908,299	33,988,210	11/07/2018	11/07/2048	Interest Rate Swap				341081-FR-3	Florida Power & Light Co-SECURED	1	31,908,299	33,988,210
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		26,205,745	28,083,238	11/07/2018	11/07/2048	Interest Rate Swap				45866F-AH-7	Intercontinental Exchange-SENIOR UNSECURED	1	26,205,745	28,083,238
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		26,133,351	27,913,600	11/07/2018	11/07/2048	Interest Rate Swap				010392-FS-2	Alabama Power Co-SENIOR UNSECURED	1	26,133,351	27,913,600
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		26,978,156	27,689,725	11/07/2018	11/07/2048	Interest Rate Swap				976843-BJ-0	WISCONSIN PUBLIC SERVICE-SECURED	1	26,978,156	27,689,725
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		10,610,119	10,429,259	11/07/2018	11/07/2048	Interest Rate Swap				235851-AR-3	DANAHER CORP-SR UNSECURED	1	10,610,119	10,429,259
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	170,000,000	42,300,000	17,145,745	11/07/2018	11/07/2048	Interest Rate Swap		(27,155,073)		45174X-AA-0	IHC Health Services Inc-SECURED	1	42,300,000	44,300,818
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		41,500,042	42,905,046	11/07/2018	11/07/2048	Interest Rate Swap				91412N-AK-6	UNIVERSITY OF CHICAGO-UNSECURED BOND	1	41,500,042	42,905,046
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		40,929,248	42,673,395	11/07/2018	11/07/2048	Interest Rate Swap				906548-CN-0	Union Electric Co-SECURED	1	40,929,248	42,673,395

S105.23

STATEMENT AS OF MARCH 31, 2019 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
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		40,987,670	43,844,952	11/07/2018	11/07/2048	Interest Rate Swap			575718-AB-7	MASS INSTITUTE OF TECH-UNSECURED BOND	1	40,987,670	43,844,952
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		29,496,143	31,147,536	11/07/2018	11/07/2048	Interest Rate Swap			391380-AC-9	GREAT-WEST LIFE CO FINANC-SENIOR UNSECURED	1	29,496,143	31,147,536
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	200,000,000	54,181,435	24,634,478	11/07/2018	11/07/2048	Interest Rate Swap		(31,818,971)	882508-BD-5	Texas Instruments Inc-SENIOR UNSECURED	1	54,181,435	56,453,449
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		50,401,108	53,868,264	11/07/2018	11/07/2048	Interest Rate Swap			745332-CG-9	PUGET SOUND ENERGY INC-SECURED	1	50,401,108	53,868,264
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		48,652,038	50,183,981	11/07/2018	11/07/2048	Interest Rate Swap			81373P-AA-1	Securian Financial Group-SENIOR UNSECURED	1	48,652,038	50,183,981
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		51,930,020	53,789,029	11/07/2018	11/07/2048	Interest Rate Swap			92826C-AF-9	VISA INC-SR UNSECURED	1	51,930,020	53,789,029
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		28,756,284	30,778,925	11/07/2018	11/07/2048	Interest Rate Swap			049560-AP-0	Atmos Energy Corp-SENIOR UNSECURED	1	28,756,284	30,778,925
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	300,000,000	56,727,206	12,957,344	11/08/2018	11/08/2048	Interest Rate Swap		(46,832,441)	12572Q-AH-8	CME Group Inc-SENIOR UNSECURED	1	56,727,206	59,789,785
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		58,740,304	59,431,397	11/08/2018	11/08/2048	Interest Rate Swap			00440E-AW-7	ACE INA HOLDINGS-SR UNSECURED	1	58,740,304	59,431,397
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		53,303,577	56,905,467	11/08/2018	11/08/2048	Interest Rate Swap			30231G-AW-2	EXXON MOBIL CORPORATION-SR UNSECURED	1	53,303,577	56,905,467
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		55,766,379	57,949,450	11/08/2018	11/08/2048	Interest Rate Swap			037833-BX-7	Apple Inc-SENIOR UNSECURED	1	55,766,379	57,949,450
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		58,515,763	57,321,170	11/08/2018	11/08/2048	Interest Rate Swap			91324P-CR-1	UNITEDHEALTH GROUP INC-SR UNSECURED	1	58,515,763	57,321,170
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		58,743,605	59,825,393	11/08/2018	11/08/2048	Interest Rate Swap			023135-AQ-9	AMAZON.COM INC-SR UNSECURED	1	58,743,605	59,825,393
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	320,000,000	101,965,130	55,749,300	11/08/2018	11/08/2048	Interest Rate Swap		(50,228,040)	82620K-AT-0	SIEMENS FINANCIERINGSMAT-SENIOR UNSECURED	1	101,965,130	105,977,340
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		89,364,077	90,033,294	11/08/2018	11/08/2048	Interest Rate Swap			585055-BU-9	MEDTRONIC INC-SR UNSECURED	1	89,364,077	90,033,294
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		68,081,281	74,344,248	11/08/2018	11/08/2048	Interest Rate Swap			141781-BF-0	CARGILL INC-SR UNSECURED	1	68,081,281	74,344,248
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		45,353,236	48,711,940	11/08/2018	11/08/2048	Interest Rate Swap			023135-BM-7	Amazon.com Inc-SENIOR UNSECURED	1	45,353,236	48,711,940
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		48,350,612	49,290,927	11/08/2018	11/08/2048	Interest Rate Swap			899043-AA-1	TUFTS UNIVERSITY-UNSECURED BOND	1	48,350,612	49,290,927
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		18,483,042	21,067,920	11/08/2018	11/08/2048	Interest Rate Swap			40728T-AA-1	HAMILTON COLLEGE-UNSECURED	1	18,483,042	21,067,920
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	40,347,049	14,728,656	11/08/2018	11/08/2048	Interest Rate Swap		(25,182,380)	575634-AT-7	MASSACHUSETTS ELECTRIC-SENIOR UNSECURED	1	40,347,049	39,911,036
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		30,102,142	29,015,660	11/08/2018	11/08/2048	Interest Rate Swap			45138L-BD-4	IDAHO POWER CORP-SECURED NOTE	1	30,102,142	29,015,660
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		28,874,364	30,551,790	11/08/2018	11/08/2048	Interest Rate Swap			29246Q-AB-1	Empresa de Transporte de-SENIOR UNSECURED	1	28,874,364	30,551,790
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		28,333,406	30,678,744	11/08/2018	11/08/2048	Interest Rate Swap			771196-BH-4	ROCHE HOLDING INC-SENIOR UNSECURED NOTE	1	28,333,406	30,678,744
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		29,319,161	29,953,890	11/08/2018	11/08/2048	Interest Rate Swap			437076-BH-4	Home Depot Inc/The-SENIOR UNSECURED	1	29,319,161	29,953,890
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		28,275,000	29,345,254	11/08/2018	11/08/2048	Interest Rate Swap			578454-AD-2	MAYO CLINIC-UNSECURED	1	28,275,000	29,345,254
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	320,000,000	66,843,429	19,478,788	11/08/2018	11/08/2048	Interest Rate Swap		(50,228,040)	009279-AC-4	AIRBUS SE-SENIOR UNSECURED	1	66,843,429	69,706,828
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		68,449,398	69,056,245	11/08/2018	11/08/2048	Interest Rate Swap			701094-AL-8	Parker-Hannifin Corp-SENIOR UNSECURED	1	68,449,398	69,056,245
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		61,747,712	62,991,969	11/08/2018	11/08/2048	Interest Rate Swap			23338V-AE-6	DTE Electric Co-SECURED	1	61,747,712	62,991,969
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		62,165,026	59,840,942	11/08/2018	11/08/2048	Interest Rate Swap			66989H-AH-1	NOVARTIS CAPITAL CORP-SR UNSECURED	1	62,165,026	59,840,942
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		41,455,718	47,089,214	11/08/2018	11/08/2048	Interest Rate Swap			594918-CB-8	MICROSOFT CORP-SENIOR UNSECURED	1	41,455,718	47,089,214
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		23,530,563	24,875,524	11/08/2018	11/08/2048	Interest Rate Swap			69351U-AV-5	PPL Electric Utilities C-SECURED	1	23,530,563	24,875,524

