

QUARTERLY STATEMENT

OF THE

Massachusetts Mutual Life Insurance Company

TO THE

Insurance Department

OF THE

STATE OF

**FOR THE QUARTER ENDED
SEPTEMBER 30, 2016**

LIFE AND ACCIDENT AND HEALTH

2016



LIFE AND ACCIDENT AND HEALTH COMPANIES - ASSOCIATION EDITION

QUARTERLY STATEMENT

AS OF SEPTEMBER 30, 2016
OF THE CONDITION AND AFFAIRS OF THE

Massachusetts Mutual Life Insurance Company

NAIC Group Code 0435 (Current) 0435 (Prior) NAIC Company Code 65935 Employer's ID Number 04-1590850

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

Country of Domicile United States of America

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

Statutory Home Office 1295 State Street (Street and Number), Springfield, MA, US 01111 (City or Town, State, Country and Zip Code)

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

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

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

Internet Website Address www.massmutual.com

Statutory Statement Contact Tammy A. Peatman (Name), 413-744-6327 (Area Code) (Telephone Number), tpeatman@massmutual.com (E-mail Address), 413-226-4086 (FAX Number)

OFFICERS

President and Chief Executive Officer Roger William Crandall, Treasurer Todd Garrett Picken, Secretary Pia Denise Flanagan, Appointed Actuary Douglas Wright Taylor

OTHER

Elizabeth Ward Chicares #, Executive Vice President, Chief Financial Officer and Chief Actuary; Michael Robert Fanning, Executive Vice President; Melvin Timothy Corbett, Executive Vice President and Chief Investment Officer; Robert Joseph Casale, Executive Vice President and Chief Information Officer; Mark Douglas Roellig, Executive Vice President and General Counsel; Elaine Anne Sarsynski, Executive Vice President; Adnan Omar Ahmed, Executive Vice President and Chief Human Resources Officer

DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman; Karen Hall Bechtel #; Mark Thomas Bertolini; Kathleen Ann Corbet - Lead Director; James Henry DeGraffenreidt, Jr.; Patricia Diaz Dennis; Robert Alan Essner; Isabella Davidov Goren; Raymond Walter LeBoeuf; Jeffrey Marc Leiden; Cathy Elizabeth Minehan; Marc Francis Racicot; Laura Jeanne Sen; William Taylor Spitz; Howard Todd Stitzer

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

Pia Denise Flanagan
Secretary

Todd Garrett Picken
Treasurer

Subscribed and sworn to before me this day of

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

STATEMENT AS OF SEPTEMBER 30, 2016 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	86,479,938,820		86,479,938,820	79,546,596,121
2. Stocks:				
2.1 Preferred stocks	490,812,085		490,812,085	532,949,649
2.2 Common stocks	12,439,155,026		12,439,155,026	9,099,961,966
3. Mortgage loans on real estate:				
3.1 First liens	21,388,711,527		21,388,711,527	22,007,729,394
3.2 Other than first liens.....				
4. Real estate:				
4.1 Properties occupied by the company (less \$ encumbrances)	160,506,898		160,506,898	170,369,606
4.2 Properties held for the production of income (less \$665,081,034 encumbrances)	815,187,509		815,187,509	756,333,883
4.3 Properties held for sale (less \$ encumbrances)	1,508,157		1,508,157	1,473,276
5. Cash (\$157,400,614), cash equivalents (\$2,724,291,530) and short-term investments (\$335,721,399)	3,217,413,543		3,217,413,543	3,048,645,110
6. Contract loans (including \$ premium notes)	12,295,952,954	690,514	12,295,262,440	11,812,577,658
7. Derivatives	15,567,362,988		15,567,362,988	9,268,078,124
8. Other invested assets	7,136,025,405	46,778,629	7,089,246,776	7,473,266,370
9. Receivables for securities	207,573,023		207,573,023	41,926,626
10. Securities lending reinvested collateral assets				
11. Aggregate write-ins for invested assets				
12. Subtotals, cash and invested assets (Lines 1 to 11)	160,200,147,935	47,469,143	160,152,678,792	143,759,907,783
13. Title plants less \$ charged off (for Title insurers only)				
14. Investment income due and accrued	1,933,731,287	3,258,878	1,930,472,409	1,833,663,950
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection	97,243,564	1,609,718	95,633,846	126,174,738
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums)	635,448,137		635,448,137	633,398,443
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	44,175,671		44,175,671	45,318,929
16.2 Funds held by or deposited with reinsured companies				
16.3 Other amounts receivable under reinsurance contracts	9,363,984		9,363,984	24,423,453
17. Amounts receivable relating to uninsured plans				
18.1 Current federal and foreign income tax recoverable and interest thereon				65,324,933
18.2 Net deferred tax asset	1,224,941,152		1,224,941,152	1,298,531,068
19. Guaranty funds receivable or on deposit	26,156,471		26,156,471	26,501,012
20. Electronic data processing equipment and software	444,159,478	408,143,732	36,015,746	38,454,169
21. Furniture and equipment, including health care delivery assets (\$)	61,166,478	61,166,478		
22. Net adjustment in assets and liabilities due to foreign exchange rates				
23. Receivables from parent, subsidiaries and affiliates	71,960,321		71,960,321	54,081,461
24. Health care (\$) and other amounts receivable				
25. Aggregate write-ins for other than invested assets	3,207,387,286	1,082,258,192	2,125,129,094	2,067,381,553
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	167,955,881,764	1,603,906,141	166,351,975,623	149,973,161,492
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts	63,803,558,825		63,803,558,825	60,385,549,743
28. Total (Lines 26 and 27)	231,759,440,589	1,603,906,141	230,155,534,448	210,358,711,235
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 (COLI)	1,991,936,997		1,991,936,997	1,926,962,561
2502. Fully refundable deposits, prepayments and other miscellaneous	138,565,070	77,052,425	61,512,645	67,948,505
2503. Employee insurance plan advances	40,101,153		40,101,153	39,614,950
2598. Summary of remaining write-ins for Line 25 from overflow page	1,036,784,066	1,005,205,767	31,578,299	32,855,537
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	3,207,387,286	1,082,258,192	2,125,129,094	2,067,381,553

LIABILITIES, SURPLUS AND OTHER FUNDS

	1 Current Statement Date	2 December 31 Prior Year
1. Aggregate reserve for life contracts \$ 106,040,433,031 less \$ included in Line 6.3 (including \$ 48,629,389 Modco Reserve)	106,040,433,031	99,942,257,473
2. Aggregate reserve for accident and health contracts (including \$ 74,771,168 Modco Reserve)	2,755,481,266	2,683,981,025
3. Liability for deposit-type contracts (including \$ Modco Reserve)	10,919,869,118	10,491,117,975
4. Contract claims:		
4.1 Life	286,074,623	420,273,237
4.2 Accident and health	24,493,358	24,268,522
5. Policyholders' dividends \$ 9,745,410 and coupons \$ due and unpaid	9,745,410	10,210,995
6. Provision for policyholders' dividends and coupons payable in following calendar year - estimated amounts:		
6.1 Dividends apportioned for payment (including \$ Modco)	1,789,303,568	1,731,292,553
6.2 Dividends 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 \$ 9,759,661 accident and health premiums	41,827,642	30,048,083
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	17,505,050	12,956,022
9.3 Other amounts payable on reinsurance, including \$ 14,815,546 assumed and \$ 8,539,197 ceded	23,354,743	27,318,900
9.4 Interest Maintenance Reserve	408,108,878	349,152,262
10. Commissions to agents due or accrued-life and annuity contracts \$ 28,750,026 , accident and health \$ 340,652 and deposit-type contract funds \$ 9,345,387	38,436,065	28,117,416
11. Commissions and expense allowances payable on reinsurance assumed	5,128,686	5,301,675
12. General expenses due or accrued	1,047,353,702	958,827,158
13. Transfers to Separate Accounts due or accrued (net) (including \$ (183,450,564) accrued for expense allowances recognized in reserves, net of reinsured allowances)	(228,502,344)	(245,896,321)
14. Taxes, licenses and fees due or accrued, excluding federal income taxes	30,764,400	37,853,252
15.1 Current federal and foreign income taxes, including \$ (212,692,117) on realized capital gains (losses)	50,182,024	
15.2 Net deferred tax liability		
16. Unearned investment income	211,892,672	130,995,421
17. Amounts withheld or retained by company as agent or trustee	16,465,872	35,064,726
18. Amounts held for agents' account, including \$ agents' credit balances	278,979,025	259,075,424
19. Remittances and items not allocated	(4,301,577)	(21,613,176)
20. Net adjustment in assets and liabilities due to foreign exchange rates	1,950	9,554
21. Liability for benefits for employees and agents if not included above	180,865,226	176,535,932
22. Borrowed money \$ 291,819,520 and interest thereon \$	291,819,520	276,817,818
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve	3,310,148,168	2,817,138,360
24.02 Reinsurance in unauthorized and certified (\$) companies		
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
24.04 Payable to parent, subsidiaries and affiliates	30,806,106	18,212,103
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance		
24.08 Derivatives	11,359,382,792	5,840,340,713
24.09 Payable for securities	195,179,923	142,215,754
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	10,673,046,638	8,817,870,120
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	149,803,845,535	134,999,742,976
27. From Separate Accounts Statement	63,794,324,186	60,376,436,122
28. Total liabilities (Lines 26 and 27)	213,598,169,721	195,376,179,098
29. Common capital stock		
30. Preferred capital stock		
31. Aggregate write-ins for other than special surplus funds		
32. Surplus notes	2,231,930,599	2,231,637,183
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)	14,322,184,128	12,747,644,954
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 \$ 9,234,639 in Separate Accounts Statement)	16,557,364,727	14,982,532,137
38. Totals of Lines 29, 30 and 37	16,557,364,727	14,982,532,137
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	230,155,534,448	210,358,711,235
DETAILS OF WRITE-INS		
2501. Repurchase agreements	4,894,911,894	5,134,118,339
2502. Derivative collateral	4,042,929,978	2,126,484,960
2503. Derivative interest liability	1,670,025,443	1,474,873,702
2598. Summary of remaining write-ins for Line 25 from overflow page	65,179,323	82,393,119
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	10,673,046,638	8,817,870,120
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page		
3199. Totals (Lines 3101 through 3103 plus 3198)(Line 31 above)		
3401. Designated surplus for group annuities	2,500,000	2,500,000
3402. Designated surplus for separate account business	750,000	750,000
3403.		
3498. Summary of remaining write-ins for Line 34 from overflow page		
3499. Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)	3,250,000	3,250,000

SUMMARY OF OPERATIONS

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1. Premiums and annuity considerations for life and accident and health contracts	15,652,972,534	15,235,418,627	21,530,383,076
2. Considerations for supplementary contracts with life contingencies	20,407,455	9,130,923	12,366,075
3. Net investment income	4,656,475,300	4,387,123,292	6,246,441,543
4. Amortization of Interest Maintenance Reserve (IMR)	103,022,212	108,098,656	140,397,231
5. Separate Accounts net gain from operations excluding unrealized gains or losses	3,383	(17,178)	(13,121)
6. Commissions and expense allowances on reinsurance ceded	73,325,538	70,295,522	110,106,393
7. Reserve adjustments on reinsurance ceded	13,394,713	21,405,187	16,029,021
8. Miscellaneous Income:			
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	267,148,150	266,478,918	361,717,460
8.2 Charges and fees for deposit-type contracts			
8.3 Aggregate write-ins for miscellaneous income	347,401,625	289,566,775	309,723,915
9. Totals (Lines 1 to 8.3)	21,134,150,910	20,387,500,722	28,727,151,593
10. Death benefits	1,245,189,963	1,334,693,462	1,763,896,509
11. Matured endowments (excluding guaranteed annual pure endowments)	13,563,773	10,858,781	15,080,860
12. Annuity benefits	1,289,324,966	1,073,273,519	1,469,389,047
13. Disability benefits and benefits under accident and health contracts	273,430,773	273,857,795	365,311,161
14. Coupons, guaranteed annual pure endowments and similar benefits			
15. Surrender benefits and withdrawals for life contracts	10,246,400,136	8,982,142,517	12,368,838,810
16. Group conversions			
17. Interest and adjustments on contract or deposit-type contract funds	237,949,239	215,771,297	283,860,603
18. Payments on supplementary contracts with life contingencies	8,489,545	8,207,564	10,866,006
19. Increase in aggregate reserves for life and accident and health contracts	6,222,682,104	6,341,465,822	9,344,994,281
20. Totals (Lines 10 to 19)	19,537,030,499	18,240,270,757	25,622,237,277
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	593,773,357	541,285,930	743,202,207
22. Commissions and expense allowances on reinsurance assumed	77,243,971	96,313,790	126,121,762
23. General insurance expenses	1,512,273,693	1,293,472,968	1,789,844,929
24. Insurance taxes, licenses and fees, excluding federal income taxes	164,201,435	152,793,223	187,133,089
25. Increase in loading on deferred and uncollected premiums	(13,136,436)	(7,321,614)	5,389,038
26. Net transfers to or (from) Separate Accounts net of reinsurance	(604,158,751)	(343,725,797)	(753,445,438)
27. Aggregate write-ins for deductions	(1,220,460,169)	(652,329,735)	(921,194,332)
28. Totals (Lines 20 to 27)	20,046,767,599	19,320,759,522	26,799,288,532
29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)	1,087,383,311	1,066,741,200	1,927,863,061
30. Dividends to policyholders	1,214,473,362	1,215,020,217	1,727,593,543
31. Net gain from operations after dividends to policyholders and before federal income taxes (Line 29 minus Line 30)	(127,090,051)	(148,279,017)	200,269,518
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	(182,566,700)	(103,224,168)	(153,275,542)
33. Net gain from operations after dividends to policyholders and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	55,476,649	(45,054,849)	353,545,060
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$(13,038,258) (excluding taxes of \$2,079,762 transferred to the IMR)	62,116,930	98,956,245	58,635,533
35. Net income (Line 33 plus Line 34)	117,593,579	53,901,396	412,180,593
CAPITAL AND SURPLUS ACCOUNT			
36. Capital and surplus, December 31, prior year	14,982,532,137	14,231,326,051	14,231,326,051
37. Net income (Line 35)	117,593,579	53,901,396	412,180,593
38. Change in net unrealized capital gains (losses) less capital gains tax of \$320,584,163	2,271,123,999	258,894,949	194,731,062
39. Change in net unrealized foreign exchange capital gain (loss)	(187,416,017)	(139,139,438)	(225,759,636)
40. Change in net deferred income tax	128,361,928	281,829,085	231,108,817
41. Change in nonadmitted assets	(299,358,521)	(117,185,512)	(15,892,928)
42. Change in liability for reinsurance in unauthorized and certified companies			
43. Change in reserve on account of change in valuation basis, (increase) or decrease			
44. Change in asset valuation reserve	(493,009,808)	(267,932,564)	(196,860,334)
45. Change in treasury stock			
46. Surplus (contributed to) withdrawn from Separate Accounts during period	137,378	(32,634)	(30,580)
47. Other changes in surplus in Separate Accounts Statement	117,635	(765,141)	(833,061)
48. Change in surplus notes	293,417	491,122,617	491,416,033
49. Cumulative effect of changes in accounting principles		2,617,428	2,617,428
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	36,989,000	13,407,434	(141,471,308)
54. Net change in capital and surplus for the year (Lines 37 through 53)	1,574,832,590	576,717,620	751,206,086
55. Capital and surplus, as of statement date (Lines 36 + 54)	16,557,364,727	14,808,043,671	14,982,532,137
DETAILS OF WRITE-INS			
08.301. Administrative fee and other income	347,401,625	289,566,775	372,823,915
08.302. COLI benefit funding cost			(63,100,000)
08.303.			
08.398. Summary of remaining write-ins for Line 8.3 from overflow page			
08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	347,401,625	289,566,775	309,723,915
2701. Change in reserves due to reinsurance agreement	(1,215,031,836)	(662,288,680)	(941,820,541)
2702. Market value adjustment transfer	(28,335,161)	(12,043,664)	(17,283,670)
2703. Change in liability for employee/agent benefit plans	17,004,881	(4,010,472)	9,259,306
2798. Summary of remaining write-ins for Line 27 from overflow page	5,901,947	26,013,081	28,650,573
2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	(1,220,460,169)	(652,329,735)	(921,194,332)
5301. Other changes in surplus	36,989,000	13,407,434	8,701,713
5302. Change in minimum pension liability			(150,173,021)
5303.			
5398. Summary of remaining write-ins for Line 53 from overflow page			
5399. Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	36,989,000	13,407,434	(141,471,308)

STATEMENT AS OF SEPTEMBER 30, 2016 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	14,980,693,592	15,295,035,420	20,016,614,129
2. Net investment income	4,823,980,484	4,548,704,939	6,213,099,970
3. Miscellaneous income	626,508,188	688,326,858	824,995,376
4. Total (Lines 1 to 3)	20,431,182,264	20,532,067,217	27,054,709,475
5. Benefit and loss related payments	13,205,719,709	11,930,880,568	16,260,499,766
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(621,295,945)	(352,875,887)	(770,582,444)
7. Commissions, expenses paid and aggregate write-ins for deductions	1,207,647,819	1,494,022,566	1,964,915,482
8. Dividends paid to policyholders	1,156,927,933	1,095,651,340	1,565,323,828
9. Federal and foreign income taxes paid (recovered) net of \$ 81,077,994 tax on capital gains (losses)	(276,882,092)	390,734,510	234,355,069
10. Total (Lines 5 through 9)	14,672,117,424	14,558,413,097	19,254,511,701
11. Net cash from operations (Line 4 minus Line 10)	5,759,064,840	5,973,654,120	7,800,197,774
Cash from Investments			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds	10,027,376,821	10,446,029,539	12,495,748,943
12.2 Stocks	453,354,707	882,149,921	1,211,212,794
12.3 Mortgage loans	2,803,065,126	1,594,382,107	2,574,694,271
12.4 Real estate	27,733,156	11,135,408	110,006,251
12.5 Other invested assets	644,475,753	1,780,451,978	2,560,163,094
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(29,380,267)	5,859,309	2,935,660
12.7 Miscellaneous proceeds	301,877,599	94,753,886	161,376,236
12.8 Total investment proceeds (Lines 12.1 to 12.7)	14,228,502,895	14,814,762,148	19,116,137,249
13. Cost of investments acquired (long-term only):			
13.1 Bonds	16,327,679,928	14,343,544,227	15,011,821,492
13.2 Stocks	1,169,845,458	991,853,024	1,114,663,420
13.3 Mortgage loans	2,357,702,541	3,536,341,148	5,296,118,174
13.4 Real estate	150,088,570	227,087,520	283,415,424
13.5 Other invested assets	1,108,326,206	2,362,005,137	3,443,452,757
13.6 Miscellaneous applications	(23,367,752)	(46,440,262)	28,944,756
13.7 Total investments acquired (Lines 13.1 to 13.6)	21,090,274,951	21,414,390,794	25,178,416,023
14. Net increase (or decrease) in contract loans and premium notes	482,538,129	514,436,062	657,744,827
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(7,344,310,185)	(7,114,064,708)	(6,720,023,601)
Cash from Financing and Miscellaneous Sources			
16. Cash provided (applied):			
16.1 Surplus notes, capital notes	293,417	491,122,617	491,416,033
16.2 Capital and paid in surplus, less treasury stock			
16.3 Borrowed funds	15,004,567	4,223,941	8,903,849
16.4 Net deposits on deposit-type contracts and other insurance liabilities	215,198,447	644,967,906	830,860,713
16.5 Dividends to stockholders			
16.6 Other cash provided (applied)	1,523,517,347	901,013,802	(1,242,727,751)
17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	1,754,013,778	2,041,328,266	88,452,844
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)	168,768,433	900,917,678	1,168,627,017
19. Cash, cash equivalents and short-term investments:			
19.1 Beginning of year	3,048,645,110	1,880,018,093	1,880,018,093
19.2 End of period (Line 18 plus Line 19.1)	3,217,413,543	2,780,935,771	3,048,645,110

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

20.0001. Premium recognized for a group annuity contract	734,129,647	816,524,224	1,470,936,408
20.0002. Bonds received as consideration for a group annuity contract	734,129,647	812,352,541	1,466,416,514
20.0003. Other invested assets contributed to subsidiary	682,102,736		
20.0004. Bond conversions and refinancing	329,828,602	1,968,066,717	1,196,967,823
20.0005. Other invested assets to stocks	100,531,421		
20.0006. Transfer of mortgage loan to other than invested assets	98,392,208		
20.0007. Change in market value of COLI	67,687,802		
20.0008. Dividend reinvestment	28,838,448	15,705,245	16,248,526
20.0009. Stock conversions	11,999,702	24,510,899	33,907,076
20.0010. Bank loan rollovers	4,591,260	214,753,833	142,660,534

STATEMENT AS OF SEPTEMBER 30, 2016 OF THE Massachusetts Mutual Life Insurance Company

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

20.0011. Other invested assets stock distribution	4,398,322	5,018,524	5,075,094
20.0012. Net investment income payment in-kind bonds	2,946,964	2,836,312	11,870,342
20.0013. Other invested assets to bonds	2,582,572		
20.0014. Interest capitalization for long-term debt	1,644,296	3,059,079	3,178,617
20.0015. Transfer from other invested assets to real estate in connection with a change in accounting principle		23,950,611	23,950,611
20.0016. Bonds received as consideration for assignment of deposit-type liabilities		541,489,332	690,233,257
20.0017. Deposit-type liabilities assigned in exchange for bonds		541,489,332	690,233,257
20.0018. Bonds received in exchange for equity of an indirect subsidiary			184,795,000
20.0019. Transfers from bonds to other invested assets			19,216,790
20.0020. Other invested assets received as consideration for a group annuity contract		4,171,683	4,519,894

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	4,318,547,194	4,029,855,200	5,856,832,074
3. Ordinary individual annuities	1,734,267,918	1,584,474,463	2,236,692,493
4. Credit life (group and individual)			
5. Group life insurance	1,176,197,350	1,078,596,935	1,411,032,497
6. Group annuities	7,358,651,286	7,346,456,993	10,543,969,860
7. A & H - group	118,524	127,657	168,621
8. A & H - credit (group and individual)			
9. A & H - other	527,741,032	518,006,701	693,011,064
10. Aggregate of all other lines of business			
11. Subtotal	15,115,523,304	14,557,517,949	20,741,706,609
12. Deposit-type contracts	2,326,273,205	2,112,911,072	3,932,606,315
13. Total	17,441,796,509	16,670,429,021	24,674,312,924
DETAILS OF WRITE-INS			
1001.			
1002.			
1003.			
1098. Summary of remaining write-ins for Line 10 from overflow page			
1099. Totals (Lines 1001 through 1003 plus 1098)(Line 10 above)			

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NOTES TO FINANCIAL STATEMENTS

Note 1 – Summary of Significant Accounting Policies and Going Concern

a. Accounting practices:

The accompanying financial statements of Massachusetts Mutual Life Insurance Company (the Company) have been prepared in conformity with the Statutory Accounting Practices (SAP) of the National Association of Insurance Commissioners (NAIC) and the accounting practices prescribed or permitted by the Commonwealth of Massachusetts Division of Insurance (the Division).

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

	State of Domicile	2016	2015
NET INCOME			
(1) State basis (Page 4, Line 35, Columns 1 & 3)	MA	\$ 117,593,579	\$ 412,180,593
(2) State prescribed practices that increase (decrease) NAIC SAP	-	-	-
(3) State permitted practices that increase (decrease) NAIC SAP	-	-	-
(4) NAIC SAP (1-2-3=4)	MA	<u>\$ 117,593,579</u>	<u>\$ 412,180,593</u>
SURPLUS			
(5) State basis (Page 3, Line 38, Columns 1 & 2)	MA	\$ 16,557,364,727	\$ 14,982,532,137
(6) State prescribed practices that increase (decrease) NAIC SAP	-	-	-
(7) State permitted practices that increase (decrease) NAIC SAP	-	-	-
(8) NAIC SAP (5-6-7=8)	MA	<u>\$ 16,557,364,727</u>	<u>\$ 14,982,532,137</u>

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

c. Accounting policy:

(1-5) No change

(6) For fixed income securities that do not have a fixed schedule of payments, 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 for each type of security.

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 - No change

Note 2 – Accounting Changes and Corrections of Errors

a. The following summarizes the corrections of prior year errors that have been recorded in surplus, net of tax:

	Nine Months Ended September 30, 2016		
	Increase (Decrease) to:		Correction of Asset or Liability Balances
	Prior Years Net Income	Current Year Surplus	
Policyholders' reserves	\$ 51,416,761	\$ 51,416,761	\$ (51,416,761)
Partnerships and limited liability companies	-	4,646,968	(4,646,968)
Federal income tax receivable	(11,955,610)	(11,955,610)	11,955,610
Fees and other income	(2,472,150)	(2,472,150)	2,472,150
Total	<u>\$ 36,989,001</u>	<u>\$ 41,635,969</u>	<u>\$ (41,635,969)</u>
	Nine Months Ended September 30, 2015		
	Increase (Decrease) to:		Correction of Asset or Liability Balances
	Prior Years Net Income	Current Year Surplus	
Policyholders' reserves	\$ 10,725,000	\$ 10,725,000	\$ (10,725,000)
Policyholders' benefits	4,229,311	4,229,311	(4,229,311)
Net investment income	(1,005,469)	(1,005,469)	(1,005,469)
Total	<u>\$ 13,948,842</u>	<u>\$ 13,948,842</u>	<u>\$ (15,959,780)</u>

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

NOTES TO FINANCIAL STATEMENTS

b. Adoption of new accounting standards

In March 2015, the NAIC adopted the requirements of Accounting Standards Update (ASU) No. 2014-15, *Presentation of Financial Statements – Going Concern (Topic 205): Disclosure of Uncertainties about an Entity’s Ability to Continue as a Going Concern*, which led to non-substantive revisions to Statement of Statutory Accounting Principle (SSAP) No. 1, *Accounting Policies, Risks & Uncertainties, and Other Disclosures*; SSAP No. 48, *Joint Ventures, Partnerships and Limited Liability Companies*; SSAP No. 68, *Business Combinations and Goodwill*; and SSAP No. 97, *Investments in Subsidiary, Controlled and Affiliated (SCA) Entities*, which is effective on December 31, 2016. The ASU requires management of an entity to evaluate whether or not there is substantial doubt about the entity’s ability to continue as a going concern and, if so, disclose that fact. The adoption of this guidance did not have an impact on the Company’s financial statements.

In April and August 2016, the NAIC adopted and made effective modifications to SSAP No. 1, *Accounting Policies, Risks and Other Disclosures*. The modifications clarify the disclosure presentation for permitted and prescribed practices, as well as clarify that the disclosure shall include practices that result in different statutory accounting reporting (such as gross or net) presentations that differ from the Accounting Practices and Procedures (AP&P) Manual. This clarification did not have an impact on the Company as the Company currently does not have any permitted or prescribed practices.

In April 2016, the NAIC adopted and made effective modifications to SSAP No. 1, *Accounting Policies, Risks and Other Disclosures*. The modifications clarify that disclosure of restricted assets should be included in the annual financial statements, and, pursuant to the AP&P manual preamble, in the interim financial statements if significant changes have occurred since the annual statement. This clarification did not have an impact on the Company’s financial statements.

In June, 2016, the NAIC adopted and made effective a modification to SSAP No. 92, *Postretirement Benefits Other than Pensions*, and SSAP No. 102, *Pensions*. The modification allows the use of the spot yield curve method as an alternative to the single weighted-average discount rate to measure net periodic benefit costs. Under SSAPs No. 92 and 102, the most commonly used measurement approach is to develop a single weighted-average discount rate determined at the pension plan measurement date based on the projected future benefit payments used in determining the pension obligation. The new alternative spot yield curve approach measures the service cost and interest cost components of net periodic benefit costs by using individual duration-specific spot discount rates derived from an acceptable high-quality corporate bond yield curve and matched with separate cash flows for each future year. The Company is currently reviewing this guidance to determine if this alternative method should be elected during the fourth quarter pension plan measurement process.

In June 2016, the NAIC adopted and made effective modifications to SSAP No. 97, *Investments in SCA Entities*. The modifications clarify which entities are subject to the SCA disclosure and add a new appendix detailing the filing guidance that was previously included within the Purposes and Procedures Manual of the NAIC Investment Analysis Office for SCA entities. These modifications did not have an impact on the Company’s financial statements.

In June 2016, the NAIC adopted modifications to SSAP No. 2, *Cash, Drafts and Short-Term Investments*, SSAP No. 26, *Bonds, Excluding Loan-backed and Structured Securities*, and SSAP No. 30, *Unaffiliated Common Stock*, which were effective September 30, 2016. These modifications clarified the accounting for short-term investments and the classification of Money Market Mutual Funds registered under the Investment Company Act of 1940 (the Act) and regulated under rule 2a-7 of the Act as short-term investments under SSAP No. 2, whether they were accounted for under SSAP No. 26 or SSAP No. 30. These modifications did not have a significant impact on the Company’s financial statements.

In August 2016, the NAIC adopted and made effective modifications to SSAP No. 86, *Accounting for Derivative Instruments and Hedging, Income Generation, and Replication (Synthetic Asset) Transactions*. The modifications incorporate swaptions, contracts granting the owner the right but not the obligation to enter into an underlying swap, as an example of a derivative instrument. This modification did not have an impact on the Company’s financial statements.

In August 2016, the NAIC adopted and made effective modifications to SSAP No. 51, *Life Contracts*, to clarify that annual assumption changes from reserving methods used in principles-based reserving (PBR) would not qualify as a change in valuation basis. Changes in valuation basis are recorded in surplus instead of income. This modification was made to accommodate PBR which becomes effective January 1, 2017. The adoption of the modification did not have an impact on the Company’s financial statements.

Note 3 – Business Combinations and Goodwill

- a. On July 1, 2016, the Company acquired the MetLife Premier Client Group (MPCG), a U.S. retail advisor force, which includes an affiliated broker dealer, MSI Financial Services (MSIFS), formerly known as MetLife Securities, Inc. The advisor force includes more than 40 local sales and advisory operations and approximately 4,000 advisors across the country, which expands the Company’s existing MMFA to more than 9,200 financial professionals. The purchase of MSIFS was accounted for under the statutory purchase method, classified as investments in common stocks – subsidiaries and affiliates at a cost of \$126,045,875 and resulted in the recognition of statutory goodwill of \$38,245,161. The Company also paid \$161,413,931 of cash to acquire the remaining MPCG assets of \$197,264,120 and liabilities of \$35,850,189. The remaining MPCG assets include \$163,808,568 of assets that are nonadmitted. \$956,129 of goodwill has been amortized as of September 30, 2016.

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

NOTES TO FINANCIAL STATEMENTS

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

	(1) Amortized Cost Basis Before OTTI	(2) OTTI Recognized in Loss		(3) Fair Value 1-(2a+2b)
		(2a) Interest	(2b) Non-interest	
OTTI recognized in the first quarter				
a. Intent to sell	\$ -	\$ -	\$ -	\$ -
b. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	<u>57,985,071</u>	<u>-</u>	<u>2,201,092</u>	<u>55,783,979</u>
c. Total first quarter	<u>\$ 57,985,071</u>	<u>\$ -</u>	<u>\$ 2,201,092</u>	<u>\$ 55,783,979</u>
OTTI recognized in the second quarter				
d. Intent to sell	\$ -	\$ -	\$ -	\$ -
e. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	<u>49,097,217</u>	<u>-</u>	<u>894,514</u>	<u>48,202,703</u>
f. Total second quarter	<u>\$ 49,097,217</u>	<u>\$ -</u>	<u>\$ 894,514</u>	<u>\$ 48,202,703</u>
OTTI recognized in the third quarter				
g. Intent to sell	\$ -	\$ -	\$ -	\$ -
h. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	<u>44,266,478</u>	<u>-</u>	<u>2,375,942</u>	<u>41,890,535</u>
i. Total third quarter	<u>\$ 44,266,478</u>	<u>\$ -</u>	<u>\$ 2,375,942</u>	<u>\$ 41,890,535</u>
OTTI recognized in the fourth quarter				
j. Intent to sell	\$ -	\$ -	\$ -	\$ -
k. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
l. Total fourth quarter	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
m. Annual aggregate total		<u>\$ -</u>	<u>\$ 5,471,548</u>	

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

NOTES TO FINANCIAL STATEMENTS

- (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
126671UU8	\$ 30,843.19	\$ 30,347.96	\$ (495.23)	\$ 30,347.96	\$ 27,811.82	March 31, 2016
17307GKZ0	114,400.45	113,135.78	(1,264.67)	113,135.78	111,921.16	March 31, 2016
18974BAA7	466,325.47	430,445.97	(35,879.50)	430,445.97	421,446.58	March 31, 2016
18974BAN9	237,052.69	213,790.46	(23,262.23)	213,790.46	222,125.05	March 31, 2016
22943HAD8	5,057,583.09	4,776,999.74	(280,583.35)	4,776,999.74	3,447,059.39	March 31, 2016
466247BC6	20,209.32	19,688.63	(520.69)	19,688.63	20,079.24	March 31, 2016
55274SAM3	277,221.19	256,965.37	(20,255.82)	256,965.37	260,976.03	March 31, 2016
57643QAE5	4,663,518.83	4,642,799.60	(20,719.23)	4,642,799.60	4,586,797.71	March 31, 2016
585525FC7	31,899.50	31,602.82	(296.68)	31,602.82	30,654.61	March 31, 2016
5899292N7	517,738.49	510,348.31	(7,390.18)	510,348.31	511,562.29	March 31, 2016
589929N38	678,883.40	670,090.23	(8,793.17)	670,090.23	666,652.96	March 31, 2016
77277LAF4	25,446,697.15	24,419,541.90	(1,027,155.25)	24,419,541.90	34,016,670.90	March 31, 2016
77277LAH0	1,278,117.51	1,228,012.37	(50,105.14)	1,228,012.37	3,277,728.00	March 31, 2016
77277LAJ6	18,098,147.19	17,388,773.03	(709,374.16)	17,388,773.03	21,405,612.42	March 31, 2016
88157QAL2	493,785.09	486,131.81	(7,653.28)	486,131.81	1,007,051.00	March 31, 2016
9292276K7	572,648.05	565,304.85	(7,343.20)	565,304.85	564,247.57	March 31, 2016
07384MWF5	350,465.82	348,536.87	(1,928.95)	348,536.87	336,256.24	June 30, 2016
126671UU8	28,942.52	28,784.87	(157.65)	28,784.87	26,573.62	June 30, 2016
22541NMA4	310,649.58	310,078.85	(570.73)	310,078.85	310,904.52	June 30, 2016
22943HAD8	4,631,596.22	4,599,316.44	(32,279.78)	4,599,316.44	3,303,541.40	June 30, 2016
589929N38	339,683.28	335,332.39	(4,350.89)	335,332.39	330,467.22	June 30, 2016
77277LAF4	24,419,541.91	23,947,152.29	(472,389.62)	23,947,152.29	33,913,277.10	June 30, 2016
77277LAH0	1,228,012.37	1,204,968.98	(23,043.39)	1,204,968.98	3,268,749.60	June 30, 2016
77277LAJ6	17,388,773.03	17,062,531.31	(326,241.72)	17,062,531.31	21,340,549.98	June 30, 2016
79549ASM2	399,551.91	366,000.65	(33,551.26)	366,000.65	377,090.63	June 30, 2016
07384MWF5	255,256.61	255,223.62	(32.99)	255,223.62	246,906.43	September 30, 2016
77277LAF4	23,947,152.29	22,588,588.71	(1,358,563.58)	22,588,588.71	34,387,995.60	September 30, 2016
77277LAH0	1,204,968.98	1,138,697.58	(66,271.40)	1,138,697.58	3,314,505.60	September 30, 2016
77277LAJ6	17,062,531.30	16,124,279.85	(938,251.45)	16,124,279.85	21,639,275.28	September 30, 2016
86358RA23	1,796,568.34	1,783,745.33	(12,823.01)	1,783,745.33	1,711,383.05	September 30, 2016
Totals	\$ 151,348,764.77	\$ 145,877,216.57	\$ (5,471,548.20)	\$ 145,877,216.57	\$ 195,085,873.00	

- (4) As of September 30, 2016, 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	\$ (45,202,033)
2. 12 months or longer	\$ (115,734,270)
b. The aggregate related fair value of securities with unrealized losses:	
1. Less than 12 months	\$ 1,493,429,439
2. 12 months or longer	\$ 5,362,874,302

- (5) No change

- e. Repurchase agreements:

- (1-2) No change

- (3) The Company does not have any securities lending transactions administered by an affiliated agent.

- (4-6) No change

- f. Real estate - No change

- g. Low income housing tax credit properties - No change

- h. Restricted assets - No change

- i. Working capital finance investments - The Company did not invest in working capital finance investments.

- j. 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.

- k. Structured notes - No change

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

Note 7 – Investment Income – No change

NOTES TO FINANCIAL STATEMENTS

Note 8 – Derivative Instruments - No change

Note 9 – Income Taxes – No change

Note 10 – Information Concerning Parent, Subsidiaries and Affiliates

a-c. The Company received cash dividends, recorded in net investment income, from MassMutual Holding LLC (MMHLLC) of \$338,076,491 through the nine months ended September 30, 2016 and \$200,000,000 through the nine months ended September 30, 2015.

MassMutual contributed capital of \$845,418,422 to MMHLLC through the nine months ended September 30, 2016 and \$12,000,000 through the nine months ended September 30, 2015. As part of the current year capital contributions, MassMutual contributed nine investments with a book value of \$670,164,387 to MMHLLC in 2016. This contribution was recorded at book value, and accordingly, there was no gain or loss recognized.

d-f. No change

g. Subsidiaries of MMHLLC are involved in litigation and investigations arising in the ordinary course of their business, which seek compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably should 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 \$900,000,000 as of September 30, 2016.