S105.24

STATEMENT AS OF MARCH 31, 2019 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
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		22,883,667	23,829,688	11/08/2018	11/08/2048	Interest Rate Swap			084664-CQ-2	Berkshire Hathaway Finan-SENIOR UNSECURED	1	22,883,667	23,829,688
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		21,470,893	20,827,306	11/08/2018	11/08/2048	Interest Rate Swap			110122-AX-6	BRISTOL-MYERS SQUIBB CO-SR UNSECURED	1	21,470,893	20,827,306
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	140,000,000	36,282,977	18,476,451	12/03/2018	12/03/2048	Interest Rate Swap	(17,536,009)		039483-BM-3	ARCHER-DANIELS-MIDLAND C-SENIOR UNSECURED	1	36,282,977	36,012,460
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		27,485,260	28,882,448	12/03/2018	12/03/2048	Interest Rate Swap			00401M-AB-2	ABU DHABI CRUDE OIL PIPE-SECURED	1	27,485,260	28,882,448
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		28,604,451	29,919,232	12/03/2018	12/03/2048	Interest Rate Swap			207597-EH-4	Connecticut Light & Powe-SECURED	1	28,604,451	29,919,232
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		27,331,951	27,082,942	12/03/2018	12/03/2048	Interest Rate Swap			29736R-AG-5	ESTEE LAUDER CO INC-SENIOR UNSECURED	1	27,331,951	27,082,942
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		25,067,664	28,739,878	12/03/2018	12/03/2048	Interest Rate Swap			04351L-AA-8	ASCENSION HEALTH-UNSECURED BOND	1	25,067,664	28,739,878
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		9,998,138	10,610,838	12/03/2018	12/03/2048	Interest Rate Swap			00115A-AJ-8	KEP Transmission Co LLC-SENIOR UNSECURED	1	9,998,138	10,610,838
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	34,351,259	14,564,603	12/03/2018	12/03/2048	Interest Rate Swap	(19,801,530)		02361D-AR-1	Ameren Illinois Co-SECURED	1	34,351,259	34,366,133
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		37,027,914	38,857,088	12/03/2018	12/03/2048	Interest Rate Swap			468223-AT-9	Jackson Laboratory/The-UNSECURED	1	37,027,914	38,857,088
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		34,971,887	36,413,895	12/03/2018	12/03/2048	Interest Rate Swap			743315-AS-2	PROGRESSIVE CORP-SENIOR UNSECURED	1	34,971,887	36,413,895
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		35,233,543	36,718,014	12/03/2018	12/03/2048	Interest Rate Swap			17858P-AB-7	City of Hope-SENIOR UNSECURED	1	35,233,543	36,718,014
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		35,018,186	34,775,413	12/03/2018	12/03/2048	Interest Rate Swap			44107H-AE-2	NY Society for Relief of-SECURED	1	35,018,186	34,775,413
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		9,969,913	10,567,462	12/03/2018	12/03/2048	Interest Rate Swap			458140-AV-2	INTEL CORP-SENIOR UNSECURED	1	9,969,913	10,567,462
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	36,784,295	24,533,946	12/10/2018	12/10/2048	Interest Rate Swap	(14,063,784)		828807-CZ-8	SIMON PROPERTY GROUP LP-SENIOR UNSECURED	1	36,784,295	38,597,730
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		34,618,126	36,335,366	12/10/2018	12/10/2048	Interest Rate Swap			12189L-BB-6	BURLINGTON NORTH SANTA FE-SENIOR UNSECURED	1	34,618,126	36,335,366
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		29,542,895	29,945,839	12/10/2018	12/10/2048	Interest Rate Swap			391382-AB-4	GREAT-WEST LIFE CO FINANC-SENIOR UNSECURED	1	29,542,895	29,945,839
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		30,256,792	31,503,960	12/10/2018	12/10/2048	Interest Rate Swap			038222-AM-7	APPLIED MATERIALS INC-SENIOR UNSECURED	1	30,256,792	31,503,960
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		30,235,726	31,729,892	12/10/2018	12/10/2048	Interest Rate Swap			210518-DB-9	Consumers Energy Co-SECURED	1	30,235,726	31,729,892
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		29,650,875	30,971,558	12/10/2018	12/10/2048	Interest Rate Swap			455434-BR-0	INDIANAPOLIS PWR & LIGHT-SECURED BOND	1	29,650,875	30,971,558
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	200,000,000	103,159,349	120,659,218	01/07/2019	01/07/2049	Interest Rate Swap	(6,384,491)		931142-CS-0	WAL-MART STORES INC-SENIOR NOTE	1	103,159,349	127,043,709
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		71,752,973	81,459,894	01/07/2019	01/07/2049	Interest Rate Swap			755111-BU-4	Raytheon Co-SENIOR UNSECURED NOTE	1	71,752,973	81,459,894
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		44,204,195	53,035,939	01/07/2019	01/07/2049	Interest Rate Swap			873050-CB-5	TTX CO-UNSECURED NOTE	1	44,204,195	53,035,939
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	250,000,000	75,518,279	73,689,410	01/07/2019	01/07/2049	Interest Rate Swap	(7,471,379)		458140-AK-6	INTEL CORP-SENIOR UNSECURED NOTE	1	75,518,279	81,160,789
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		91,763,660	103,180,368	01/07/2019	01/07/2049	Interest Rate Swap			437076-AS-1	Home Depot Inc/The-SENIOR UNSECURED NOTE	1	91,763,660	103,180,368
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		49,050,521	51,485,444	01/07/2019	01/07/2049	Interest Rate Swap			341081-FG-7	FLORIDA POWER & LIGHT CO-SECURED BOND	1	49,050,521	51,485,444
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		60,205,368	65,445,582	01/07/2019	01/07/2049	Interest Rate Swap			038222-AG-0	APPLIED MATERIALS INC-SENIOR UNSECURED NOTE	1	60,205,368	65,445,582
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	175,000,000	79,107,999	71,025,386	01/31/2019	01/31/2049	Interest Rate Swap	(11,028,279)		055451-AV-0	BHP Billiton Finance USA-SR UNSECURED	1	79,107,999	82,053,665
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		65,961,761	70,124,487	01/31/2019	01/31/2049	Interest Rate Swap			478165-AG-8	JOHNSON (S.C.) & SON INC-SENIOR UNSECURED NOTE	1	65,961,761	70,124,487
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		54,695,239	67,776,264	01/31/2019	01/31/2049	Interest Rate Swap			78409V-AB-0	S&P GLOBAL INC-SENIOR UNSECURED NOTE	1	54,695,239	67,776,264
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	150,000,000	47,233,807	41,258,775	02/04/2019	02/04/2049	Interest Rate Swap	(7,461,896)		057224-AZ-0	BAKER HUGHES INC-SENIOR NOTE	1	47,233,807	48,720,671

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STATEMENT AS OF MARCH 31, 2019 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	
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		45,226,038	47,089,800	02/04/2019	02/04/2049	Interest Rate Swap				891160-MJ-9	Toronto-Dominion Bank/Th- SUBORDINATED	1	45,226,038	47,089,800
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		71,718,931	73,521,620	02/04/2019	02/04/2049	Interest Rate Swap				278865-AM-2	Ecolab Inc-SENIOR UNSECURED NOTE	1	71,718,931	73,521,620
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1	165,000,000	59,351,831	56,308,420	02/04/2019	02/04/2049	Interest Rate Swap		(8,987,726)		68389X-AM-7	ORACLE CORP-SENIOR UNSECURED NOTE	1	59,351,831	65,296,146
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		65,600,954	67,740,395	02/04/2019	02/04/2049	Interest Rate Swap				149123-CB-5	Caterpillar Inc-SENIOR UNSECURED BOND	1	65,600,954	67,740,395
Awaiting PPN	Evergreen Basket of Floating Rate Corporate Bonds	1		66,281,584	73,635,579	02/04/2019	02/04/2049	Interest Rate Swap				377372-AE-7	GLAXOSMITHKLINE CAP INC-SR UNSECURED	1	66,281,584	73,635,579
999999999 - Totals				15,699,621,844	16,020,560,615	XXX	XXX	XXX	18,033,924	70,980,218	XXX	XXX	XXX	XXX	15,681,587,920	15,949,580,397

STATEMENT AS OF MARCH 31, 2019 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	122	13,581,622,879							122	13,581,622,879
2. Add: Opened or Acquired Transactions.....	16	2,150,000,000							16	2,150,000,000
3. Add: Increases in Replication (Synthetic Asset) Transactions Statement Value.....	XXX		XXX		XXX		XXX		XXX	
4. Less: Closed or Disposed of Transactions.....	15	1,330,207,107							15	1,330,207,107
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	123	14,401,415,772							123	14,401,415,772

STATEMENT AS OF MARCH 31, 2019 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.....	3,101,975,021
2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance.....
3. Total (Line 1 plus Line 2).....	3,101,975,021
4. Part D, Section 1, Column 5.....	8,898,093,149
5. Part D, Section 1, Column 6.....	(5,687,976,276)
6. Total (Line 3 minus Line 4 minus Line 5).....	(108,141,852)
	Fair Value Check
7. Part A, Section 1, Column 16.....	3,154,921,411
8. Part B, Section 1, Column 13.....	108,141,852
9. Total (Line 7 plus Line 8).....	3,263,063,263
10. Part D, Section 1, Column 8.....	9,394,500,109
11. Part D, Section 1, Column 9.....	(6,131,436,846)
12. Total (Line 9 minus Line 10 minus Line 11).....
	Potential Exposure Check
13. Part A, Section 1, Column 21.....	4,490,036,940
14. Part B, Section 1, Column 20.....	118,240,650
15. Part D, Section 1, Column 11.....	4,608,277,590
16. Total (Line 13 plus Line 14 minus Line 15).....