(2) FHLB Boston capital stock

a. Aggregate totals:

1. Current year:

September 30, 2016

	1 Total 2+3	2 General Account	3 Separate Account
(a) Membership stock - class A	\$ -	\$ -	-
(b) Membership stock - class B	25,000,000	25,000,000	-
(c) Activity stock	49,500,000	49,500,000	-
(d) Excess stock	-	-	-
(e) Aggregate total	<u>\$ 74,500,000</u>	<u>\$ 74,500,000</u>	<u>\$ -</u>
(f) Actual borrowing capacity as determined by the Insurer	\$ 2,000,000,000	\$ 2,000,000,000	\$ -

2. Prior year-end:

December 31, 2015

	1 Total 2+3	2 General Account	3 Separate Account
(a) Membership stock - class A	\$ -	\$ -	-
(b) Membership stock - class B	25,000,000	25,000,000	-
(c) Activity stock	49,500,000	49,500,000	-
(d) Excess stock	-	-	-
(e) Aggregate total	<u>\$ 74,500,000</u>	<u>\$ 74,500,000</u>	<u>\$ -</u>
(f) Actual borrowing capacity as determined by the Insurer	\$ 900,000,000	\$ 900,000,000	\$ -

b. Membership stock (class A and B) eligible and not eligible for redemption:

Nine Months Ended September 30, 2016

Membership Stock	Current Year Total	Not Eligible for Redemption	Less Than 6 Months	6 Months to Less Than 1 Year	1 to Less Than 3 Years	3 to 5 Years
1. Class A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2. Class B	25,000,000	25,000,000	-	-	-	-

NOTES TO FINANCIAL STATEMENTS

(3) Collateral pledged to FHLB:

a. Amount pledged as of September 30, 2016:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 1,236,170,654	\$ 1,133,990,704	\$ 1,105,309,653

2. Current year general account:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 1,236,170,654	\$ 1,133,990,704	\$ 1,105,309,653

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	\$ 1,237,454,703	\$ 1,108,805,989	\$ 1,103,891,028

b. Maximum amount pledged for the nine months ended September 30, 2016:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 1,278,741,113	\$ 1,160,288,503	\$ 1,107,803,111

2. Current year general account:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 1,278,741,113	\$ 1,160,288,503	\$ 1,107,803,111

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	\$ 1,272,134,217	\$ 1,133,723,274	\$ 1,107,271,444

NOTES TO FINANCIAL STATEMENTS

(4) Borrowing from FHLB:

a. Amount:

1. Current year:

	September 30, 2016			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,105,309,653	1,105,309,653	-	1,105,309,653
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,105,309,653</u>	<u>\$ 1,105,309,653</u>	<u>\$ -</u>	<u>\$ 1,105,309,653</u>

2. Prior Year-end:

	December 31, 2015			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,103,891,028	1,103,891,028	-	1,103,891,028
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,103,891,028</u>	<u>\$ 1,103,891,028</u>	<u>\$ -</u>	<u>\$ 1,103,891,028</u>

b. Maximum Amount:

	Nine Months Ended September 30, 2016		
	1 Total 2+3	2 General Account	3 Separate Account
1. Debt	\$ -	\$ -	\$ -
2. Funding	1,107,803,111	1,107,803,111	-
3. Other	-	-	-
4. Aggregate	<u>\$ 1,107,803,111</u>	<u>\$ 1,107,803,111</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 provides multiple benefit plans including retirement plans and life and health benefits to employees, certain employees of unconsolidated subsidiaries, agents and retirees.

(2-3) No change

- (4) Components of net periodic benefit cost:

	Nine Months Ended September 30,					
	2016	2015	2016	2015	2016	2015
	Pension Benefits		Postretirement Benefits		Special or Contractual Benefits Per SSAP No 11	
a. Service cost	\$ 75,187,097	\$ 53,654,676	\$ 8,580,000	\$ 6,643,500	\$ 1,931,250	\$ 1,949,250
b. Interest cost	84,815,087	76,202,244	9,168,750	10,762,500	243,750	75,750
c. Expected return on plan assets	(108,669,383)	(115,634,954)	(76,500)	(75,000)	-	-
d. Transition asset or obligation	-	-	-	-	-	-
e. Gains and losses	52,743,703	48,881,022	2,240,250	2,139,750	-	-
f. Prior service cost or (credit)	2,342,013	2,710,983	(2,364,750)	3,339,000	-	-
g. Gain or loss recognized due to settlement or curtailment	-	-	-	-	-	-
h. Total net periodic benefit cost	<u>\$ 106,418,517</u>	<u>\$ 65,813,971</u>	<u>\$ 17,547,750</u>	<u>\$ 22,809,750</u>	<u>\$ 2,175,000</u>	<u>\$ 2,025,000</u>

(5-21) No change

b-j. No change

NOTES TO FINANCIAL STATEMENTS

Note 13 – Capital and Surplus, Shareholders' Dividend Restrictions and Quasi-Reorganizations - No change

Note 14 – Liabilities, Contingencies and Assessments

a. Contingent commitments

(1) In the normal course of business, the Company enters into letter of credit arrangements. As of September 30, 2016, the Company had approximately \$102,458,215 of outstanding letter of credit arrangements and \$159,498,981 as of December 31, 2015. As of September 30, 2016 and December 31, 2015, the Company did not have any funding requests attributable to these letter of credit arrangements.

(2) Guarantees:

In the normal course of business the Company enters into guarantees related to employee and retirement benefits, the maintenance of subsidiary regulatory capital, surplus levels and liquidity sufficient to meet certain obligations, and other property lease arrangements. If the Company were to recognize a liability, the financial statement impact would be to recognize either an expense or an investment in a SCA entity. The Company has no expectations for recoveries from third parties should these guarantees be triggered. As of September 30, 2016 and 2015, the Company had no outstanding obligations to any obligor attributable to these guarantees.

b. Assessments - No change

c. Gain contingencies - No change

d. Claims related to extra contractual obligations - No change

e. All other contingencies:

The Company is involved in litigation arising in the normal course of business, which seeks compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably should 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 results of operations for a particular period depending upon, among other factors, the size of the loss and the level of the Company's results of operations for the period.

In 2008, the Company and MMHLLC were named as defendants in several lawsuits filed in federal and state courts in Colorado, Massachusetts, New Mexico, New York and Washington by investors seeking to recover investments they allegedly lost as a result of the "Ponzi" scheme run by Bernard L. Madoff through his company, Bernard L. Madoff Investment Securities, LLC. Certain of these lawsuits also named Tremont Group Holdings, Inc. and certain of its affiliates, and certain of their respective current or former officers and directors, as defendants. The plaintiffs alleged a variety of state law and federal security claims against the defendants. In 2015, the companies entered into settlement agreements and paid \$38,500,000 in connection with these agreements. The Company recorded the loss as a change in net unrealized capital losses, net of tax, in the 2015 Statutory Statements of Changes in Surplus.

In 2009, several lawsuits were filed as putative class actions and later consolidated before the federal district court in Colorado in connection with the investment performance of Oppenheimer Rochester California Municipal Fund (the California Fund Suit). This fund was advised by OppenheimerFunds, Inc. (OFI) and distributed by its subsidiary OppenheimerFunds Distributor, Inc. (OFDI). The plaintiffs in the California Fund Suit asserted claims against the Company, OFI, OFDI and certain present and former trustees and officers of the fund under federal securities laws and allege, among other things, the disclosure documents of the fund contained misrepresentations and omissions, that the investment policies of the fund were not followed, and that the fund and the other defendants violated federal securities laws and regulations and certain state laws. Plaintiffs filed an amended complaint and defendants filed a motion to dismiss. In 2011, the district court issued an order that granted in part and denied in part the defendants' motion to dismiss. In March 2015, the district court granted the plaintiffs' motion to certify a class and to appoint class representatives and class counsel. In December 2015, the appeals court denied defendants' petition to appeal the district court's class certification order. Motions for summary judgment are pending. The defendants believe they have substantial defenses and will continue to vigorously defend themselves in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this suit.

In 2009, the Company was named as a defendant in a lawsuit filed in North Carolina state court related to certain losses in a bank owned life insurance (BOLI) policy issued by the Company. The plaintiff alleges, among other things, fraud, breach of contract and breach of fiduciary duty claims against the Company, and it seeks to recover losses arising from investments pursuant to the BOLI policy. The parties have completed discovery and are preparing for trial. In May 2015, the plaintiff voluntarily dismissed its complaint and refiled the case. The Company believes it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this suit.

In 2010, Christina Chavez (Chavez) filed a putative class action complaint in California state court against the Company. Chavez alleges that the Company breached its obligations to its term life policyholders in California by not paying dividends on those policies. The parties are engaged in active discovery. In 2014, the parties participated in a mediation of their dispute, which did not result in a settlement. In July 2015, the judge certified a subclass consisting of one of twenty-six potential term products at issue in this case. All remaining subclasses were dismissed without prejudice. The case is expected to proceed to trial in 2017. The Company believes it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

In 2012, Karen Bacchi filed a putative class action complaint against the Company in federal court in Massachusetts alleging that the Company breached its contracts by allegedly failing to distribute surplus in excess of the statutorily prescribed limit. In 2015, the court denied the Company's motion to dismiss. In April 2016, discovery was completed. Summary judgment motions are currently pending in court. The Company believes that it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

In 2013, seven participants in the MassMutual Thrift Plan (the Thrift Plan) filed a putative class action complaint in federal court in Massachusetts. The complaint alleged, among other things, that the Company, the Investment Fiduciary Committee, the Thrift Plan Administrative Committee and individually named "fiduciaries" breached their duties by allowing the Thrift Plan to pay excessive fees and by engaging in self-dealing. In June 2016, the parties reached a tentative settlement agreement, which has been preliminarily approved by the court. The Company expects final court approval by the end of the year. The final settlement is not expected to have a significant financial impact on the Company.

NOTES TO FINANCIAL STATEMENTS

In January 2016, Deborah Bishop-Bristol (Bishop) filed a putative class action complaint against the Company in federal court in Connecticut. The lawsuit alleges that the Company breached its fiduciary duty by controlling the crediting rate, and therefore the compensation earned on the stable value products. Further, the complaint alleges that the Company failed to adequately disclose the pricing spread and accepted excessive fees for investment, management and administrative services. In April 2016, the court granted the Company's motion to transfer the case to federal court in Massachusetts. The Company believes that it has substantial defenses and will vigorously defend itself in this action. No reasonable estimate can be made regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

f. **Regulatory matters:**

The Company is subject to governmental and administrative proceedings and regulatory inquiries, examinations and investigations in the ordinary course of its business. In connection with regulatory inquiries, examinations and investigations, the Company has been contacted by various regulatory agencies including, among others, the Securities and Exchange Commission, the U.S. Department of Labor and various state insurance departments and state attorneys general. The Company has cooperated fully with these regulatory agencies with regard to their inquiries, examinations and investigations and has responded to information requests and comments.

Market volatility in the financial services industry over the last several years has contributed to increased scrutiny of the entire financial services industry. Therefore, the Company believes that it is reasonable to expect that proceedings, regulatory inquiries, examinations and investigations into the insurance and financial services industries will continue for the foreseeable future. Additionally, new industry-wide legislation, rules and regulations could significantly affect the insurance and financial services industries as a whole. It is the opinion of management that the ultimate resolution of these regulatory inquiries, examinations, investigations, legislative and regulatory changes of which we are aware will not materially impact the Company's financial position or liquidity. However, the outcome of a particular matter may be material to the Company's operating results for a particular period depending upon, among other factors, the financial impact of the matter and the level of the Company's results of operations for the period.

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 2016 or 2015.

(3) No change

(4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2016 or 2015.

(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 through the third quarter ended September 30, 2016 that were reacquired within 30 days of the sale date.

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

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

Note 20 – Fair Value Measurements

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

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

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

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

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

NOTES TO FINANCIAL STATEMENTS

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 Barclay's Aggregate Bond Index, subject to certain adjustments, and the installment period is equivalent to the duration of the Company's invested asset portfolio.

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

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

	September 30, 2016			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Bonds:				
States, territories and possessions	\$ -	\$ 7,528,360	\$ -	\$ 7,528,360
Special revenue	-	2,647,131	-	2,647,131
Industrial and miscellaneous	-	10,537,367	52,701,351	63,238,718
Parent, subsidiaries and affiliates	-	85,547,870	47,619,768	133,167,638
Preferred stocks	-	-	2,838,122	2,838,122
Common stock - subsidiaries and affiliates	508,799,577	24,412,622	204,040,758	737,252,957
Common stock - unaffiliated	576,451,724	479,372,010	189,563,203	1,245,386,937
Derivatives:				
Interest rate swaps	-	13,961,791,888	-	13,961,791,888
Options	-	748,554,384	-	748,554,384
Currency swaps	-	810,833,225	-	810,833,225
Forward contracts	-	24,400,213	-	24,400,213
Treasury forwards	-	25,050	-	25,050
Separate account assets	40,492,711,947	22,561,953,690	748,893,188	63,803,558,825
Total financial assets carried at fair value	<u>\$ 41,577,963,248</u>	<u>\$ 38,717,603,810</u>	<u>\$ 1,245,656,390</u>	<u>\$ 81,541,223,448</u>
Financial liabilities:				
Derivatives:				
Interest rate swaps	\$ -	\$ 11,274,594,414	\$ -	\$ 11,274,594,414
Options	-	5,228,100	-	5,228,100
Currency swaps	-	66,725,266	-	66,725,266
Forward contracts	-	4,810,098	-	4,810,098
Credit default swaps	-	1,061,583	-	1,061,583
Total financial liabilities carried at fair value	<u>\$ -</u>	<u>\$ 11,352,419,461</u>	<u>\$ -</u>	<u>\$ 11,352,419,461</u>

For the nine months ended September 30, 2016, there were no significant transfers between Level 1 and Level 2.

NOTES TO FINANCIAL STATEMENTS

	December 31, 2015			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Bonds:				
States, territories and possessions	\$ -	\$ 2,025,290	\$ -	\$ 2,025,290
Special revenue	-	4,387,512	-	4,387,512
Industrial and miscellaneous	-	18,406,412	21,822,270	40,228,682
Parent, subsidiaries and affiliates	-	46,645,754	44,987,196	91,632,950
Preferred stocks	-	3,335,616	2,433,928	5,769,544
Common stock - subsidiaries and affiliates	307,722,508	93,756,526	39,651,503	441,130,537
Common stock - unaffiliated	444,993,908	515,494,915	179,143,468	1,139,632,291
Separate account assets	39,355,125,013	20,305,097,915	725,326,815	60,385,549,743
Derivatives:				
Interest rate swaps	-	8,032,773,588	-	8,032,773,588
Options	-	622,038,103	-	622,038,103
Currency swaps	-	536,223,936	-	536,223,936
Forward contracts	-	54,705,003	-	54,705,003
Credit default swaps	-	2,109,518	-	2,109,518
Total financial assets carried at fair value	\$ 40,107,841,429	\$ 30,237,000,088	\$ 1,013,365,180	\$ 71,358,206,697
Financial liabilities:				
Derivatives:				
Interest rate swaps	\$ -	\$ 5,796,878,600	\$ -	\$ 5,796,878,600
Options	-	7,137,990	-	7,137,990
Currency swaps	-	4,362,189	-	4,362,189
Forward contracts	-	12,530,171	-	12,530,171
Credit default swaps	-	1,971,711	-	1,971,711
Total financial liabilities carried at fair value	\$ -	\$ 5,822,880,661	\$ -	\$ 5,822,880,661

For the year ended December 31, 2015, there were no significant transfers between Level 1 and Level 2.

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

	Balance as of 01/01/2016		Transfers ⁽¹⁾		Gains (Losses) in Net Income		Gains (Losses) in Surplus		Purchases	Issuances	Sales	Settlements	Balance as of 09/30/2016
	In	Out	Net Income	Surplus									
Financial assets:													
Bonds:													
Industrial and miscellaneous	\$ 21,822,270	\$ 54,295,788	\$ (400,000)	\$ (11,254,441)	\$ (9,363,078)	\$ -	\$ 2,614,259	\$ (38,131)	\$ (4,975,316)	\$ 52,701,351			
Parent, subsidiaries and affiliates	44,987,196	9,117,063	-	218,852	2,478,376	1,953,045	-	(2,523,873)	(8,610,891)	47,619,768			
Preferred stock	2,433,928	-	(1,887,675)	-	(25,170)	2,317,039	-	-	-	2,838,122			
Common stock - subsidiaries and affiliates	39,651,503	15,896,989	-	-	7,280,283	87,800,715	17,844,678	-	35,566,590	204,040,758			
Common stock - unaffiliated	179,143,468	-	-	469,690	710,620	11,419,144	-	(2,179,719)	-	189,563,203			
Derivatives:													
Separate account assets	725,326,815	5,096,000	-	17,257,652	-	112,099,946	-	(104,410,946)	(6,476,279)	748,893,188			
Total financial assets	\$ 1,013,365,180	\$ 84,405,840	\$ (2,287,675)	\$ 6,691,753	\$ 1,081,031	\$ 215,589,889	\$ 20,458,937	\$ (109,152,669)	\$ 15,504,104	\$ 1,245,656,390			

⁽¹⁾Transfers include assets that are either no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but change in lower of cost or market carrying basis. It, also, includes assets that are either 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 lower of cost or market carrying basis.

	Balance as of 01/01/2015		Transfers ⁽¹⁾		Gains (Losses) in Net Income		Gains (Losses) in Surplus		Purchases	Issuances	Sales	Settlements	Balance as of 12/31/2015
	In	Out	Net Income	Surplus									
Financial assets:													
Bonds:													
Industrial and miscellaneous	\$ 109,015,810	\$ -	\$ (43,673,606)	\$ (40,000,056)	\$ 1,249,215	\$ -	\$ 3,166,985	\$ (4,183,244)	\$ (3,752,834)	\$ 21,822,270			
Parent, subsidiaries, and affiliates	78,490,924	-	(26,558,966)	(368,793)	(5,108,982)	-	-	-	(1,466,987)	44,987,196			
Preferred Stock	3,496,368	-	(1,184,136)	-	121,696	-	-	-	-	2,433,928			
Common stock - subsidiaries and affiliates	81,063,876	3,552,769	-	8,120,543	(28,561,294)	460,000,237	35,064,941	(493,340,895)	(26,248,674)	39,651,503			
Common stock - unaffiliated	159,740,306	-	(4,650,981)	10,561,496	(10,797,059)	36,764,277	7,234	(11,955,229)	(526,576)	179,143,468			
Separate account assets	599,966,983	-	-	25,699,837	-	168,511,837	-	(68,227,094)	(624,748)	725,326,815			
Total financial assets	\$ 1,031,774,267	\$ 3,552,769	\$ (76,067,689)	\$ 4,013,027	\$ (43,096,424)	\$ 665,276,351	\$ 38,239,160	\$ (577,706,462)	\$ (32,619,819)	\$ 1,013,365,180			

⁽¹⁾Transfers include assets that are either 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 lower of cost or market carrying basis.

NOTES TO FINANCIAL STATEMENTS

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. There are no financial assets or liabilities classified as Level 3 in 2016 and 2015.

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 (OIS) 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.

NOTES TO FINANCIAL STATEMENTS

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

	September 30, 2016					
	Aggregate	Admitted				Not
	Fair Value	Assets	Level 1	Level 2	Level 3	Practicable (Carrying Value)
Financial assets:						
Bonds:						
U. S. government and agencies	\$ 9,513,643,359	\$ 8,406,013,736	\$ -	\$ 9,509,440,242	\$ 4,203,117	\$ -
All other governments	1,060,502,546	978,769,287	-	985,618,436	74,884,110	-
States, territories and possessions	746,201,779	663,520,979	-	746,201,779	-	-
Political subdivisions	557,925,425	496,423,276	-	557,925,425	-	-
Special revenue	6,522,430,938	5,542,890,212	-	6,473,757,779	48,673,159	-
Industrial and miscellaneous	67,789,372,554	63,945,878,119	-	40,866,099,324	26,923,273,230	-
Parent, subsidiaries and affiliates	6,731,593,116	6,446,443,211	-	584,124,112	6,147,469,004	-
Preferred stocks	499,241,329	490,812,085	12,758,919	32,571,191	453,911,219	-
Common stocks - subsidiaries and affiliates ⁽¹⁾	737,252,957	737,252,957	508,799,577	24,412,622	204,040,758	-
Common stocks - unaffiliated	1,245,386,937	1,245,386,937	576,451,724	479,372,010	189,563,203	-
Mortgage loans - commercial	20,610,768,571	19,658,798,471	-	-	20,610,768,571	-
Mortgage loans - residential	1,714,980,537	1,729,913,056	-	-	1,714,980,537	-
Cash, cash equivalents and short-term investments	3,217,413,543	3,217,413,543	157,400,614	3,060,012,929	-	-
Derivatives:						
Interest rate swaps	15,852,392,338	13,961,791,888	-	15,852,392,338	-	-
Options	748,554,384	748,554,384	-	748,554,384	-	-
Currency swaps	810,833,225	810,833,225	-	810,833,225	-	-
Forward contracts	24,400,213	24,400,213	-	24,400,213	-	-
Treasury forwards	25,050	25,050	-	25,050	-	-
Credit default swaps	33,825,887	21,758,228	-	33,825,887	-	-
Separate account assets	63,803,558,825	63,803,558,825	40,492,711,947	22,561,953,690	748,893,188	-
Financial liabilities:						
Repurchase agreements	4,890,404,600	4,890,404,600	-	4,890,404,600	-	-
Commercial paper and other borrowed money	291,819,520	291,819,520	-	249,949,549	41,869,971	-
Guaranteed interest contracts	6,550,264,616	6,466,786,639	-	-	6,550,264,616	-
Group annuity contracts and other deposits	18,979,122,045	18,092,727,176	-	-	18,979,122,045	-
Individual annuity contracts	9,199,465,014	6,842,203,180	-	-	9,199,465,014	-
Supplementary contracts	1,147,181,381	1,146,014,171	-	-	1,147,181,381	-
Derivatives:						
Interest rate swaps	11,274,594,414	11,274,594,414	-	11,274,594,414	-	-
Options	5,228,100	5,228,100	-	5,228,100	-	-
Currency swaps	66,725,266	66,725,266	-	66,725,266	-	-
Forward contracts	4,810,098	4,810,098	-	4,810,098	-	-
Credit default swaps	8,417,244	8,024,914	-	8,417,244	-	-

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had a statutory carrying value of \$10,456,515,132.