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned End of Current Quarter

1	2	3	4	5	6	7	8	9
CUSIP	Description	Code	Date Acquired	Rate of Interest	Maturity Date	Book/Adjusted Carrying Value	Amount of Interest Due and Accrued	Amount Received During Year
0599999	Total - U.S. Government Bonds							
1099999	Total - All Other Government Bonds							
1799999	Total - U.S. States, Territories and Possessions Bonds							
2499999	Total - U.S. Political Subdivisions Bonds							
3199999	Total - U.S. Special Revenues Bonds							
	ABB TREASURY CENTER (USA) INC. COMMERCIAL PAPER		03/12/2019	0.000	04/09/2019	1,998,896		2,754
	AMEREN CORP. COMMERCIAL PAPER		03/29/2019	0.000	04/01/2019	48,000,000		10,600
	AMEREN CORP. COMMERCIAL PAPER		03/27/2019	0.000	04/04/2019	21,995,085		8,187
	AMEREN CORP. COMMERCIAL PAPER		03/08/2019	0.000	04/08/2019	19,789,548		35,753
	AMERICAN ELECTRIC POWER CO. INC. COMMERCIAL PAPER		03/29/2019	0.000	04/04/2019	19,995,532		4,466
	AMERICAN ELECTRIC POWER CO. INC. COMMERCIAL PAPER		03/26/2019	0.000	04/10/2019	3,497,671		1,551
	AMERICAN ELECTRIC POWER CO. INC. COMMERCIAL PAPER		03/29/2019	0.000	04/12/2019	1,498,758		338
	AMERICAN ELECTRIC POWER CO. INC. COMMERCIAL PAPER		03/27/2019	0.000	04/16/2019	10,987,666		4,105
	AMERICAN HONDA FINANCE CORP. COMMERCIAL PAPER		03/28/2019	0.000	04/26/2019	12,977,605		3,576
	AMPHENOL CORP. COMMERCIAL PAPER		03/27/2019	0.000	04/03/2019	5,199,234		1,914
	AON CORPORATION COMMERCIAL PAPER		03/12/2019	0.000	04/12/2019	2,497,911		3,789
	APPLE INC. COMMERCIAL PAPER		03/05/2019	0.000	04/03/2019	2,999,594		5,467
	APPLE INC. COMMERCIAL PAPER		03/18/2019	0.000	04/08/2019	2,009,049		1,899
	ARCHER-DANIELS-MIDLAND COMPANY COMMERCIAL PAPER		03/26/2019	0.000	04/12/2019	5,395,923		2,221
	AUTOZONE INC. COMMERCIAL PAPER		03/27/2019	0.000	04/16/2019	15,635,645		5,777
	AUTOZONE INC. COMMERCIAL PAPER		03/29/2019	0.000	04/22/2019	12,979,520		2,920
	AVANGRID, INC. COMMERCIAL PAPER		03/27/2019	0.000	04/09/2019	19,988,173		7,385
	AVIATION CAPITAL GROUP LLC COMMERCIAL PAPER		03/26/2019	0.000	04/09/2019	7,395,591		3,303
	BAXTER INTERNATIONAL INC. COMMERCIAL PAPER		03/26/2019	0.000	04/02/2019	6,999,475		3,150
	BAXTER INTERNATIONAL INC. COMMERCIAL PAPER		03/27/2019	0.000	04/03/2019	17,997,339		6,649
	BAXTER INTERNATIONAL INC. COMMERCIAL PAPER		03/29/2019	0.000	04/05/2019	23,521,861		5,351
	BOSTON SCIENTIFIC CORP. COMMERCIAL PAPER		01/28/2019	0.000	04/22/2019	79,854,557		426,335
	BOSTON SCIENTIFIC CORP. COMMERCIAL PAPER		03/26/2019	0.000	06/03/2019	9,949,225		4,809
	CME GROUP INC. COMMERCIAL PAPER		03/20/2019	0.000	04/03/2019	26,996,333		24,757
	CRH AMERICA FINANCE, INC. COMMERCIAL PAPER		03/04/2019	0.000	04/16/2019	4,095,138		9,046
	CVS HEALTH CORPORATION COMMERCIAL PAPER		03/29/2019	0.000	04/01/2019	63,000,000		14,175
	CAMPBELL SOUP COMPANY COMMERCIAL PAPER		01/24/2019	0.000	04/24/2019	30,939,248		175,623