NOTES TO FINANCIAL STATEMENTS

December 31, 2015

	Aggregate		Admitted			Not Practicable (Carrying Value)
	Fair Value	Assets	Level 1	Level 2	Level 3	
Financial assets:						
Bonds:						
U. S. government and agencies	\$ 8,526,297,862	\$ 8,015,146,491	\$ -	\$ 8,521,541,570	\$ 4,756,292	\$ -
All other governments	762,254,457	761,981,449	-	690,626,966	71,627,491	-
States, territories and possessions	775,665,283	726,674,452	-	775,665,283	-	-
Political subdivisions	503,245,574	468,247,496	-	503,245,574	-	-
Special revenue	6,060,747,491	5,414,143,402	-	6,024,457,987	36,289,504	-
Industrial and miscellaneous	58,259,806,990	57,983,900,822	-	35,009,485,843	23,250,321,147	-
Parent, subsidiaries and affiliates	6,340,300,045	6,176,502,009	-	645,604,264	5,694,695,781	-
Preferred stocks	520,240,389	532,949,649	12,936,825	30,465,429	476,838,135	-
Common stock - subsidiaries and affiliates ⁽¹⁾	441,130,537	441,130,537	307,722,508	93,756,526	39,651,503	-
Common stock - unaffiliated	1,139,632,291	1,139,632,291	444,993,908	515,494,915	179,143,468	-
Mortgage loans - commercial	20,815,373,187	20,286,922,792	-	-	20,815,373,187	-
Mortgage loans - residential	1,683,836,408	1,720,806,602	-	-	1,683,836,408	-
Cash, cash equivalents and short-term investments	3,048,645,110	3,048,645,110	174,097,018	2,874,548,092	-	-
Derivatives:						
Interest rate swaps	8,553,869,196	8,032,773,588	-	8,553,869,196	-	-
Options	622,038,103	622,038,103	-	622,038,103	-	-
Currency swaps	536,223,936	536,223,936	-	536,223,936	-	-
Forward contracts	54,705,003	54,705,003	-	54,705,003	-	-
Credit default swaps	12,936,195	22,337,494	-	12,936,195	-	-
Separate account assets	60,385,549,743	60,385,549,743	39,355,125,013	20,305,097,915	725,326,815	-
Financial liabilities:						
Repurchase agreements	5,130,020,438	5,130,020,438	-	5,130,020,438	-	-
Commercial paper and other borrowed money	276,817,818	276,817,818	-	249,961,873	26,855,945	-
Guaranteed investment contracts and other deposits	5,933,135,866	5,944,199,556	-	-	5,933,135,866	-
Individual annuity contracts	18,667,420,320	17,939,042,206	-	-	18,667,420,320	-
Individual annuity contracts	8,025,472,790	6,501,371,583	-	-	8,025,472,790	-
Supplementary contracts	1,094,675,561	1,093,629,530	-	-	1,094,675,561	-
Derivatives:						
Interest rate swaps	5,839,065,952	5,796,878,600	-	5,839,065,952	-	-
Options	7,137,990	7,137,990	-	7,137,990	-	-
Currency swaps	4,362,189	4,362,189	-	4,362,189	-	-
Forward contracts	12,530,171	12,530,171	-	12,530,171	-	-
Credit default swaps	19,978,040	19,431,763	-	19,978,040	-	-

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$7,519,199,138.

- d. For the nine months ended September 30, 2016, the Company had no investments where it was not practicable to estimate fair value.

Note 21 – Other Items

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

Common stocks of unconsolidated subsidiaries, primarily MMHLLC, are accounted for using the statutory equity method. The Company accounts for the value of MMHLLC at its underlying U.S. generally accepted accounting principles equity value adjusted to remove certain nonadmitted and intangible assets, as well as a portion of its noncontrolling interests (NCI) and appropriated retained earnings, after consideration of MMHLLC's fair value and the Company's capital levels. The Division has affirmed the statutory recognition of the Company's application of the NCI guidelines in MMHLLC's statutory carrying value. However, the Company has limited this recognition to \$2,641,000,000 as of September 30, 2016 and \$2,600,000,000 as of December 31, 2015. The current fair value of MMHLLC remains significantly greater than its statutory carrying value.

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 2015 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 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 quality, 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.

Significant volatility in the financial markets, and government actions taken in response, may exacerbate some of the risks the Company faces. The Company holds investments in energy and certain other commodity sectors, which have experienced similar overall market volatility and declines. With the continued weaker economic outlook in these sectors, there may be an increase in reported default rates or potential downgrades to the ratings of companies exposed to these sectors. In addition, concerns over the solvency of certain countries and sovereignties and the entities that have significant exposure to their debt have created market volatility. This volatility may continue to affect the performance of various asset classes until there is an ultimate resolution of the sovereign debt related concerns.

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, such as the ongoing volatility with respect to the European Union, may 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 us 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) The actual cost reduced by paydowns, carrying value, fair value and related gross realized losses from OTTI of the Company's investments with significant Alt-A and subprime exposure were as follows:

	September 30, 2016			Nine Months Ended September 30, 2016
	Actual Cost	Carrying Value	Fair Value	OTTI
Alt-A:				
a. Residential mortgage-backed securities	\$ 497,319,318	\$ 362,560,626	\$ 438,165,218	\$ (374,538)
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	36,976,519	26,123,765	31,357,644	(651)
f. Other assets	-	-	-	-
g. Total	<u>\$ 534,295,837</u>	<u>\$ 388,684,391</u>	<u>\$ 469,522,862</u>	<u>\$ (375,189)</u>

	September 30, 2016			Nine Months Ended September 30, 2016
	Actual Cost	Carrying Value	Fair Value	OTTI
Subprime:				
a. Residential mortgage-backed securities	\$ 451,029,096	\$ 360,897,964	\$ 423,691,269	\$ (41,857)
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	2,739,686	-	215,700	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	22,358,474	17,098,581	18,491,731	(11,949)
f. Other assets	-	-	-	-
g. Total	<u>\$ 476,127,257</u>	<u>\$ 377,996,545</u>	<u>\$ 442,398,700</u>	<u>\$ (53,806)</u>

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

	December 31, 2015			Year Ended December 31, 2015
	Actual Cost	Carrying Value	Fair Value	OTTI
Alt-A:				
a. Residential mortgage-backed securities	\$ 583,018,752	\$ 426,014,622	\$ 512,932,882	\$ (101,892)
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	43,319,861	30,323,549	36,560,464	(6,257)
f. Other assets	-	-	-	-
g. Total	<u>\$ 626,338,613</u>	<u>\$ 456,338,171</u>	<u>\$ 549,493,346</u>	<u>\$ (108,149)</u>

	December 31, 2015			Year Ended December 31, 2015
	Actual Cost	Carrying Value	Fair Value	OTTI
Subprime:				
a. Residential mortgage-backed securities	\$ 525,983,338	\$ 425,091,644	\$ 492,047,313	\$ (16,036)
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	2,739,686	-	215,700	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	26,673,128	20,749,354	22,339,498	(4,934)
f. Other assets	-	-	-	-
g. Total	<u>\$ 555,396,152</u>	<u>\$ 445,840,998</u>	<u>\$ 514,602,511</u>	<u>\$ (20,970)</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

NOTES TO FINANCIAL STATEMENTS

Note 22 – Events Subsequent

Management of the Company has evaluated subsequent events through November 11, 2016, the date the financial statements were available to be issued.

On October 1, 2016, the Company purchased MassMutual International LLC (MMI) from MMHLLC for \$3,904,116,609, which represented MMHLLC's carrying value of MMI. In exchange for MMI, the Company transferred cash and assets to MMHLLC. As this transaction was between related parties no gain or loss was recorded associated with this transaction. This purchase was part of the Company's execution of its' operating strategy and segregated its foreign insurance subsidiaries from its asset manager subsidiaries.

On November 1, 2016, the Company issued a \$250,000,000 funding agreement with the Federal Home Loan Bank of Boston (FHLB Boston) with a three-year maturity and a 1.54% coupon rate, which replaced a five-year FHLB Boston note that matured on November 3, 2016. The Company is also a member of the FHLB Boston. The Company issues these funding agreements in its overall investment spread lending strategy.

On October 11, 2016, the Company issued a \$600,000,000 funding agreement, which supports a series of medium-term notes with 1.55% fixed rate coupons and 3-year maturities.

No other events have occurred subsequent to the date of the statement of financial position and before the date of evaluation that would require disclosure.

Note 23 – Reinsurance

- a. Ceded Reinsurance Report:
 - Section 1 - General Interrogatories – No change
 - Section 2 - Ceded Reinsurance Report - Part A - No change
 - Section 3 - Ceded Reinsurance Report - Part B - No change

b-g. No change

Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination - No change

Note 25 – Change in Incurred Losses and Loss Adjustment Expenses

There was no increase to reserves in 2016 for incurred losses and loss adjustment expenses attributable to insured events of prior years, which were 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 [X] No []
- 3.3 If the response to 3.2 is yes, provide a brief description of those changes.
As of September 12, 2016, Babson Capital Management LLC, its subsidiaries Cornerstone Real Estate Advisers LLC and Wood Creek Capital Management, LLC, and Baring Asset Management Limited are now operating as a unified company under Barings LLC.
- 4.1 Has the reporting entity been a party to a merger or consolidation during the period covered by this statement? Yes [] No [X]
- 4.2 If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.

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

5. If the reporting entity is subject to a management agreement, including third-party administrator(s), managing general agent(s), attorney-in-fact, or similar agreement, have there been any significant changes regarding the terms of the agreement or principals involved? Yes [] No [X] N/A []
If yes, attach an explanation.
- 6.1 State as of what date the latest financial examination of the reporting entity was made or is being made. 12/31/2014
- 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 Securities, LLC	Boston, MA				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
MSI Financial Services, Inc.	Springfield, MA				YES
OppenheimerFunds Distributor, Inc.	New York, NY				YES
Society of Grownups, LLC	Springfield, MA				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).
The Code was revised in June 2016. The revisions to the Code included updating: the company records principle to reflect updated company policy terminology and references to the Compliance & Ethics department to reflect recent reorganization.
- 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: \$ 1,449,190,547
13. Amount of real estate and mortgages held in short-term investments: \$
- 14.1 Does the reporting entity have any investments in parent, subsidiaries and affiliates? Yes [X] No []
- 14.2 If yes, please complete the following:
- | | 1 | 2 |
|---|---|--|
| | Prior Year-End
Book/Adjusted
Carrying Value | Current Quarter
Book/Adjusted
Carrying Value |
| 14.21 Bonds | \$ 6,176,512,151 | \$ 6,446,443,680 |
| 14.22 Preferred Stock | \$ | \$ |
| 14.23 Common Stock | \$ 7,503,525,833 | \$ 10,599,743,359 |
| 14.24 Short-Term Investments | \$ | \$ |
| 14.25 Mortgage Loans on Real Estate | \$ | \$ |
| 14.26 All Other | \$ 4,213,299,770 | \$ 3,592,507,638 |
| 14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) | \$ 17,893,337,754 | \$ 20,638,694,677 |
| 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.

STATEMENT AS OF SEPTEMBER 30, 2016 OF THE Massachusetts Mutual Life Insurance Company
GENERAL INTERROGATORIES

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\$

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 Identify all investment advisors, brokers/dealers or individuals acting on behalf of broker/dealers that have access to the investment accounts, handle securities and have authority to make investments on behalf of the reporting entity:

1 Central Registration Depository	2 Name(s)	3 Address
110363	OFI Institutional Asset Management, Inc.	Two World Financial Center, 225 Liberty Street, New York, NY 10281-1008
106006	Barings LLC	550 South Tryon Street, Suite 3300, Charlotte, NC 28202
104517	Franklin Advisers, Inc.	One Franklin Parkway, San Mateo, CA 94403-1906
123711	Tortoise Capital Advisors, L.L.C.	11550 Ash Street, Suite 300, Leawood, KS 66211
104559	PIMCO- Pacific Investment Management Company LLC	840 Newport Center Drive, Suite 100, Newport Beach, CA 92660
107926	Earnest Partners LLC	1180 Peachtree St NE Suite 2300, Atlanta, GA 30309
141037	KA Fund Advisors LLC	811 Main Street, 14th Floor, Houston, TX 77002
162754	IFM Investors Pty Ltd	Level 29 Casselden, 2 Lonsdale Street, Melbourne VIC 3000
185402	Ashmore Investment Management Limited	61 Aldwych, London WC2B 4AE
162264	Jefferies Finance LLC	520 Madison Avenue, 19th Floor, New York, NY 10022

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

- 18.2 If no, list exceptions:

At 9/30/2016, 84 issues 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 \$338,505,022 or 0.34% of all assets.

GENERAL INTERROGATORIES

PART 2 - LIFE & HEALTH

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	\$ 3,207,087
1.12	Residential Mortgages	\$ 1,729,913,055
1.13	Commercial Mortgages	\$ 19,655,591,385
1.14	Total Mortgages in Good Standing	<u>\$ 21,388,711,527</u>
1.2	Long-Term Mortgages In Good Standing with Restructured Terms	
1.21	Total Mortgages in Good Standing with Restructured Terms	<u>\$</u>
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	<u>\$</u>
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)	<u>\$ 21,388,711,527</u>
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	<u>\$</u>
2.	Operating Percentages:	
2.1	A&H loss percent	74.800 %
2.2	A&H cost containment percent	1.300 %
2.3	A&H expense percent excluding cost containment expenses	73.500 %
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	\$

STATEMENT AS OF SEPTEMBER 30, 2016 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
.88340	59-2859797	12/01/2015	Hannover Life Reassurance Co of America (HAS2)	FL	YRT/G	Authorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (FR56)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (PH55)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (PH56)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (PHB1)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (PX58)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (ST84)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (ST85)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (ST97)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB1)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB2)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB3)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB4)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB5)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STD1)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STD4)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STE4)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STH1)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STM2)	KY	YRT/G	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STM3)	KY	YRT/G	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STM3)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STM5)	KY	YRT/G	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STM5)	KY	YRT/I	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STM6)	KY	YRT/G	Unauthorized		
.00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STN1)	KY	YRT/I	Unauthorized		
.82627	06-0839705	04/01/2016	Swiss Re Life & Health America Inc. (SRQ5)	MO	CO/I	Authorized		
.82627	06-0839705	06/29/2015	Swiss Re Life & Health America Inc. (SRR1)	MO	YRT/I	Authorized		
.82627	06-0839705	12/01/2015	Swiss Re Life & Health America Inc. (SRS2)	MO	YRT/G	Authorized		

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

PART 1 – ORGANIZATIONAL CHART

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

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor, LLC	06-1041383		Delaware
CML Mezzanine Investor L, LLC	06-1041383		Delaware
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Re Finance 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
WP-SC, LLC*	26-4441097		Delaware
MSP-SC, LLC	04-1590850		Delaware
MSI Financial Services, Inc.	13-3175978		Delaware
Country Club Office Plaza LLC*	27-1435692		Delaware
MassMutual Retirement Services, 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
MMC Equipment Finance LLC	04-1590850		Delaware
MassMutual Asset Finance LLC*	26-0073611		Delaware
MMAF Equipment Finance LLC 2009-A	27-1379258		Delaware
MMAF Equipment Finance LLC 2011-A	45-2589019		Delaware
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MSC Holding Company, LLC	45-4376777		Delaware
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MassMutual Holding LLC	04-2854319		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware

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

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

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MassMutual Ventures LLC	47-1296410		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
MassMutual International LLC	04-3313782		Delaware
MassMutual Asia Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Asia Investors Ltd.	None		Hong Kong, Special Administrative Region of China
MassMutual Guardian Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Insurance Consultants Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Services Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Trustees Limited	None		Hong Kong, Special Administrative Region of China
Protective Capital (International) Limited	98-0610331		Hong Kong, Special Administrative Region of China
MassMutual Life Insurance Company	None		Japan
MassMutual Internacional (Chile) SpA	98-1033127		Chile
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
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 (UK) Limited	98-0432153		United Kingdom
Babson 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 Global Advisors Limited	98-1012393		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Babson European Direct Lending 1 GP LLP	None		United Kingdom
Barings Advisers (Japan) KK	None		Japan
Barings Real Estate Advisers LLC	55-0878489		Delaware
ACRE Capital Holdings LLC	None		Delaware
ACRE Capital LLC	None		Michigan
ACRE Capital Corporation	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
Barings Real Estate Advisers Japan KK	None		Japan
Barings Real Estate UK Holdings Limited	None		Delaware
BREAE AIFM LLP	None		United Kingdom

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

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings 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 Advisers GmbH	98-1194368		Germany
MassMutual Baring Holding LLC	04-1590850		Delaware
Baring North America LLC	98-0241935		Massachusetts
MassMutual Holdings (Bermuda) Limited	None		Bermuda
Baring Asset Management Limited	98-0241935		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings Limited	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Asset Management GmbH	98-0465031		Germany
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
Baring Asset Management (Japan) Limited	98-0236449		Japan
Baring Asset Management (Australia) Pty Limited	98-0457456		Australia
Baring International Fund Managers (Ireland) Limited	98-0524272		Ireland
Baring Asset Management Switzerland Sàrl	None		Switzerland
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
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 Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	98-0457456		Australia
Barings Investment Advisers (Hong Kong) Limited	None		Hong Kong, Special Administrative Region of China
Wood Creek Index Company LLC	26-3115362		Delaware
Alchemy Copyrights, LLC.	47-2642354		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Red Lake Ventures, LLC	46-5460309		Delaware
Solar Acquisition Holding, LLC	None		Delaware
Sweet Tree Holdings 1, LLC	46-3123110		Delaware
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
U.S. Buyer Broadcasting, LLC	47-1855920		Delaware
U.S. WIG Holdings, LP	46-1500495		Delaware
U.S. Pharmaceuticals Holdings II, LLC	47-5436800		Delaware

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

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
VGS Acquisition Holding, LLC	None		Delaware
WC Aircraft Holdings US II, LLC	46-3378584		Delaware
Wood Creek Aircraft Holding I, LP	None		Cayman Islands
Babson Capital Floating Rate Income Fund Management, LLC	04-1590850		Delaware
Babson CLO Investment Partners GP, LLC	None		Delaware
Babson Global Loan Feeder Management, LLC	None		Delaware
Barings TERO Management LLC	None		Delaware
Babson Investment Grade CLO Debt Management LLC	None		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
Great Lakes III GP, LLC	04-1590850		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
SDCOS Management LLC	04-1590850		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware
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
OFI Global Trust Company	13-3459790		New York
OFI International, Ltd.	None		United Kingdom
HarbourView Asset Management Corporation	22-2697140		New York
Trinity Investment Management Corporation	25-1951632		Pennsylvania
OFI SteelPath, Inc.	84-1128397		Delaware
Shareholder Services, Inc.	84-1066811		Colorado
VTL Associates, LLC	None		Pennsylvania
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, Inc.	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
Fern Street LLC	37-1732913		Delaware
First Mercantile Trust Company	62-0951563		Tennessee