	CENTERPOINT ENERGY INC. COMMERCIAL PAPER		03/29/2019	0.000	04/01/2019	35,000,000		7,525
	CENTERPOINT ENERGY INC. COMMERCIAL PAPER		01/07/2019	0.000	04/05/2019	13,495,316		97,616
	CENTERPOINT ENERGY INC. COMMERCIAL PAPER		03/06/2019	0.000	05/03/2019	6,982,418		14,221
	CISCO SYSTEMS INC. COMMERCIAL PAPER		02/13/2019	0.000	05/14/2019	11,864,349		38,724
	COX ENTERPRISES INC. COMMERCIAL PAPER		03/27/2019	0.000	04/09/2019	38,976,159		11,909
	JOHN DEERE CAPITAL CORPORATION COMMERCIAL PAPER		01/24/2019	0.000	04/09/2019	5,996,584		28,459
	JOHN DEERE CAPITAL CORPORATION COMMERCIAL PAPER		03/26/2019	0.000	05/20/2019	10,468,815		4,292
	DOMINION ENERGY INC. COMMERCIAL PAPER		01/31/2019	0.000	04/25/2019	19,961,822		93,238
	DOVER CORP. COMMERCIAL PAPER		03/27/2019	0.000	04/03/2019	33,994,993		12,512
	EATON CORPORATION COMMERCIAL PAPER		03/29/2019	0.000	04/09/2019	39,976,349		11,668
	EMERSON ELECTRIC CO. COMMERCIAL PAPER		03/19/2019	0.000	04/16/2019	1,898,082		1,659
	ENBRIDGE (U.S.) INC. COMMERCIAL PAPER		02/26/2019	0.000	04/04/2019	25,993,939		68,494
	ENBRIDGE (U.S.) INC. COMMERCIAL PAPER		03/12/2019	0.000	06/05/2019	6,962,908		11,334
	ENERGY CORP COMMERCIAL PAPER		01/09/2019	0.000	04/09/2019	12,990,981		91,731
	ENTERPRISE PRODUCTS OPERATING LLC COMMERCIAL PAPER		03/29/2019	0.000	04/01/2019	20,000,000		4,350
	ENTERPRISE PRODUCTS OPERATING LLC COMMERCIAL PAPER		03/26/2019	0.000	04/05/2019	49,985,272		18,397
	EQUIFAX INC. COMMERCIAL PAPER		03/27/2019	0.000	04/10/2019	16,188,980		6,116
	FMC TECHNOLOGIES INC. COMMERCIAL PAPER		02/13/2019	0.000	04/15/2019	1,997,775		7,433
	FMC TECHNOLOGIES INC. COMMERCIAL PAPER		02/14/2019	0.000	04/16/2019	19,976,331		72,237
	FEDEX CORP. COMMERCIAL PAPER		03/27/2019	0.000	04/03/2019	64,990,355		24,101
	FMC CORP. COMMERCIAL PAPER		03/29/2019	0.000	04/01/2019	14,900,000		3,663
	FMC CORP. COMMERCIAL PAPER		03/04/2019	0.000	04/03/2019	29,994,821		72,321
	FMC CORP. COMMERCIAL PAPER		03/20/2019	0.000	04/22/2019	24,955,476		25,371
	FORTIVE CORPORATION COMMERCIAL PAPER		03/25/2019	0.000	04/23/2019	4,991,532		2,688
	FORTIVE CORPORATION COMMERCIAL PAPER		03/27/2019	0.000	04/25/2019	14,972,289		5,760
	HARLEY-DAVIDSON FINANCIAL SERVICES, INC. COMMERCIAL PAPER		01/04/2019	0.000	04/02/2019	4,999,593		35,160
	HARLEY-DAVIDSON FINANCIAL SERVICES, INC. COMMERCIAL PAPER		03/21/2019	0.000	04/08/2019	4,997,451		4,001
	HENKEL OF AMERICA INC. COMMERCIAL PAPER		02/28/2019	0.000	05/02/2019	12,971,727		29,057
	HERSHEY COMPANY (THE) COMMERCIAL PAPER		03/05/2019	0.000	04/01/2019	1,500,000		2,700
	HOME DEPOT INC. COMMERCIAL PAPER		03/19/2019	0.000	04/02/2019	10,899,258		9,643
	HOME DEPOT INC. COMMERCIAL PAPER		03/14/2019	0.000	04/03/2019	2,899,614		3,465
	ILLINOIS TOOL WORKS INC. COMMERCIAL PAPER		03/19/2019	0.000	04/01/2019	11,175,000		9,846
	ILLINOIS TOOL WORKS INC. COMMERCIAL PAPER		03/28/2019	0.000	04/23/2019	10,212,682		2,780