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

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
Society of Grownups, LLC	47-1466022		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
MML Re Finance LLC	04-1590850		Delaware
Other Affiliates & Funds:			
Invicta Advisors LLC	56-2574604		Delaware
Jefferies Finance LLC*	27-0105644		Delaware
Apex Credit Partners LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
JFIN Asset Management 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 LC Fund LLC	None		Delaware
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
JFIN CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO Ltd.	None		Cayman Islands
JFIN Revolver CLO 2014 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2015 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	04-1590850		Delaware
300 South Tryon LLC	04-1590850		Delaware
54 West Capital LLC	20-3887968		Delaware

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

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Alexandria Towers Investors LLC	16-1720387		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Almack Mezzanine Fund III LP*	None		United Kingdom
Babson Capital Emerging Markets Corporate Bond Fund	None		Ireland
Babson Capital Emerging Markets Local Debt Fund	None		Ireland
Babson Capital Global Special Situations Credit Fund 1	None		Ireland
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Babson Capital US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2007-I	None		Cayman Islands
Babson CLO Ltd. 2012-I	None		Cayman Islands
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2013-II	98-1128827		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2014-II	None		Cayman Islands
Babson CLO Ltd. 2014-III	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
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
Babson Capital Global Credit Fund (Lux) SCSp, SIACV-SIF	None		Luxembourg
Babson Investment Grade CLO Debt Fund LP	47-3971963		Delaware
Baring Emerging Market Corp Debt Fund	None		Ireland
Baring Focused EAFE Equity Fund	11-3789446		Delaware
Baring Global Dynamic Asset Allocation Fund	30-0607379		Delaware
Baring International Small Cap Equity Fund	26-4142796		Delaware
Benton Street Partners I, L.P.*	98-0536233		Cayman Islands
Benton Street Partners II, L.P.*	98-0536199		Cayman Islands
Braemar Energy Ventures I, L.P. *	None		Delaware
Connecticut Valley Structured Credit CDO II, Ltd.	None		Cayman Islands
Connecticut Valley Structured Credit CDO III, Ltd.	None		Cayman Islands
Cambridge Hotel, LLC	06-1614196		Delaware
Cheyenne Mountain Resort LLC	04-1590850		Delaware
Barings European Core Property Fund SCSp	None		Luxembourg

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Cornerstone Core Mortgage Venture I LP	27-1701622		Delaware
Cornerstone Enhanced Mortgage Fund I LP	45-3751572		Delaware
Cornerstone Global Real Estate LP*	20-8730751		Delaware
Cornerstone High Yield Venture LP	36-4770946		Delaware
Cornerstone Hotel Income and Equity Fund II LP	26-1828760		Delaware
Barings/LAZ Parking Fund LP	46-5437441		Delaware
Barings Core Property Fund LP	20-5578089		Delaware
Cornerstone Real Estate Fund VIII LP	27-0547156		Delaware
Cornerstone Real Estate Fund X LP	46-5432619		Delaware
Duchess VI CLO B.V.	None		United Kingdom
Duchess VII CLO B.V.	None		United Kingdom
E-Wise Land Venture LLC	20-3887968		Delaware
Gateway Mezzanine Partners I, L.P.*	80-0691253		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
Kazwell Realty Partners LLC	20-3887968		Delaware
King Alexander LLC	45-3754085		Delaware
Marco Hotel LLC	46-4255307		Delaware
MM Debt Participations LLC*	81-3000420		Delaware
MML O'Hare Hotel LLC	26-3799762		Delaware
Oakley Grove Development LLC	20-3887968		Delaware
Old Pasco Properties LLC	20-3887968		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
Sapphire Valley CDO I, Ltd.	None		Cayman Islands
SDCOS L.P.	74-3182902		Delaware
Seattle 1415 Hotel Owner LLC	46-5491311		Delaware
Sedona TFMP Land LLC	04-1590850		Delaware
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
South Myrtle Monrovia MM LLC	04-1590850		Delaware
South Pasco Properties LLC	20-3887968		Delaware
Tower Square Capital Partners, L.P.*	04-3722906		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
Whately CDO, Ltd.	None		Cayman Islands

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Wood Creek Multi Asset Fund, L.P.	20-4981369		Delaware
Baring Affiliates & Funds:			
Babson Capital Emerging Markets Debt Blended Total Return Fund	None		Ireland
Babson Capital Emerging Markets Debt Short Duration Fund	None		Ireland
Babson Capital Emerging Markets Sovereign Debt Fund	None		Ireland
Babson Capital Floating Rate Income Fund, L.P.	27-3330830		Delaware
Babson Capital Global Investment Grade Corporate Plus 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 Emerging Markets Local Currency Debt Fund	47-3774453		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
Barings U.S. High Yield Fund	47-3801860		Massachusetts
Gateway Mezzanine Partners I Trust	None		Australia
Great Lakes II LLC*	71-1018134		Delaware
Great Lakes LLC*	56-2505390		Delaware
Intermodal Holding II LLC	46-2344300		Delaware
Somerset Special Opportunities Master Fund LP	None		Cayman Islands
Wood Creek Venture Fund LLC	04-1590850		Delaware
Cornerstone Affiliates & Funds:			
12-18 West 55th Street Predevelopment, LLC*	20-2548283		Delaware
50 Liberty LLC*	36-4823011		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
2 Harbor Shore Member LLC*	46-4803557		Delaware
21 West 86 LLC*	45-5257904		Delaware
AT Mid-Atlantic Office Portfolio LLC*	45-2779931		Delaware
Budapester Strasse LLC	04-1590850		Delaware
CHC/RFP VI Core LLC	04-1590850		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Delaware
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
CREA 330 Third LLC*	46-5001122		Delaware
CREA FMF Nashville LLC	46-4367364		Delaware
CREA/LYON West Gateway, LLC*	26-2399532		Delaware
CREA Madison Member LLC	81-0890084		Delaware

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
CREA/PPC Venture LLC*	20-0348173		Delaware
Fallon Cornerstone One MPD LLC*	26-1611591		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
Farringdon London Holdings LLC*	46-3880526		Delaware
Infinity SCD Ltd.	None		United Kingdom
Johnston Groves LLC	20-4819358		Delaware
MM Chatham Office LLC*	81-2871333		Delaware
MMI/Hines Harrison LLC*	46-5347643		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center LLC*	27-2977720		Delaware
Ten Fan Pier Boulevard LLC*	None		Delaware
Twenty Two Liberty LLC*	35-2484550		Massachusetts
UK LIW Manager LLC	45-4606547		Delaware
UK LIW Member LLC	45-4606547		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
Waterford Development Associates	20-2970495		Delaware
Waterloo London Holdings LLC	47-1993493		Delaware
WeHo Domain LLC*	46-3122029		Delaware
Willowood Lakeside Master LLC	81-1552222		Delaware
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
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

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

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MassMutual RetireSMART 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 Moderate Fund	45-1618262		Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046		Massachusetts
Oppenheimer Funds:			
Oppenheimer Global High Yield Fund	45-3417590		Delaware
Oppenheimer Global Multi-Asset Growth Fund	47-3676235		Delaware
Oppenheimer Global Multi-Asset Income Fund	47-1714929		Delaware
Oppenheimer Global Real Estate Fund*	46-1604428		Delaware
Oppenheimer Macquarie Global Infrastructure Fund	81-1080638		Delaware
Oppenheimer SteelPath Panoramic Fund	47-3987967		Delaware

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STATEMENT AS OF SEPTEMBER 30, 2016 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
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)	*
0435	Massachusetts Mut Life Ins Co	65935	04-1590850	3848388	0000225602		Massachusetts Mutual Life Insurance Company (MMLIC)	MA	RE	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0435	CM Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0435	MML Baystate Life Ins Co	70416	43-0581430		0000924777		MML Bay State Life Insurance Company	CT	DS	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			06-1041383				CML Re Finance 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	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000							MML Special Situations Investor LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			47-5322979				Timberland Forest Holding LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC	
0000			47-5322979				Timberland Forest Holding LLC	DE	DS	C.M. Life Insurance Company	Ownership	5.000	MMLIC	
0000			47-5322979				Timberland Forest Holding LLC	DE	DS	Wood Creek Capital Management LLC	Management		MMLIC	
0000							Lyme Adirondack Forest Company, LLC	DE	DS	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000			20-5305426				Lyme Adirondack Timber Sales, Inc.	NY	DS	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000							Lyme Adirondack Timberlands I, LLC	DE	DS	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000							Lyme Adirondack Timberlands II, LLC	DE	DS	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000			04-1590850				Berkshire Way LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			26-4441097				WP-SC, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	81.400	MMLIC	
0000			26-4441097				WP-SC, LLC	DE	DS	C.M. Life Insurance Company	Ownership	18.600	MMLIC	
0000			04-1590850				MSP-SC, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			13-3175978				MSI Financial Services, Inc.	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			27-1435692				Country Club Office Plaza LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	88.100	MMLIC	
0000			27-1435692				Country Club Office Plaza LLC	DE	DS	C.M. Life Insurance Company	Ownership	11.900	MMLIC	
0000			04-1590850				MassMutual Retirement Services, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			04-3356880		0000943903		MML Distributors LLC	MA	DS	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC	
0000			04-3356880		0000943903		MML Distributors LLC	MA	DS	MassMutual Holding LLC	Ownership	1.000	MMLIC	
0000							MML Investment Advisers, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			04-1590850				MML Mezzanine Investor, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			46-3238013				MML Strategic Distributors, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			06-1563535	2881445	0001103653		The MassMutual Trust Company, FSB	CT	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			04-1590850				MMC Equipment Finance LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
0000			26-0073611				MassMutual Asset Finance LLC	DE	DS	MMC Equipment Finance LLC	Ownership	99.600	MMLIC	
0000			26-0073611				MassMutual Asset Finance LLC	DE	DS	C.M. Life Insurance Company	Ownership	0.400	MMLIC	

STATEMENT AS OF SEPTEMBER 30, 2016 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
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)	*
.0000			27-1379258				MMAF Equipment Finance LLC 2009-A	.DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC	
.0000			45-2589019				MMAF Equipment Finance LLC 2011-A	.DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				MML Private Placement Investment Company I, LLC	.DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			45-2738137				Pioneers Gate LLC	.DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			45-4376777				MSC Holding Company, LLC	.DE	DS	Company	Ownership	100.000	MMLIC	
.0000			04-3341767				MassMutual Holding MSC, Inc.	.MA	DS	MSC Holding Company, LLC	Ownership	100.000	MMLIC	
.0000			04-2854319	2392316			MassMutual Holding LLC	.DE	DS	Company	Ownership	100.000	MMLIC	
.0000			06-1597528				MassMutual Assignment Company	.NC	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000			04-1590850		0001399869		MassMutual Capital Partners LLC	.DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000			47-1296410				MassMutual Ventures LLC	.DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				MM Rothersey Holdco US LLC	.DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000			04-1590850		0000701059		MML Investors Services, LLC	.MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				MML Insurance Agency, LLC	.MA	DS	MML Investors Services, LLC	Ownership	100.000	MMLIC	
.0000			41-2011634		0001456663		MML ISI Financial Alliances, LLC	.DE	DS	MML Investors Services, LLC	Ownership	51.000	MMLIC	
.0000			04-3313782				MassMutual International LLC	.DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000							MassMutual Asia Limited	.HKG	DS	MassMutual International LLC	Ownership	100.000	MMLIC	
.0000							MassMutual Asia Investors Ltd.	.HKG	DS	MassMutual Asia Limited	Ownership	100.000	MMLIC	
.0000							MassMutual Guardian Limited	.HKG	DS	MassMutual Asia Limited	Ownership	100.000	MMLIC	
.0000							MassMutual Insurance Consultants Limited	.HKG	DS	MassMutual Asia Limited	Ownership	100.000	MMLIC	
.0000							MassMutual Services Limited	.HKG	DS	MassMutual Asia Limited	Ownership	100.000	MMLIC	
.0000							MassMutual Trustees Limited	.HKG	DS	MassMutual Asia Limited	Ownership	80.000	MMLIC	
.0000							Protective Capital (International) Limited							
.0000			98-0610331				MassMutual Asia Limited	.HKG	DS	MassMutual Asia Limited	Ownership	100.000	MMLIC	
.0000							MassMutual Life Insurance Company	.JPN	DS	MassMutual International LLC	Ownership	100.000	MMLIC	
.0000			98-1033127				MassMutual Internacional (Chile) SpA	.CHL	DS	MassMutual International LLC	Ownership	100.000	MMLIC	
.0000			45-4000072				MM Asset Management Holding LLC	.DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC	
.0000			51-0504477		0000009015		Barings LLC	.DE	DS	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC	
.0000			80-0875475				Barings Finance LLC	.DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							BCF Europe Funding Limited	.JRL	DS	Barings Finance LLC	Ownership	100.000	MMLIC	
.0000							BCF Senior Funding I LLC	.DE	DS	Barings Finance LLC	Ownership	100.000	MMLIC	
.0000							BCF Senior Funding I Designated Activity Company	.JRL	DS	Barings Finance LLC	Ownership	100.000	MMLIC	
.0000			04-3238351		0000930012		Barings Securities LLC	.DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			98-0437588				Barings Guernsey Limited	.GGY	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			98-0432153				Barings (UK) Limited	.GBR	DS	Barings Guernsey Limited	Ownership	100.000	MMLIC	
.0000							Babson GPC GP S.à.r.l.	.LUX	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							Almack Mezzanine GP III Limited	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							Almack Holding Partnership GP Limited	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							Almack Mezzanine Fund Limited	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							Almack Mezzanine Fund II Limited	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000			98-1012393				Barings Global Advisors Limited	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							BCGSS 2 GP LLP	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							Babson European Direct Lending 1 GP LLP	.GBR	DS	Barings (U.K.) Limited	Ownership	100.000	MMLIC	
.0000							Barings Advisers (Japan) KK	.JPN	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			55-0878489	3456895	0001379495		Barings Real Estate Advisers LLC	.DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							ACRE Captial Holdings LLC	.DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							ACRE Capital LLC	.MI	DS	Barings LLC	Ownership	100.000	MMLIC	

STATEMENT AS OF SEPTEMBER 30, 2016 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
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)	*
.0000							ACRE Capital Corporation	.DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			04-3238351	3456895	0001011148		Barings Real Estate Advisers Inc.	.CA	DS	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC	
.0000							Barings Real Estate Advisers Japan KK	.JPN	DS	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC	
.0000							Barings Real Estate UK Holdings Limited	.DE	DS	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC	
.0000							BREAIE AIFM LLP	.GBR	DS	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC	
.0000			98-0654401				Barings Real Estate Advisers (Continental Europe) Limited	.GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0654388				Barings Real Estate Advisers Europe LLP	.GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0654412				Barings Real Estate Advisers Europe Finance LLP	.GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-1194368				Barings Real Estate Advisers GmbH	.DEU	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			04-1590850				MassMutual Baring Holding LLC	.DE	DS	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC	
.0000			98-0241935	2363071	0000932463		Baring North America LLC	.MA	DS	MassMutual Baring Holding LLC	Ownership	100.000	MMLIC	
.0000							MassMutual Holdings (Bermuda) Limited	.BMU	DS	MassMutual Baring Holding LLC	Ownership	100.000	MMLIC	
.0000			98-0241935				Baring Asset Management Limited	.GBR	DS	MassMutual Holdings (Bermuda) Limited	Ownership	100.000	MMLIC	
.0000			98-0457328		0001568131		Baring International Investment Limited	.GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC	
.0000							Baring International Investment Management Holdings	.GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC	
.0000			98-0457587				Baring Asset Management UK Holdings Limited	.GBR	DS	Baring International Investment Management Holdings	Ownership	100.000	MMLIC	
.0000			98-0465031				Baring Asset Management GmbH	.DEU	DS	Limited	Ownership	100.000	MMLIC	
.0000			98-0524271				Baring Asset Management (Asia) Holdings Limited	.HKG	DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	.BMU	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0457463				Baring Asset Management (Asia) Limited	.HKG	DS	Limited	Ownership	100.000	MMLIC	
.0000							Baring Asset Management Korea Limited	.KOR	DS	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC	
.0000			98-0236449				Baring Asset Management (Japan) Limited	.JPN	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0457456				Baring Asset Management (Australia) Pty Limited	.AUS	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0524272				Baring International Fund Managers (Ireland) Limited	.IRL	DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC	
.0000							Baring Asset Management Switzerland Sarl	.CHE	DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0457707				Baring SICE (Taiwan) Limited	.TWN	DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC	
.0000			98-0497550				Baring France SAS	.FRA	DS	Limited	Ownership	100.000	MMLIC	
.0000			98-0457586				Baring Fund Managers Limited	.GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC	
.0000			98-0457574				Baring Pension Trustees Limited	.GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC	
.0000			98-0457578				Baring Investment Services Limited	.GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC	
.0000							Barings Australia Holding Company Pty Ltd	.AUS	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			98-0457456				Barings Australia Pty Ltd	.AUS	DS	Barings Australia Holding Company Pty Ltd.	Ownership	100.000	MMLIC	
.0000							Barings Investment Advisors (Hong Kong) Limited	.HKG	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			26-3115362				Wood Creek Index Company, LLC	.DE	DS	Wood Creek Capital Management LLC	Ownership	100.000	MMLIC	
.0000			47-2642354				Alchemy Copyrights, LLC	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	15.200	MMLIC	

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	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)	*
.0000			47-2642354				Alchemy Copyrights, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	30.000	MMLIC	
.0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000			47-3055009				Milestone Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	18.300	MMLIC	
.0000			47-3055009				Milestone Acquisition Holding, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	31.500	MMLIC	
.0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000			46-3123110				Sweet Tree Holdings 1, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	16.100	MMLIC	
.0000			46-3123110				Sweet Tree Holdings 1, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000							Tamiami Citrus, LLC	DE	NIA	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	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000							U.S. Buyer Broadcasting, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	12.700	MMLIC	
.0000							U.S. Buyer Broadcasting, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000			46-1500495				U.S. WIG Holdings, LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	11.700	MMLIC	
.0000			46-1500495				U.S. WIG Holdings, LP	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	32.600	MMLIC	
.0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000							Solar Acquisition Holding, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	39.200	MMLIC	
.0000							Solar Acquisition Holding, LLC	DE	NIA	Wood Creek Capital Management LLC	Management		MMLIC	
.0000							VGS Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	42.600	MMLIC	
.0000							VGS Acquisition Holding, LLC	DE	NIA	Wood Creek Capital Management LLC	Management		MMLIC	
.0000			46-3378584				WC Aircraft Holdings US II, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	17.900	MMLIC	
.0000			46-3378584				WC Aircraft Holdings US II, LLC	DE	NIA	Wood Creek Capital Management LLC	Management		MMLIC	
.0000							Wood Creek Aircraft Holding I, LP	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership	12.100	MMLIC	
.0000							Wood Creek Aircraft Holding I, LP	CYM	NIA	Wood Creek Capital Management LLC	Management		MMLIC	
.0000			04-1590850		0001501011		Babson Capital Floating Rate Income Fund Management, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							Babson CLO Investment Partners GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							Babson Global Loan Feeder Management, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							Barings TERO Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000							Babson Investment Grade CLO Debt Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			98-0536233				Benton Street Advisors, Inc.	CYM	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				SDCOS Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				Great Lakes III GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				Loan Strategies Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				Mezzco LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	
.0000			02-0767001				Mezzco II LLC	DE	DS	Barings LLC	Ownership	98.400	MMLIC	
.0000			41-2280126				Mezzco III LLC	DE	DS	Barings LLC	Ownership	99.300	MMLIC	
.0000			80-0920285				Mezzco IV LLC	DE	DS	Barings LLC	Ownership	99.300	MMLIC	
.0000			90-0666326				Mezzco Australia LLC	DE	DS	Barings LLC	Ownership	72.000	MMLIC	
.0000							Mezzco Australia II LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC	

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.....0000			04-1590850				Somerset Special Opportunities Management LLC	..DE	..DS	Barings LLC	Ownership.....	100.000	MMLIC	
.....0000			84-1149206	2897101			Oppenheimer Acquisition Corp.	..DE	..DS	MassMutual Asset Management Holding LLC	Ownership.....	97.100	MMLIC	
.....0000			13-2527171	2679183	0000820031		OppenheimerFunds, Inc.	..CO	..DS	Oppenheimer Acquisition Corp.	Ownership.....	100.000	MMLIC	
.....0000			13-2953455		0000276541		OppenheimerFunds Distributor, Inc.	..NY	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000			84-1106295				Oppenheimer Real Asset Management, Inc.	..DE	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000			13-4160541	3458125	0001179479		OFI Global Institutional, Inc.	..NY	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000							OFI Institutional Asset Management, Inc.							
.....0000			13-3459790	2914875			OFI Global Trust Company	..NY	..DS	OFI Institutional Asset Management, Inc.	Ownership.....	100.000	MMLIC	
.....0000							OFI International, Ltd.	..GBR	..DS	OFI Institutional Asset Management, Inc.	Ownership.....	100.000	MMLIC	
.....0000			22-2697140				HarbourView Asset Management Corporation	..NY	..DS	OFI Institutional Asset Management, Inc.	Ownership.....	100.000	MMLIC	
.....0000							OFI Institutional Asset Management, Inc.							
.....0000			25-1951632		0000099782		Trinity Investment Management Corporation	..PA	..DS		Ownership.....	100.000	MMLIC	
.....0000			84-1128397		0000857468		OFI SteelPath, Inc.	..DE	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000			84-1066811		0000276398		Shareholder Services, Inc.	..CO	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000							VTL Associates, LLC	..PA	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000							Index Management Solutions, LLC	..PA	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000			84-0765063		0001041674		OFI Global Asset Management, Inc.	..DE	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000			91-2036414		0001179480		OFI Private Investments Inc.	..NY	..DS	OppenheimerFunds, Inc.	Ownership.....	100.000	MMLIC	
.....0000			62-1210532				Tremont Group Holdings, Inc.	..NY	..DS	Oppenheimer Acquisition Corp.	Ownership.....	100.000	MMLIC	
.....0000			06-1121864		0000764139		Tremont Partners, LLC	..CT	..DS	Tremont Group Holdings, Inc.	Ownership.....	100.000	MMLIC	
.....0000			20-8215352				Tremont GP, LLC	..DE	..DS	Tremont Group Holdings, Inc.	Ownership.....	100.000	MMLIC	
.....0000			90-0874510				Settlement Agent LLC	..DE	..DS	Tremont Group Holdings, Inc.	Ownership.....	100.000	MMLIC	
.....0000							Tremont (Bermuda) Limited	..BMU	..DS	Tremont Group Holdings, Inc.	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			37-1732913				Fern Street LLC	..DE	..DS	Company	Ownership.....	100.000	MMLIC	
.....0000			62-0951563	1160004	0001259664		First Mercantile Trust Company	..TN	..DS	MassMutual Holding LLC	Ownership.....	100.000	MMLIC	
.....0000			46-2252944				Haven Life Insurance Agency, LLC	..DE	..DS	MassMutual Holding LLC	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			04-2443240				MML Management Corporation	..MA	..DS	Company	Ownership.....	100.000	MMLIC	
.....0000							MassMutual International Holding MSC, Inc.							
.....0000			04-3548444				MML Management Corporation	..MA	..DS	MML Management Corporation	Ownership.....	100.000	MMLIC	
.....0000			47-1466022				Society of Grownups, LLC	..MA	..DS	MassMutual Holding LLC	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			04-1590850				MML Mezzanine Investor II, LLC	..DE	..DS	Company	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			04-1590850				MML Mezzanine Investor III, LLC	..DE	..DS	Company	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			27-3576835				MassMutual External Benefits Group LLC	..DE	..DS	Company	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			04-1590850				MML Re Finance LLC	..DE	..DS	Company	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			56-2574604				Invicta Advisors LLC	..DE	..NIA	Company	Ownership.....	100.000	MMLIC	
.....0000							Massachusetts Mutual Life Insurance Company							
.....0000			27-0105644				Jefferies Finance LLC	..DE	..NIA	Company	Ownership.....	50.000	MMLIC	1
.....0000							Apex Credit Partners LLC	..DE	..NIA	Jefferies Finance LLC	Ownership.....	100.000	MMLIC	
.....0000							JFIN Fund III LLC	..DE	..NIA	Jefferies Finance LLC	Ownership.....	100.000	MMLIC	
.....0000							JFIN Asset Management LLC	..DE	..NIA	Jefferies Finance LLC	Ownership.....	100.000	MMLIC	
.....0000							JFIN Co-Issuer Corporation	..DE	..NIA	Jefferies Finance LLC	Ownership.....	100.000	MMLIC	

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Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	*
.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	
.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 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	70.000	MMLIC	
.0000							JFIN CLO 2014 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	30.000	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 CLO 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	33.000	MMLIC	
.0000							JFIN CLO 2015-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	53.000	MMLIC	
.0000							JFIN Revolver CLO Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	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 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
.0000							JFIN CLO 2016 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
.0000			04-1590850		0000067160		MML Private Equity Fund Investor LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			04-1590850				MM Private Equity Intercontinental LLC	DE	NIA	MML Private Equity Fund Investor LLC	Ownership	100.000	MMLIC	
.0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			04-1590850				300 South Tryon Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			04-1590850				300 South Tryon LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			20-3887968				54 West Capital LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			16-1720387				Alexandria Towers Investors 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	38.900	MMLIC	
.0000							Almack Mezzanine Fund I LP	GBR	NIA	C.M. Life Insurance Company	Ownership	4.300	MMLIC	
.0000							Almack Mezzanine Fund I LP	GBR	NIA	Barings (U.K.) Limited	Management		MMLIC	
.0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	73.300	MMLIC	
.0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Barings (U.K.) Limited	Management		MMLIC	
.0000							Almack Mezzanine Fund III LP	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.400	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							Babson Capital Emerging Markets Corporate Bond Fund	JRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	98.700	MMLIC	
.0000							Babson Capital Emerging Markets Corporate Bond Fund	JRL	NIA	Barings LLC	Management		MMLIC	

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	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)	*
.0000							Babson Capital Emerging Markets Local Debt Fund	JRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	47.300	MMLIC	
.0000							Babson Capital Emerging Markets Local Debt Fund	JRL	NIA	Barings LLC	Management		MMLIC	
.0000							Babson Capital Global Special Situations Credit Fund 1	JRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	98.700	MMLIC	
.0000							Babson Capital Global Special Situations Credit Fund 1	JRL	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	23.900	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	78.700	MMLIC	
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.900	MMLIC	
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Barings LLC	Management		MMLIC	
.0000							Babson Capital US High Yield Bond Fund	JRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	42.600	MMLIC	
.0000							Babson Capital US High Yield Bond Fund	JRL	NIA	Barings LLC	Management		MMLIC	
.0000							Babson CLO Ltd. 2007-I	CYM	NIA	Barings LLC	Influence		MMLIC	4
.0000							Babson CLO Ltd. 2012-I	CYM	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson CLO Ltd. 2012-II	CYM	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MMLIC	7
.0000			98-1128827				Babson CLO Ltd. 2013-II	CYM	NIA	Barings LLC	Influence		MMLIC	8
.0000							Babson CLO Ltd. 2014-I	CYM	NIA	Barings LLC	Influence		MMLIC	2
.0000							Babson CLO Ltd. 2014-II	CYM	NIA	Barings LLC	Influence		MMLIC	9
.0000							Babson CLO Ltd. 2014-III	CYM	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson CLO Ltd. 2015-I	CYM	NIA	Barings LLC	Influence		MMLIC	10
.0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence		MMLIC	11
.0000							Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson Euro CLO 2016-I BV	NLD	NIA	Barings LLC	Influence		MMLIC	
.0000							Babson Global Credit Fund (Lux) SCSp, SIACV-SIF	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	15.200	MMLIC	
.0000							Babson Global Credit Fund (Lux) SCSp, SIACV-SIF	LUX	NIA	Barings LLC	Management		MMLIC	
.0000			47-3971963				Babson Investment Grade CLO Debt Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	93.300	MMLIC	
.0000			47-3971963				Babson Investment Grade CLO Debt Fund LP	DE	NIA	C.M. Life Insurance Company	Ownership	6.700	MMLIC	
.0000			47-3971963				Babson Investment Grade CLO Debt Fund LP	DE	NIA	Barings LLC	Management		MMLIC	
.0000							Baring Emerging Market Corp Debt Fund	JRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	87.700	MMLIC	
.0000							Baring Emerging Market Corp Debt Fund	JRL	NIA	Barings Asset Management Limited	Management		MMLIC	
.0000			11-3789446				Baring Focused EAFE Equity Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	43.400	MMLIC	
.0000			11-3789446				Baring Focused EAFE Equity Fund	DE	NIA	Barings Asset Management Limited	Management		MMLIC	

STATEMENT AS OF SEPTEMBER 30, 2016 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
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)	*
.....0000			30-0607379		0001497049		Baring Global Dynamic Asset Allocation Fund	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..18.700	MMLIC	
.....0000			30-0607379		0001497049		Baring Global Dynamic Asset Allocation Fund	..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	..64.400	MMLIC	
.....0000			26-4142796				Baring International Small Cap Equity Fund	..DE	.....NIA	Baring Asset Management Limited	Management		MMLIC	
.....0000			98-0536233				Benton Street Partners I, L.P.	..CYM	.....NIA	MassMutual Capital Partners LLC	Ownership/Influence	..99.100	MMLIC	
.....0000			98-0536233				Benton Street Partners I, L.P.	..CYM	.....NIA	Barings LLC	Management		MMLIC	
.....0000			98-0536233				Benton Street Partners I, L.P.	..CYM	.....NIA	C.M. Life Insurance Company	Ownership	..0.100	MMLIC	
.....0000			98-0536233				Benton Street Partners I, L.P.	..CYM	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..0.400	MMLIC	
.....0000			98-0536199				Benton Street Partners II, L.P.	..CYM	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..28.600	MMLIC	3
.....0000			98-0536199				Benton Street Partners II, L.P.	..CYM	.....NIA	MassMutual Capital Partners LLC	Ownership	..10.400	MMLIC	
.....0000			98-0536199				Benton Street Partners II, L.P.	..CYM	.....NIA	Barings LLC	Management		MMLIC	
.....0000							Braemar Energy Ventures I, L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..92.500	MMLIC	
.....0000							Braemar Energy Ventures I, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			06-1614196				Cambridge Hotel, LLC	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000			04-1590850				Cheyenne Mountain Resort LLC	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000							Connecticut Valley Structured Credit CDO II, Ltd.	..CYM	.....NIA	Barings LLC	Influence		MMLIC	5
.....0000							Connecticut Valley Structured Credit CDO III, Ltd.	..CYM	.....NIA	Barings LLC	Influence		MMLIC	
.....0000							Barings European Core Property Fund SCSp	..LUX	.....NIA	MassMutual Holding LLC	Ownership/Influence	..94.000	MMLIC	
.....0000							Barings European Core Property Fund SCSp	..LUX	.....NIA	C.M. Life Insurance Company	Ownership	..6.000	MMLIC	
.....0000							Barings European Core Property Fund SCSp	..LUX	.....NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
.....0000			27-1701622		0001481752		Cornerstone Core Mortgage Venture I LP	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..50.000	MMLIC	
.....0000			27-1701622		0001481752		Cornerstone Core Mortgage Venture I LP	..DE	.....NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
.....0000			45-3751572		0001534877		Cornerstone Enhanced Mortgage Fund I LP	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..15.600	MMLIC	
.....0000			45-3751572		0001534877		Cornerstone Enhanced Mortgage Fund I LP	..DE	.....NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
.....0000			20-8730751				Cornerstone Global Real Estate LP	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..92.300	MMLIC	
.....0000			20-8730751				Cornerstone Global Real Estate LP	..DE	.....NIA	C.M. Life Insurance Company	Ownership	..7.600	MMLIC	
.....0000			20-8730751				Cornerstone Global Real Estate LP	..DE	.....NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
.....0000			36-4770946		0001590049		Cornerstone High Yield Venture LP	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..50.000	MMLIC	
.....0000			36-4770946		0001590049		Cornerstone High Yield Venture LP	..DE	.....NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
.....0000			26-1828760		0001423638		Cornerstone Hotel Income & Equity Fund II LP	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..16.900	MMLIC	
.....0000			26-1828760		0001423638		Cornerstone Hotel Income & Equity Fund II 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	..10.300	MMLIC	
.....0000			20-5578089				Barings Core Property Fund LP	..DENIA	Barings Real Estate Advisers LLC	Management		MMLIC	

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000			27-0547156				Cornerstone Real Estate Fund VIII LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	15.100	MMLIC	
.0000			27-0547156				Cornerstone Real Estate Fund VIII 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	25.400	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			46-5437441				Barings/LAZ Parking Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC	
.0000			46-5437441				Barings/LAZ Parking Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
.0000				3981641			Duchess VI CLO B.V.	GBR	NIA	Barings LLC	Influence		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		0001517196		Gateway Mezzanine Partners I, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	62.500	MMLIC	
.0000			80-0691253		0001517196		Gateway Mezzanine Partners I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	7.700	MMLIC	
.0000			80-0691253		0001517196		Gateway Mezzanine Partners I, L.P.	DE	NIA	MassMutual Holding LLC	Ownership	8.900	MMLIC	
.0000			80-0691253		0001517196		Gateway Mezzanine Partners I, L.P.	DE	NIA	Barings LLC	Management		MMLIC	
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.900	MMLIC	
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.200	MMLIC	
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	MassMutual Holding LLC	Ownership	5.100	MMLIC	
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC	
.0000			37-1708623		0001565779		Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	35.700	MMLIC	
.0000			37-1708623		0001565779		Great Lakes III, L.P.	DE	NIA	Barings LLC	Management		MMLIC	
.0000			20-3887968				Kazwell Realty Partners LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			45-3754085				King Alexander LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			46-4255307				Marco Hotel 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			26-3799762				MML O'Hare Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	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			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							Sapphire Valley CDO I, Ltd.	CYM	NIA	Barings LLC	Influence		MMLIC	6
.0000			74-3182902				SDCOS L.P.	DE	NIA	Barings LLC	Management		MMLIC	

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.....0000			46-5491311				Seattle 1415 Hotel Owner LLC	..DENIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000			04-1590850				Sedona TFMP Land LLC	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..46.600	MMLIC	
.....0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P.	..DE	.....NIA	C.M. Life Insurance Company	Ownership	..2.300	MMLIC	
.....0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			04-1590850				South Myrtle Monrovia MM LLC	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000			20-3887968				South Pasco Properties LLC	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..25.800	MMLIC	
.....0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	..DE	.....NIA	C.M. Life Insurance Company	Ownership	..4.500	MMLIC	
.....0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	..DE	.....NIA	MassMutual Holding LLC	Ownership	..2.300	MMLIC	
.....0000			32-0160190				Tower Square Capital Partners II-A, L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..85.000	MMLIC	
.....0000			32-0160190				Tower Square Capital Partners II-A, L.P.	..DE	.....NIA	C.M. Life Insurance Company	Ownership	..15.000	MMLIC	
.....0000			32-0160190				Tower Square Capital Partners II-A, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			41-2280127		0001447547		Tower Square Capital Partners III, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			41-2280127		0001447547		Tower Square Capital Partners III, L.P.	..DE	.....NIA	MassMutual Holding LLC	Ownership/Influence	..21.800	MMLIC	
.....0000			41-2280129		0001447548		Tower Square Capital Partners IIIA, L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..96.400	MMLIC	
.....0000			41-2280129		0001447548		Tower Square Capital Partners IIIA, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			80-0920367		0001598727		Tower Square Capital Partners IV-A, L.P.	..DE	.....NIA	MassMutual Holding LLC	Ownership/Influence	..21.300	MMLIC	
.....0000			80-0920367		0001598727		Tower Square Capital Partners IV-A, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..41.100	MMLIC	
.....0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	..DE	.....NIA	C.M. Life Insurance Company	Ownership	..0.600	MMLIC	
.....0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	..DE	.....NIA	MassMutual Holding LLC	Ownership	..2.900	MMLIC	
.....0000			04-1590850				West 46th Street Hotel LLC	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership	..100.000	MMLIC	
.....0000							Whately CDO, Ltd.	..CYM	.....NIA	Barings LLC	Influence		MMLIC	
.....0000			20-4981369		0001371601		Wood Creek Multi Asset Fund, L.P.	..DE	.....NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..100.000	MMLIC	
.....0000			20-4981369		0001371601		Wood Creek Multi Asset Fund, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000							Babson Capital Emerging Markets Debt Blended Total Return Fund	..JRL	.....NIA	Barings LLC	Management		MMLIC	
.....0000							Babson Capital Emerging Markets Debt Short Duration Fund	..JRL	.....NIA	Barings LLC	Management		MMLIC	
.....0000							Babson Capital Emerging Markets Sovereign Debt Fund	..JRL	.....NIA	Barings LLC	Management		MMLIC	
.....0000			27-3330830		0001521404		Babson Capital Floating Rate Income Fund, L.P.	..DE	.....NIA	MassMutual Holding LLC	Ownership	..0.000	MMLIC	
.....0000			27-3330830		0001521404		Babson Capital Floating Rate Income Fund, L.P.	..DE	.....NIA	Barings LLC	Management		MMLIC	
.....0000							Babson Capital Loan Strategies Master Fund LP	..CYMNIA	Barings LLC	Management		MMLIC	

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000							Babson Capital Global Investment Grade Corporate Plus Fund	JRL	NIA	Barings LLC	Management		MMLIC	
.0000			47-3758432				Barings Emerging Markets Debt Blended Total Return Fund	MA	NIA	Barings LLC	Management		MMLIC	
.0000			47-3774453				Barings Emerging Markets Local Currency Debt Fund	MA	NIA	Barings LLC	Management		MMLIC	
.0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC	
.0000			47-3734770				Barings Total Return Bond Fund	MA	NIA	Barings LLC	Management		MMLIC	
.0000			47-3801860				Barings U.S. High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC	
.0000							Gateway Mezzanine Partners I Trust	AUS	NIA	Barings LLC	Management		MMLIC	
.0000			71-1018134				Great Lakes II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	11.200	MMLIC	
.0000			71-1018134				Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company	Ownership	1.000	MMLIC	
.0000			56-2505390				Great Lakes LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	4.400	MMLIC	
.0000			56-2505390				Great Lakes LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.500	MMLIC	
.0000			46-2344300				Intermodal Holdings II LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
.0000							Somerset Special Opportunities Master Fund LP	CYM	NIA	Barings LLC	Management		MMLIC	
.0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	40.000	MMLIC	
.0000							Baring Greater China Equity Fund	HKG	NIA	Baring Asset Management Limited	Management		MMLIC	
.0000			20-2548283				12-18 West 55th Street Predevelopment, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	89.000	MMLIC	
.0000			20-2548283				12-18 West 55th Street Predevelopment, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.700	MMLIC	
.0000			46-4803557				2 Harbor Shore Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	70.800	MMLIC	
.0000			46-4803557				2 Harbor Shore Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.000	MMLIC	
.0000			36-4823011				50 Liberty LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	46.100	MMLIC	
.0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.600	MMLIC	
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	32.300	MMLIC	
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.200	MMLIC	
.0000			45-5257904				21 West 86 LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	96.900	MMLIC	
.0000			45-5257904				21 West 86 LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.100	MMLIC	
.0000			45-2779931				AT Mid-Atlantic Office Portfolio LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC	
.0000			45-2779931				AT Mid-Atlantic Office Portfolio LLC	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC	
.0000			04-1590850				Budapester Strasse LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			04-1590850				CHC/RFP VI Core LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			95-4207717				Cornerstone California Mortgage Fund I LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			95-4207717				Cornerstone California Mortgage Fund II LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	84.400	MMLIC	