E13

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned End of Current Quarter

1	2	3	4	5	6	7	8	9
CUSIP	Description	Code	Date Acquired	Rate of Interest	Maturity Date	Book/Adjusted Carrying Value	Amount of Interest Due and Accrued	Amount Received During Year
	ILLINOIS TOOL WORKS INC. COMMERCIAL PAPER		03/27/2019	0.000	06/06/2019	6,868,237		2,394
	INTERCONTINENTAL EXCHANGE, INC. COMMERCIAL PAPER		01/23/2019	0.000	04/10/2019	9,993,518		48,702
	INTERCONTINENTAL EXCHANGE, INC. COMMERCIAL PAPER		03/29/2019	0.000	06/20/2019	5,071,207		1,073
	KIMBERLY-CLARK CORP. COMMERCIAL PAPER		03/12/2019	0.000	04/04/2019	6,838,613		9,232
	KIMBERLY-CLARK CORP. COMMERCIAL PAPER		03/25/2019	0.000	04/11/2019	5,796,051		2,761
	KIMBERLY-CLARK CORP. COMMERCIAL PAPER		03/28/2019	0.000	04/17/2019	11,986,824		2,467
	L'OREAL USA INC. COMMERCIAL PAPER		03/08/2019	0.000	04/01/2019	16,500,000		26,950
	L'OREAL USA INC. COMMERCIAL PAPER		03/25/2019	0.000	04/17/2019	8,490,853		3,995
	LAM RESEARCH CORP. COMMERCIAL PAPER		01/29/2019	0.000	04/25/2019	44,312,234		225,131
	ELI LILLY & CO. COMMERCIAL PAPER		02/05/2019	0.000	05/06/2019	16,808,393		64,969
	MARRIOTT INTERNATIONAL INC. COMMERCIAL PAPER		03/26/2019	0.000	04/24/2019	9,982,550		4,542
	MARRIOTT INTERNATIONAL INC. COMMERCIAL PAPER		03/26/2019	0.000	05/22/2019	14,830,335		6,871
	MARSH & MCLENNAN COMPANIES, INC. COMMERCIAL PAPER		03/29/2019	0.000	04/29/2019	3,991,505		908
	MARSH & MCLENNAN COMPANIES, INC. COMMERCIAL PAPER		03/29/2019	0.000	05/02/2019	1,596,279		359
	NASDAQ, INC. COMMERCIAL PAPER		03/20/2019	0.000	04/02/2019	2,374,818		1,996
	NATIONAL GRID USA COMMERCIAL PAPER		01/09/2019	0.000	04/09/2019	9,993,062		70,562
	NATIONAL RURAL UTILITIES COOPERATIVE FINANCIAL PAPER		03/20/2019	0.000	04/03/2019	22,446,942		18,332
	NATIONAL RURAL UTILITIES COOPERATIVE FINANCIAL PAPER		03/29/2019	0.000	04/29/2019	6,886,742		1,418
	NATIXIS SA/NEW YORK NY COMMERCIAL PAPER		03/14/2019	0.000	05/03/2019	7,982,129		10,018
	NATIXIS SA/NEW YORK NY COMMERCIAL PAPER		03/18/2019	0.000	06/12/2019	6,685,694		6,630
	NEXTERA ENERGY CAPITAL HOLDINGS, INC. COMMERCIAL PAPER		01/30/2019	0.000	04/08/2019	30,982,433		152,244
	NEXTERA ENERGY CAPITAL HOLDINGS, INC. COMMERCIAL PAPER		03/26/2019	0.000	05/20/2019	21,916,722		8,462
	OGE ENERGY CORP. COMMERCIAL PAPER		03/26/2019	0.000	04/01/2019	1,000,000		453
	OGE ENERGY CORP. COMMERCIAL PAPER		03/27/2019	0.000	04/08/2019	41,348,950		15,736
	PACCAR FINANCIAL CORP. COMMERCIAL PAPER		03/05/2019	0.000	04/03/2019	4,899,343		8,856
	PACCAR FINANCIAL CORP. COMMERCIAL PAPER		01/25/2019	0.000	04/25/2019	11,130,731		52,648
	Pfizer Inc. COMMERCIAL PAPER		02/12/2019	0.000	05/06/2019	9,975,517		32,689
	PUBLIC SERVICE ENTERPRISE GROUP INC. COMMERCIAL PAPER		03/12/2019	0.000	05/20/2019	13,944,650		22,466
	PUBLIC SERVICE ENTERPRISE GROUP INC. COMMERCIAL PAPER		03/26/2019	0.000	05/22/2019	9,958,897		4,813
	SOUTHERN COMPANY (THE) COMMERCIAL PAPER		02/20/2019	0.000	04/26/2019	9,980,287		30,598
	SOUTHERN COMPANY (THE) COMMERCIAL PAPER		03/07/2019	0.000	05/02/2019	29,927,526		58,192