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.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	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC	
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC	
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC	
.0000			46-5001122				CREA 330 Third LLC	DE	NIA	Company	Ownership	0.900	MLLIC	
.0000			46-5001122				CREA 330 Third LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.100	MLLIC	
.0000			46-4367364				CREA FMF Nashville LLC	DE	NIA	Company	Ownership	100.000	MLLIC	
.0000			26-2399532				CREA/LYON West Gateway, LLC	DE	NIA	Company	Ownership	54.000	MLLIC	
.0000			26-2399532				CREA/LYON West Gateway, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	MLLIC	
.0000			81-0890084				CREA Madison Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MLLIC	
.0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	Company	Ownership	93.400	MLLIC	
.0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.600	MLLIC	
.0000			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NIA	Company	Ownership	67.100	MLLIC	
.0000			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.600	MLLIC	
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	Company	Ownership	58.500	MLLIC	
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MLLIC	
.0000			46-3880526				Farrington London Holdings LLC	DE	NIA	Company	Ownership	94.500	MLLIC	
.0000			46-3880526				Farrington London Holdings LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	MLLIC	
.0000							Infinity SCD Ltd	GBR	NIA	Company	Ownership	4.200	MLLIC	
.0000			20-4819358				Johnston Groves LLC	DE	NIA	Company	Ownership	57.200	MLLIC	
.0000			81-2871333				MM Chatham Office LLC	DE	NIA	Company	Ownership	83.400	MLLIC	
.0000			81-2871333				MM Chatham Office LLC	DE	NIA	Company	Ownership	16.600	MLLIC	
.0000			46-5347643				MMI/Hines Harrison LLC	DE	NIA	Company	Ownership	82.800	MLLIC	
.0000			46-5347643				MMI/Hines Harrison LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.200	MLLIC	
.0000							Salomon Brothers Commercial Mortgage Trust 2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MLLIC	
.0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NIA	Company	Ownership	84.200	MLLIC	
.0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NIA	C.M. Life Insurance Company	Ownership	15.800	MLLIC	
.0000							Ten Fan Pier Boulevard LLC	DE	NIA	Company	Ownership	91.000	MLLIC	
.0000							Ten Fan Pier Boulevard LLC	DE	NIA	C.M. Life Insurance Company	Ownership	9.000	MLLIC	
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	Company	Ownership	59.200	MLLIC	
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	C.M. Life Insurance Company	Ownership	5.900	MLLIC	

13.11

STATEMENT AS OF SEPTEMBER 30, 2016 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
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)	*
.....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			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	92.000	MMLIC	
.....0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC	
.....0000			20-2970495				Waterford Development Associates	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	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			81-1552222				Willowood Lakeside Master LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC	
.....0000			20-5481477				Ygnatio Valley Funding	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC	
.....0000			45-3168892			00	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	2.300	MMLIC	
.....0000			26-3229251		0000927972	00	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	14.900	MMLIC	
.....0000			04-3277550		0000927972	00	MassMutual Premier Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.600	MMLIC	
.....0000			14-1980900		0000916053	00	MassMutual Select Diversified International Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	48.800	MMLIC	
.....0000			01-0821120		0000916053	00	MassMutual Select Diversified Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.300	MMLIC	
.....0000			04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	14.800	MMLIC	
.....0000			04-3513019		0000916053	00	MassMutual Select Large Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
.....0000			42-1710935		0000916053	00	MassMutual Select Mid-Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	98.400	MMLIC	
.....0000			02-0769954		0000916053	00	MassMutual Select Small Capital Value Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.300	MMLIC	
.....0000			04-3584140		0000916053	00	MassMutual Select Small Company Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	42.700	MMLIC	
.....0000			46-4257056		0000067160		MML Series International Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	9.000	MMLIC	
.....0000			47-3517233		0001317146		MML Series II Asset Momentum Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	96.700	MMLIC	
.....0000			47-3529636		0001317146		MML Series II Dynamic Bond Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	4.300	MMLIC	
.....0000			47-3544629		0001317146		MML Series II Equity Rotation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	98.800	MMLIC	
.....0000			47-3559064		0001317146		MML Series II Special Situations Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	98.800	MMLIC	

STATEMENT AS OF SEPTEMBER 30, 2016 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
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)	*
.....0000			46-3289207		0000916053		MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	25.300	MMLIC	
.....0000			47-5326235		0000916053		MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.500	MMLIC	
.....0000			45-1618155		0000916053		MassMutual RetireSMART Conservative Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	35.700	MMLIC	
.....0000			45-1618222		0000916053		MassMutual RetireSMART Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	74.400	MMLIC	
.....0000			45-1618262		0000916053		MassMutual RetireSMART Moderate Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.400	MMLIC	
.....0000			45-1618046		0000916053		MassMutual RetireSMART Moderate Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	88.500	MMLIC	
.....0000			45-3417590		0001530245		Oppenheimer Global High Yield Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
.....0000			46-1604428		0001562689		Oppenheimer Global Real Estate Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	89.700	MMLIC	
.....0000			46-1604428		0001562689		Oppenheimer Global Real Estate Fund	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC	
.....0000			46-1604428		0001562689		Oppenheimer Global Real Estate Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
.....0000			47-3676235				Oppenheimer Global Multi-Asset Growth Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
.....0000			47-1714929				Oppenheimer Global Multi-Asset Income Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
.....0000			81-1080638				Oppenheimer Macquarie Global Infrastructure Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
.....0000			47-3987967				Oppenheimer SteelPath Panoramic Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns .40% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own 3.6% and includes only Great Lakes III, L.P.
3	Partnership investors own 99% and include Babson Capital Loan Strategies Fund, L.P.
4	Debt investors own 21.6% and includes only Babson Capital Loan Strategies Fund, L.P.
5	Debt investors own .4% and includes only Connecticut Valley Structured Credit CDO III, Ltd.
6	Debt investors own 56% and includes only Babson Capital Loan Strategies Fund, L.P.
7	Debt investors own 8.7% and includes only Babson Capital Loan Strategies Fund, L.P.
8	Debt investors own 3.5% and includes only Great Lakes III, L.P.
9	Debt investors own 5.7% and includes only Great Lakes III, L.P.
10	Debt investors own 1.1% and includes only Great Lakes III, L.P.
11	Debt investors own 4.3% 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.

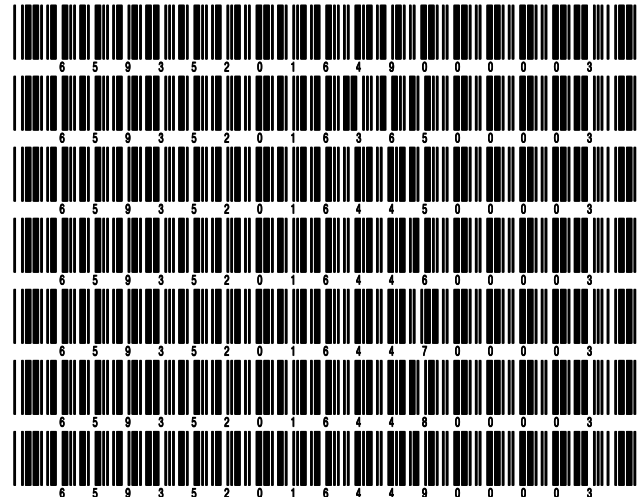
	Response
1. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO
2. Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3. Will the Reasonableness of Assumptions Certification required 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

Explanation:

1. Not Required
2. Not Required
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]



OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Assets Line 25

	Current Statement Date			4 December 31 Prior Year Net Admitted Assets
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	
2504. Investment in trust	31,578,299		31,578,299	32,401,020
2505. Pension plan asset	649,693,113	649,693,113		
2506. Cash advances to agents	206,108,532	206,108,532		454,517
2507. Intangible assets	101,051,066	101,051,066		
2508. Commissions and expenses on long-term lease	48,043,395	48,043,395		
2509. Bills receivable	309,661	309,661		
2597. Summary of remaining write-ins for Line 25 from overflow page	1,036,784,066	1,005,205,767	31,578,299	32,855,537

Additional Write-ins for Liabilities Line 25

	1 Current Statement Date	2 December 31 Prior Year
2504. Funds awaiting escheat and other miscellaneous	43,617,014	59,442,056
2505. Deferred liability	21,562,309	22,951,063
2597. Summary of remaining write-ins for Line 25 from overflow page	65,179,323	82,393,119

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	5,901,947	26,013,081	28,650,573
2797. Summary of remaining write-ins for Line 27 from overflow page	5,901,947	26,013,081	28,650,573

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	928,176,765	775,877,372
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	4,647,328	67,771,032
2.2 Additional investment made after acquisition	197,808,897	294,221,232
3. Current year change in encumbrances	(52,367,655)	(54,626,229)
4. Total gain (loss) on disposals	6,671,394	50,196,528
5. Deduct amounts received on disposals	27,733,156	110,006,251
6. Total foreign exchange change in book/adjusted carrying value		
7. Deduct current year's other than temporary impairment recognized		
8. Deduct current year's depreciation	80,001,009	95,256,919
9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)	977,202,564	928,176,765
10. Deduct total nonadmitted amounts		
11. Statement value at end of current period (Line 9 minus Line 10)	977,202,564	928,176,765

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	22,007,729,394	19,356,684,887
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	2,112,801,849	4,885,057,024
2.2 Additional investment made after acquisition	244,900,692	411,061,150
3. Capitalized deferred interest and other	30,632,113	37,046,929
4. Accrual of discount	2,035,452	1,777,987
5. Unrealized valuation increase (decrease)		
6. Total gain (loss) on disposals	(1,953,631)	(2,990,144)
7. Deduct amounts received on disposals	2,901,457,334	2,574,694,271
8. Deduct amortization of premium and mortgage interest points and commitment fees	830,698	8,607,105
9. Total foreign exchange change in book value/recorded investment excluding accrued interest	(98,458,298)	(92,566,108)
10. Deduct current year's other than temporary impairment recognized	6,688,012	5,040,955
11. Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	21,388,711,527	22,007,729,394
12. Total valuation allowance		
13. Subtotal (Line 11 plus Line 12)	21,388,711,527	22,007,729,394
14. Deduct total nonadmitted amounts		
15. Statement value at end of current period (Line 13 minus Line 14)	21,388,711,527	22,007,729,394

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	7,535,417,690	7,052,880,574
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	353,045,761	1,868,141,079
2.2 Additional investment made after acquisition	853,169,983	1,599,048,361
3. Capitalized deferred interest and other		
4. Accrual of discount		
5. Unrealized valuation increase (decrease)	277,876,887	519,745,996
6. Total gain (loss) on disposals	2,014,713	(2,275,272)
7. Deduct amounts received on disposals	1,873,576,415	3,427,634,382
8. Deduct amortization of premium and depreciation	271,862	9,059,677
9. Total foreign exchange change in book/adjusted carrying value	(6,529,869)	(44,489,630)
10. Deduct current year's other than temporary impairment recognized	5,121,483	20,939,360
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	7,136,025,405	7,535,417,690
12. Deduct total nonadmitted amounts	46,778,629	62,151,320
13. Statement value at end of current period (Line 11 minus Line 12)	7,089,246,776	7,473,266,370

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	89,179,507,736	84,372,279,178
2. Cost of bonds and stocks acquired	19,273,221,737	20,375,381,082
3. Accrual of discount	275,236,835	458,566,389
4. Unrealized valuation increase (decrease)	1,908,751,508	16,656,914
5. Total gain (loss) on disposals	(53,276,194)	187,514,199
6. Deduct consideration for bonds and stocks disposed of	10,802,774,893	15,608,173,222
7. Deduct amortization of premium	128,149,385	196,922,755
8. Total foreign exchange change in book/adjusted carrying value	(163,811,718)	(230,339,878)
9. Deduct current year's other than temporary impairment recognized	78,799,695	195,454,171
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	99,409,905,931	89,179,507,736
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	99,409,905,931	89,179,507,736

STATEMENT AS OF SEPTEMBER 30, 2016 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)	48,486,158,884	2,982,991,890	2,474,584,616	36,685,633	47,011,681,439	48,486,158,884	49,031,251,791	45,775,594,761
2. NAIC 2 (a)	30,816,794,498	22,548,752,494	21,092,358,473	338,807,050	30,291,835,917	30,816,794,498	32,611,995,569	29,888,287,639
3. NAIC 3 (a)	3,662,384,015	665,210,746	245,164,827	(281,021,111)	3,556,664,489	3,662,384,015	3,801,408,823	3,480,739,106
4. NAIC 4 (a)	2,630,873,897	414,443,634	324,922,568	(120,945,220)	2,419,060,038	2,630,873,897	2,599,449,743	2,147,858,102
5. NAIC 5 (a)	1,026,286,810	24,549,715	72,488,519	76,918,386	909,243,722	1,026,286,810	1,055,266,392	766,947,118
6. NAIC 6 (a)	445,424,076	21,221,549	49,803,349	23,737,155	431,035,506	445,424,076	440,579,431	361,717,484
7. Total Bonds	87,067,922,180	26,657,170,028	24,259,322,352	74,181,893	84,619,521,111	87,067,922,180	89,539,951,749	82,421,144,210
PREFERRED STOCK								
8. NAIC 1	165,500,000				165,500,000	165,500,000	165,500,000	212,650,000
9. NAIC 2	174,015,597	13,350		(2,622,401)	154,824,887	174,015,597	171,406,546	177,002,528
10. NAIC 3	123,000,000				123,000,000	123,000,000	123,000,000	123,000,000
11. NAIC 4	14,312,566	1,700,149		(506,805)	546,872	14,312,566	15,505,910	546,872
12. NAIC 5	1,280,852		6,348,644	5,623,270	4,256,473	1,280,852	555,478	4,261,033
13. NAIC 6	14,844,147		(2)	1	14,844,150	14,844,147	14,844,150	15,489,216
14. Total Preferred Stock	492,953,162	1,713,499	6,348,642	2,494,065	462,972,382	492,953,162	490,812,084	532,949,649
15. Total Bonds and Preferred Stock	87,560,875,342	26,658,883,527	24,265,670,994	76,675,958	85,082,493,493	87,560,875,342	90,030,763,833	82,954,093,859

(a) Book/Adjusted Carrying Value column for the end of the current reporting period includes the following amount of non-rated short-term and cash equivalent bonds by NAIC designation: NAIC 1 \$50,883,947 ; NAIC 2 \$2,587,024,061 ; NAIC 3 \$422,104,921 ; 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	335,721,399	XXX	335,003,818		

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	167,854,960	371,463,818
2. Cost of short-term investments acquired	1,406,399,360	1,023,794,253
3. Accrual of discount	4,054,073	1,017,345
4. Unrealized valuation increase (decrease)		
5. Total gain (loss) on disposals	37,004	9,449
6. Deduct consideration received on disposals	1,242,623,998	1,228,429,905
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)	335,721,399	167,854,960
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	335,721,399	167,854,960

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)	3,427,737,410
2. Cost Paid/(Consideration Received) on additions	401,490,686
3. Unrealized Valuation increase/(decrease)	745,048,726
4. Total gain (loss) on termination recognized	134,664,002
5. Considerations received/(paid) on terminations	499,971,590
6. Amortization	(989,038)
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)	4,207,980,196
10. Deduct nonadmitted assets	
11. Statement value at end of current period (Line 9 minus Line 10)	4,207,980,196

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	(76,601,047)
3.14 Section 1, Column 18, prior year	7,584,764 (84,185,811) (84,185,811)
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	(76,601,047)
3.24 Section 1, Column 19, prior year	7,584,764 (84,185,811) (84,185,811)
3.3 Subtotal (Line 3.1 minus Line 3.2)	
4.1 Cumulative variation margin on terminated contracts during the year	406,758,751
4.2 Less:	
4.21 Amount used to adjust basis of hedged item	
4.22 Amount recognized	399,173,987 399,173,987
4.3 Subtotal (Line 4.1 minus Line 4.2)	7,584,764
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	(7,584,764)
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 SEPTEMBER 30, 2016 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*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2	50,000,000	4,000,000	12,406,206	10/01/2012	10/01/2042	Interest Rate Swaps	8,407,218	8,407,218	27965F-AD-4	Edens & Avant Investments LP Gtd Senior Note Series A Tr D	2	4,000,000	3,998,988
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		28,733,934	29,044,099	10/01/2012	10/01/2042	Interest Rate Swaps			758750-AA-2	Regal Beloit Corporation Senior Note Ser 2007ATranche B	2	28,733,934	29,044,099
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		11,970,000	13,370,000	10/01/2012	10/01/2042	Interest Rate Swaps			69350K-AA-4	PNC Preferred Funding Trust II Unsecured Bond	2	11,970,000	13,370,000
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	2		11,079,433	11,293,750	10/01/2012	10/01/2042	Interest Rate Swaps			320808-AD-0	First Maryland Capital I Limited Guarantee Note	2	11,079,433	11,293,750
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3	50,000,000	4,540,601	12,742,246	10/01/2012	10/01/2042	Interest Rate Swaps	8,341,102	8,341,102	38137A-AG-8	Goldentree Loan Opp VI Ltd Sr Secd Deferrable Nt Class C	1	4,540,601	4,401,144
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		6,403,382	6,175,000	10/01/2012	10/01/2042	Interest Rate Swaps			67818N-ZZ-5	SASOL CHEMICALS (USA) LLC Rockall CLO BV Variable Funding Note- USD	2	6,403,382	6,175,000
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		7,514,340	7,503,820	10/01/2012	10/01/2042	Interest Rate Swaps			77277L-A7-2	Rockall CLO BV Variable Funding Note- USD	1	7,514,340	7,503,820
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		4,949,861	4,643,640	10/01/2012	10/01/2042	Interest Rate Swaps			U8270Y-ZZ-4	SILVER STATE SOLAR SOUTH	2	4,949,861	4,643,640
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		1,900,350	1,905,101	10/01/2012	10/01/2042	Interest Rate Swaps			81683U-AF-4	SEMINOLE TRIBE OF FLORIDA	2	1,900,350	1,905,101
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		975,852	977,072	10/01/2012	10/01/2042	Interest Rate Swaps			48578P-AF-2	KASIMA, LLC	2	975,852	977,072
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		13,000,000	13,017,823	10/01/2012	10/01/2042	Interest Rate Swaps			14889K-AC-6	Catamaran CLO Ltd Series 2015-1A Class B	1	13,000,000	13,017,823
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	3		12,920,000	12,923,437	10/01/2012	10/01/2042	Interest Rate Swaps			55818Y-AE-1	Madison Park Funding Ltd Series 2015-17A Class B	1	12,920,000	12,923,437
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	264,000,000	16,539,065	59,221,171	11/29/2012	11/29/2042	Interest Rate Swaps	43,221,267	43,221,267	87244D-AC-8	Wind River CLO Ltd Series 2013-1A Class A2	1	16,539,065	15,999,904
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,281,659	17,811,467	11/29/2012	11/29/2042	Interest Rate Swaps			87244D-AA-2	Wind River CLO Ltd Series 2013-1A Class A1	1	18,281,659	17,811,467
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,621,473	4,451,522	11/29/2012	11/29/2042	Interest Rate Swaps			09625Y-AG-6	Bluemountain CLO 2012-1 Ltd Sr Sec Def Note Class C 144A	1	4,621,473	4,451,522
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		186,418,100	183,005,307	11/29/2012	11/29/2042	Interest Rate Swaps			85815X-AA-1	Steele Creek CLO Ltd Series 2014-1A Class A1	1	186,418,100	183,005,307
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		46,468,549	45,709,225	11/29/2012	11/29/2042	Interest Rate Swaps			14955A-AA-1	CAVALRY CLO LTD Series 2014-4A Class A	1	46,468,549	45,709,225
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,141,669	15,751,528	11/29/2012	11/29/2042	Interest Rate Swaps			39808F-AC-2	Greywolf CLO Ltd Series 2014-1A Class A2	1	15,141,669	15,751,528
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	6,436,716	26,955,868	12/27/2012	12/27/2042	Interest Rate Swaps	20,502,430	20,502,430	05618M-AJ-3	Babson CLO Ltd 2014-111 Secd Def Mezz Term Nt C C-1	1	6,436,716	6,453,438
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,020,728	2,000,368	12/27/2012	12/27/2042	Interest Rate Swaps			50183X-AG-6	LM Ltd Partnership Series 11A Class C	1	2,020,728	2,000,368
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,473,017	7,465,057	12/27/2012	12/27/2042	Interest Rate Swaps			449796-AJ-0	J N G Investment Management Series 2006-2A Class C	1	7,473,017	7,465,057
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,504,731	4,543,508	12/27/2012	12/27/2042	Interest Rate Swaps			87154E-AF-7	Symphony CLO XV Ltd Def Mezz NT CL D 144A	1	4,504,731	4,543,508
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,135,745	4,062,298	12/27/2012	12/27/2042	Interest Rate Swaps			15135A-AA-1	Cent CDO Ltd Series 2006-12A Class A	1	4,135,745	4,062,298
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,469,197	19,500,195	12/27/2012	12/27/2042	Interest Rate Swaps			056162-AC-4	Babson CLO Ltd 2015-1 Sr Secd Note Class B	1	19,469,197	19,500,195
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,400,000	17,434,678	12/27/2012	12/27/2042	Interest Rate Swaps			81789G-AA-9	SEVEN STICKS CLO LTD Sr Secured Note Class A-1	1	17,400,000	17,434,678
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,833,563	6,895,981	12/27/2012	12/27/2042	Interest Rate Swaps			46617Y-AD-5	JFIN CLO LTD Series 2015-1A Class C1	1	6,833,563	6,895,981
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,007,620	6,329,400	12/27/2012	12/27/2042	Interest Rate Swaps			24820R-AA-6	Statoil ASA Senior Unsecured Note	1	5,007,620	6,329,400
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,105,253	4,366,891	12/27/2012	12/27/2042	Interest Rate Swaps			00162L-AW-7	ALM XVI, LTD.	1	4,105,253	4,366,891
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,762,590	15,640,047	12/27/2012	12/27/2042	Interest Rate Swaps			053633-AB-9	AVERY POINT CLO LTD.	1	15,762,590	15,640,047
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,100,367	12,024,948	12/27/2012	12/27/2042	Interest Rate Swaps			04965C-AC-2	ATRIUM XII Note Class B	1	12,100,367	12,024,948
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	43,800,000	64,344,303	12/27/2012	12/27/2042	Interest Rate Swaps	20,502,430	20,502,430	00900A-AA-6	Aimco Series 2014-AA Class A	1	43,800,000	43,841,873