	SOUTHERN POWER COMPANY COMMERCIAL PAPER		03/29/2019	0.000	04/03/2019	4,999,250		1,125
	UNILEVER CAPITAL CORP. COMMERCIAL PAPER		02/19/2019	0.000	04/30/2019	15,967,686		45,464
	UNILEVER CAPITAL CORP. COMMERCIAL PAPER		02/21/2019	0.000	05/06/2019	9,476,756		25,108
	UNION PACIFIC CORP. COMMERCIAL PAPER		03/26/2019	0.000	04/02/2019	27,597,967		12,189
	WAL-MART STORES, INC. COMMERCIAL PAPER		02/01/2019	0.000	04/08/2019	15,492,525		62,715
	WAL-MART STORES, INC. COMMERCIAL PAPER		01/15/2019	0.000	04/15/2019	6,493,570		34,683
	WESTAR ENERGY, INC. COMMERCIAL PAPER		03/22/2019	0.000	04/02/2019	4,999,621		3,791
	WESTAR ENERGY, INC. COMMERCIAL PAPER		03/26/2019	0.000	04/04/2019	2,399,460		1,080
	WHIRLPOOL CORPORATION COMMERCIAL PAPER		03/27/2019	0.000	04/10/2019	17,988,026		6,646
	WHIRLPOOL CORPORATION COMMERCIAL PAPER		03/25/2019	0.000	04/29/2019	6,835,342		3,133
	CDP FINANCIAL INC COMMERCIAL PAPER		03/28/2019	0.000	04/01/2019	4,000,000		1,089
	CANADIAN NATURAL RESOURCES LTD. COMMERCIAL PAPER		03/29/2019	0.000	04/08/2019	29,984,367		
	CANADIAN NATURAL RESOURCES LTD. COMMERCIAL PAPER		03/26/2019	0.000	04/09/2019	18,463,911		6,924
	MAGNA INTERNATIONAL INC. COMMERCIAL PAPER		03/29/2019	0.000	04/01/2019	10,800,000		2,385
	ROYAL BANK OF CANADA (NY BRANCH) COMMERCIAL PAPER		03/28/2019	0.000	04/08/2019	5,500,078		(45)
	TELUS CORPORATION COMMERCIAL PAPER		01/31/2019	0.000	05/01/2019	13,466,194		67,107
	AUSTRALIA AND NEW ZEALAND BANKING GROUP COMMERCIAL PAPER		02/06/2019	0.000	04/05/2019	1,149,677		4,346
	BASF (SE) COMMERCIAL PAPER		03/28/2019	0.000	05/30/2019	24,896,750		
	B. A. T. INTERNATIONAL FINANCE PLC COMMERCIAL PAPER		03/28/2019	0.000	04/04/2019	5,098,852		1,530
	EXPERIAN FINANCE PLC COMMERCIAL PAPER		03/27/2019	0.000	04/09/2019	24,985,272		9,196
	MACQUARIE BANK LIMITED COMMERCIAL PAPER		02/21/2019	0.000	04/10/2019	2,998,112		8,152
	MUFG BANK LTD/NEW YORK NY COMMERCIAL PAPER		02/19/2019	0.000	04/22/2019	1,338,001		3,886
	MUFG BANK LTD/NEW YORK NY COMMERCIAL PAPER		03/14/2019	0.000	05/07/2019	8,528,341		10,788
	NRW BANK COMMERCIAL PAPER		02/14/2019	0.000	04/30/2019	6,965,687		22,583
	NRW BANK COMMERCIAL PAPER		03/18/2019	0.000	06/06/2019	7,266,375		7,093
	NRW BANK COMMERCIAL PAPER		03/15/2019	0.000	06/12/2019	8,258,118		9,827
	NATIONAL GRID PLC COMMERCIAL PAPER		01/08/2019	0.000	04/08/2019	28,982,394		207,144
	ROYAL CARIBBEAN CRUISES LTD. COMMERCIAL PAPER		02/21/2019	0.000	04/12/2019	86,919,215		256,050
	SCHLUMBERGER INVESTMENT SA COMMERCIAL PAPER		02/12/2019	0.000	04/12/2019	9,992,336		33,308
	SKANDINAVISKA ENSKILDA BANKEN AB COMMERCIAL PAPER		01/11/2019	0.000	04/09/2019	5,996,446		35,312
	SKANDINAVISKA ENSKILDA BANKEN AB COMMERCIAL PAPER		02/26/2019	0.000	05/22/2019	6,177,725		14,761
	SKANDINAVISKA ENSKILDA BANKEN AB COMMERCIAL PAPER		03/01/2019	0.000	05/29/2019	10,955,065		23,867
	SOCIETE GENERALE S.A. COMMERCIAL PAPER		01/22/2019	0.000	04/22/2019	124,961,160		124,944
	SVENSKA HANDELSBANKEN AB COMMERCIAL PAPER		01/23/2019	0.000	04/16/2019	5,993,468		29,435
	SWEDBANK AB COMMERCIAL PAPER		02/22/2019	0.000	04/08/2019	4,997,534		13,346

STATEMENT AS OF MARCH 31, 2019 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned End of Current Quarter

1 CUSIP	2 Description	3 Code	4 Date Acquired	5 Rate of Interest	6 Maturity Date	7 Book/Adjusted Carrying Value	8 Amount of Interest Due and Accrued	9 Amount Received During Year
	SWEDBANK AB COMMERCIAL PAPER		03/20/2019	0.000	06/10/2019	26,766,517		20,856
	TYCO INTERNATIONAL HOLDING S. A R.L. COM		03/29/2019	0.000	04/05/2019	11,896,363		2,726
	TYCO INTERNATIONAL HOLDING S. A R.L. COM		02/01/2019	0.000	04/26/2019	8,981,157		44,157
3299999	Subtotal - Bonds - Industrial and Miscellaneous (Unaffiliated) - Issuer Obligations					1,988,455,808		3,661,539
3899999	Total - Industrial and Miscellaneous (Unaffiliated) Bonds					1,988,455,808		3,661,539
4899999	Total - Hybrid Securities							
5599999	Total - Parent, Subsidiaries and Affiliates Bonds							
6099999	Subtotal - SVO Identified Funds							
6599999	Subtotal - Bank Loans							
7799999	Total - Issuer Obligations					1,988,455,808		3,661,539
7899999	Total - Residential Mortgage-Backed Securities							
7999999	Total - Commercial Mortgage-Backed Securities							
8099999	Total - Other Loan-Backed and Structured Securities							
8199999	Total - SVO Identified Funds							
8299999	Total - Bank Loans							
8399999	Total Bonds					1,988,455,808		3,661,539
09248U-71-8	BLACKROCK LIQUIDITY FUND-EXEMPT MONEY MA		03/29/2019	0.000		118,270,769		
8599999	Subtotal - Exempt Money Market Mutual Funds - as Identified by the SVO					118,270,769		
09248U-61-9	BLACKROCK LIQUIDITY FUND-BLKR-LIQ TMP-IN		12/18/2017	0.000		49,991,112	539,073	96,972
26188J-20-6	DREYFUS CASH MANAGEMENT-DREYFUS-CS MG-IN		12/18/2017	0.000		50,015,000	631,207	98,514
38141W-36-4	GOLDMAN SACHS FINANCIAL -OPEN-END FUND		12/18/2017	0.000		50,025,000	646,991	99,798
825252-64-6	STIT-STIC PRIME PORTFOLIO-STIT-STIC-INS		12/18/2017	0.000		50,000,000	573,753	91,961
949921-12-6	Wells Fargo Government M-WF GOV MMF SEL		03/20/2019	0.000		4,192,250	1,624	160
8699999	Subtotal - All Other Money Market Mutual Funds					204,223,362	2,392,648	387,405
8899999	Total Cash Equivalents					2,310,949,939	2,392,648	4,048,944

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	3,695,132,944	2,852,941,262
2. Cost of cash equivalents acquired	18,321,187,244	79,209,684,010
3. Accrual of discount	17,472,702	55,788,749
4. Unrealized valuation increase (decrease)	30,000	36,646
5. Total gain (loss) on disposals	26,527	97,456
6. Deduct consideration received on disposals	19,722,899,480	78,423,415,179
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)	2,310,949,937	3,695,132,944
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	2,310,949,937	3,695,132,944