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STATEMENT AS OF SEPTEMBER 30, 2016 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,770,767	11,098,927	12/27/2012	12/27/2042	Interest Rate Swaps			14309D-AC-4	Carlyle High Yield Partners Series 2007-10A Class A2B	1	11,770,767	11,098,927
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,500,000	10,503,822	12/27/2012	12/27/2042	Interest Rate Swaps			74982G-AE-1	Race Point VII CLO Ltd. Series 2012-7A Class B	1	10,500,000	10,503,822
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		35,029,268	34,726,195	12/27/2012	12/27/2042	Interest Rate Swaps			26250U-AC-9	Dryden Senior Loan Fund Series 2013-26A Class A	1	35,029,268	34,726,195
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,900,000	4,900,069	12/27/2012	12/27/2042	Interest Rate Swaps			67590B-AE-0	Octagon Inv Partners XVI Ltd Series 2013-1A Class C1	1	4,900,000	4,900,069
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	11,765,033	33,721,492	12/28/2012	12/28/2042	Interest Rate Swaps		21,751,012	38136B-AG-7	Goldentree Loan Opp III Ltd Sr Secured Nt Class A-1B-J	1	11,765,033	11,970,480
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,027,397	15,067,837	12/28/2012	12/28/2042	Interest Rate Swaps			55817U-AB-6	Madison Park Funding Ltd Series 2007-4A Class A1B	1	15,027,397	15,067,837
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,527,959	8,501,691	12/28/2012	12/28/2042	Interest Rate Swaps			26828C-AC-2	ECP CLO Ltd Series 2012-4A Class A2	1	8,527,959	8,501,691
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,161,319	9,071,978	12/28/2012	12/28/2042	Interest Rate Swaps			87155M-AC-5	Symphony CLO Ltd Series 2007-5A Class A2	1	9,161,319	9,071,978
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,758,708	6,581,542	12/28/2012	12/28/2042	Interest Rate Swaps			10302V-AG-0	Bowman Park CLO Ltd Series 2014-1A Class C	1	6,758,708	6,581,542
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,971,883	6,908,936	12/28/2012	12/28/2042	Interest Rate Swaps			55818X-AG-8	Madison Park Funding XVI Ltd Sr Secured Deferrable Nt CI B	1	6,971,883	6,908,936
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		50,000,000	50,350,300	12/28/2012	12/28/2042	Interest Rate Swaps			949496-AC-7	WELFLEET CLO LTD Series 2015-1A Class A1	1	50,000,000	50,350,300
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	34,692,013	55,602,264	12/28/2012	12/28/2042	Interest Rate Swaps		21,751,012	67104L-AA-5	OHA Loan Funding Ltd. Series 2013-2A Class A	1	34,692,013	33,851,252
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,150,000	9,115,971	12/28/2012	12/28/2042	Interest Rate Swaps			38137D-AC-1	Goldentree Loan Opp VII Ltd Sr Secured Nt Class B-1 144A	1	9,150,000	9,115,971
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		42,810,327	42,010,710	12/28/2012	12/28/2042	Interest Rate Swaps			92329X-AA-6	Venture XVI CLO Ltd Sr Secd Note Class A-1L 144A	1	42,810,327	42,010,710
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,900,000	17,640,683	12/28/2012	12/28/2042	Interest Rate Swaps			89852T-AC-2	Tryon Park CLO Ltd Series 2013-1A Class A2	1	17,900,000	17,640,683
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	9,325,000	31,090,662	12/28/2012	12/28/2042	Interest Rate Swaps		21,751,012	14310U-AC-3	Carlyle Global Mkt CLO 2014-4 Sr Secd Note Class A-1 Accd	1	9,325,000	9,339,650
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,400,000	5,400,891	12/28/2012	12/28/2042	Interest Rate Swaps			38137D-AG-2	Goldentree Loan Opp VII Ltd Sr Secured Nt Class C-1 144A	1	5,400,000	5,400,891
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,100,000	10,061,974	12/28/2012	12/28/2042	Interest Rate Swaps			09626Y-AC-4	Bluemountain CLO 2013-2 Ltd Sr Secured Note Class B-1 144A	1	10,100,000	10,061,974
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,840,637	6,600,436	12/28/2012	12/28/2042	Interest Rate Swaps			74982L-AE-0	Race Point CLO Ltd. Series 2013-8A Class B	1	6,840,637	6,600,436
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,144,504	8,151,956	12/28/2012	12/28/2042	Interest Rate Swaps			33882W-AA-1	Flatiron CLO Ltd. Series 2011-1A Class A	1	8,144,504	8,151,956
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,398,585	12,941,836	12/28/2012	12/28/2042	Interest Rate Swaps			29108Q-AC-6	Emerson Park CLO Ltd Series 2013-1A Class B1	1	13,398,585	12,941,836
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,616,358	10,402,330	12/28/2012	12/28/2042	Interest Rate Swaps			67091H-AC-5	O H A Loan Funding LTD. Series 2012-1A Class B1	1	10,616,358	10,402,330
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,040,744	5,003,250	12/28/2012	12/28/2042	Interest Rate Swaps			50184V-AG-9	L C M Ltd Partnership Series 14A Class C	1	5,040,744	5,003,250
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,945,993	4,999,990	12/28/2012	12/28/2042	Interest Rate Swaps			46617N-AE-7	JFIN CLO 2014-II Ltd Sr Secd Deferrable Nt Class B	1	4,945,993	4,999,990
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,230,000	14,229,915	12/28/2012	12/28/2042	Interest Rate Swaps			00163E-AM-4	ALM VI Ltd Sr Secd Note Class A-2-R 144A	1	14,230,000	14,229,915
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,975,000	13,975,615	12/28/2012	12/28/2042	Interest Rate Swaps			55952U-AG-0	Magnetite VI Ltd Sr Secd Note Class B-R 144A	1	13,975,000	13,975,615
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,277,636	1,266,536	12/28/2012	12/28/2042	Interest Rate Swaps			46617E-AC-1	JFIN CLO LTD	1	1,277,636	1,266,536
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	15,303,623	25,875,116	12/28/2012	12/28/2042	Interest Rate Swaps		10,875,506	854432-AA-9	Stanford Street CLO Ltd Series 2014-1A Class A	1	15,303,623	14,999,610
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,035,689	19,750,869	12/28/2012	12/28/2042	Interest Rate Swaps			09625J-AA-2	Bluemountain CLO 2013-3 Ltd Sr Secured Note Class A 144A	1	20,035,689	19,750,869
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,570,000	9,569,234	12/28/2012	12/28/2042	Interest Rate Swaps			568416-BD-2	MARINE PARK CLO LTD Sr Secd Deferrable Nt CI B-R	1	9,570,000	9,569,234
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,526,288	12/28/2012	12/28/2042	Interest Rate Swaps			26245C-AE-3	DRYDEN 43 SENIOR LOAN FUND Sr Secd Note Class B	1	7,500,000	7,526,288

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STATEMENT AS OF SEPTEMBER 30, 2016 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*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	7,255,465	18,388,254	12/28/2012	12/28/2042	Interest Rate Swaps	10,875,506	10,875,506	15135D-AC-1	Cent CDO Ltd Series 2007-14A Class B	1	7,255,465	7,512,748
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	12,000,000	12,000,000	11,984,244	12/28/2012	12/28/2042	Interest Rate Swaps			03765P-AC-7	APIDOS CLO XXI Sr Secured Note Class A-2 144A	1	12,000,000	11,984,244
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,725,000	11,729,057	12/28/2012	12/28/2042	Interest Rate Swaps			38137P-AE-0	Goldentree Loan Opp X Ltd Sr Secd Note Class B 144A	1	11,725,000	11,729,057
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,250,000	11,190,724	12/28/2012	12/28/2042	Interest Rate Swaps			04013Y-AQ-5	Ares XXIV CLO Ltd Sr Secd Note Class B-1-R	1	11,250,000	11,190,724
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,195,000	11,153,332	12/28/2012	12/28/2042	Interest Rate Swaps			26250D-AS-2	Dryden XXIV Senior Loan Fund Series 2012-24RA Class BR	1	11,195,000	11,153,332
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,470,084	1,478,949	12/28/2012	12/28/2042	Interest Rate Swaps			14311A-AG-7	Carlyle Global Market Strategi Series 2014-5A Class C	2	1,470,084	1,478,949
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	11,832,368	22,276,840	12/28/2012	12/28/2042	Interest Rate Swaps	10,875,506	10,875,506	14310D-AG-2	Carlyle Global Mkt CLO 2013-2 Mezz Secd Def Nt Class C 144A	1	11,832,368	11,401,334
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,733,928	23,143,459	12/28/2012	12/28/2042	Interest Rate Swaps			00164B-AC-1	ALM VII R 2 Ltd Sr Secured Note Class A-2 144A	1	23,733,928	23,143,459
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,625,000	17,631,980	12/28/2012	12/28/2042	Interest Rate Swaps			55952Y-AC-1	Magnetite VIII CLO Ltd Series 2014-8A Class B	1	17,625,000	17,631,980
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	14,482,512	25,199,036	12/28/2012	12/28/2042	Interest Rate Swaps	10,875,506	10,875,506	278287-AA-5	Eaton Vance CDO Ltd Series 2006-8A Class A	1	14,482,512	14,323,530
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,065,118	3,003,225	12/28/2012	12/28/2042	Interest Rate Swaps			871590-AN-8	Symphony CLO Ltd Series 2014-14A Class C1	1	3,065,118	3,003,225
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,819,167	10,751,941	12/28/2012	12/28/2042	Interest Rate Swaps			62953G-AC-5	NZCG Funding 2 Ltd Sr Secured Note Class A-2	1	10,819,167	10,751,941
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,619,051	10,450,083	12/28/2012	12/28/2042	Interest Rate Swaps			44987H-AC-1	VOYA CLO LTD Series 2014-1A Class A2A	1	10,619,051	10,450,083
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	10,007,890	12/28/2012	12/28/2042	Interest Rate Swaps			43132W-AC-4	Hilidene CLO IV Ltd Series 2015-4A Class A2	1	10,000,000	10,007,890
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,900,000	3,903,795	12/28/2012	12/28/2042	Interest Rate Swaps			05875F-AC-1	BALLYROCK CLO 2016-1 LTD Sr Secd Note CI B-1	1	3,900,000	3,903,795
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	7,000,000	16,868,532	12/31/2012	12/31/2042	Interest Rate Swaps	9,855,365	9,855,365	72349B-AE-4	Pinnacle Park CLO Ltd Series 2014-1A Class C	1	7,000,000	7,013,167
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,452,835	15,004,875	12/31/2012	12/31/2042	Interest Rate Swaps			09625Y-AD-3	Bluemountain CLO 2012-1 Ltd Sr Secured Note Class B 144A	1	15,452,835	15,004,875
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,056,112	3,040,217	12/31/2012	12/31/2042	Interest Rate Swaps			55818V-AC-1	Madison Park Funding Ltd 2014-15A Class A2	1	3,056,112	3,040,217
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,899,984	1,854,515	12/31/2012	12/31/2042	Interest Rate Swaps			04014J-AA-2	Ares XXVI CLO Ltd. Series 2013-26A Class A	1	1,899,984	1,854,515
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,475,000	9,491,534	12/31/2012	12/31/2042	Interest Rate Swaps			262490-AG-3	Dryden Senior Loan Fund Series 2015-38A Class B	1	9,475,000	9,491,534
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,695,238	8,646,450	12/31/2012	12/31/2042	Interest Rate Swaps			39808P-AC-0	Greywolf CLO Ltd Series 2015-1A Class A2	1	8,695,238	8,646,450
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,625,000	8,577,744	12/31/2012	12/31/2042	Interest Rate Swaps			26829C-AC-1	ECP CLO 2015-7 Ltd Sr Secd Nt Class A-2 144A	1	8,625,000	8,577,744
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	5,839,217	15,635,106	12/31/2012	12/31/2042	Interest Rate Swaps	9,855,365	9,855,365	00248P-AE-6	A Voce CLO Ltd Series 2014-1A Class B	1	5,839,217	5,779,741
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,032,186	3,900,729	12/31/2012	12/31/2042	Interest Rate Swaps			67108F-AG-1	Ozlim Funding Ltd Series 2013-4A Class B	1	4,032,186	3,900,729
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		39,000,000	39,689,013	12/31/2012	12/31/2042	Interest Rate Swaps			223611-AA-5	Cowboys Stadium LP Senior Secured Note	2	39,000,000	39,689,013
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,539,895	1,490,846	12/31/2012	12/31/2042	Interest Rate Swaps			15015P-AB-1	Cedar Creek CLO Ltd Series 2013-1A Class B	1	1,539,895	1,490,846
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,143,518	1,098,281	12/31/2012	12/31/2042	Interest Rate Swaps			40536Y-AG-9	Halycon Loan Investors CLO LTD	1	1,143,518	1,098,281
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		981,313	1,032,141	12/31/2012	12/31/2042	Interest Rate Swaps			44983W-AD-0	J N G Investment Management Series 2007-5A Class B	1	981,313	1,032,141
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	14,300,000	24,167,649	12/31/2012	12/31/2042	Interest Rate Swaps	9,855,365	9,855,365	55820J-AC-4	Madison Park Funding XXI Ltd Note Class A-2	1	14,300,000	14,312,284
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,781,478	13,829,668	12/31/2012	12/31/2042	Interest Rate Swaps			948214-AC-5	Webster Park CLO Ltd. Sr Secd Note Class A-2	1	13,781,478	13,829,668
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,753,061	6,607,907	12/31/2012	12/31/2042	Interest Rate Swaps			67104L-AC-1	OH Loan Funding Ltd. Series 2013-2A Class C	1	6,753,061	6,607,907

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STATEMENT AS OF SEPTEMBER 30, 2016 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*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,554,737	4,400,189	12/31/2012	12/31/2042	Interest Rate Swaps			38137A-AJ-2	Goldentree Loan Opp VI Ltd Sr Secd Deferrable Nt Class D	3	4,554,737	4,400,189
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,051,694	4,111,135	12/31/2012	12/31/2042	Interest Rate Swaps			38136G-AE-1	Goldentree Loan Opp IV Ltd Sr Secured Nt Class A-2 144A	1	4,051,694	4,111,135
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,531,741	8,779,309	12/31/2012	12/31/2042	Interest Rate Swaps			59983H-AB-5	MILL CREEK CLO II LTD Sr Secd Nt Cl B-1	1	8,531,741	8,779,309
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	19,886,038	27,086,208	12/31/2012	12/31/2042	Interest Rate Swaps		9,855,365	BCC0XF-V8-9	St Pauls CLO I B.V. Series 2007-1X Class A	1	19,886,038	17,230,843
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,724,862	5,552,320	12/31/2012	12/31/2042	Interest Rate Swaps			67706H-AG-3	OHA Loan Funding Ltd Series 2013-1A Class C	1	5,724,862	5,552,320
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,613,758	10,000,970	12/31/2012	12/31/2042	Interest Rate Swaps			38808F-AC-2	Greywolf CLO Ltd Series 2014-1A Class A2	1	9,613,758	10,000,970
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,500,000	4,499,937	12/31/2012	12/31/2042	Interest Rate Swaps			26244M-AC-6	Webster Park CLO Ltd. Sr Secd Note Class A-2	1	4,500,000	4,499,937
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,700,000	3,702,305	12/31/2012	12/31/2042	Interest Rate Swaps			67108B-AC-9	Ozlm Funding Ltd. Series 2012-2A Class A2	1	3,700,000	3,702,305
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,700,000	3,678,459	12/31/2012	12/31/2042	Interest Rate Swaps			24823B-AC-4	Denalii Capital CLO X Ltd Series 2013-1A Class A2L	1	3,700,000	3,678,459
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,425,000	5,491,825	12/31/2012	12/31/2042	Interest Rate Swaps			05618P-AJ-6	BABSON CLO LTD. 2016-1 JFIN CLO 2013 Ltd Sr Secd	1	5,425,000	5,491,825
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	9,234,882	18,955,247	12/31/2012	12/31/2042	Interest Rate Swaps		9,855,365	46616K-AE-4	Deferrable Nt Class B	1	9,234,882	9,099,882
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,692,999	11,309,605	12/31/2012	12/31/2042	Interest Rate Swaps			03764D-AD-3	Apidos CDO Series 2013-12A Class C	1	11,692,999	11,309,605
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,600,000	10,605,417	12/31/2012	12/31/2042	Interest Rate Swaps			006897-AE-2	Adirondack Park CLO Ltd. Series 2013-1A Class B	1	10,600,000	10,605,417
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,000,000	10,045,200	12/31/2012	12/31/2042	Interest Rate Swaps			50188Q-AE-1	LCM XIX Ltd Partnership Series 19A Class C	1	10,000,000	10,045,200
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,257,436	11,292,476	12/31/2012	12/31/2042	Interest Rate Swaps			36320D-AA-6	GALAXY XVII CLO, LTD. Cent CLO 18 Limited Series 2013-18A Class C1	1	11,257,436	11,292,476
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	5,078,807	14,755,306	12/31/2012	12/31/2042	Interest Rate Swaps		9,855,365	15136R-AJ-4	Race Point VII CLO Ltd. Series 2012-7A Class A	1	5,078,807	4,899,941
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,019,982	6,895,046	12/31/2012	12/31/2042	Interest Rate Swaps			74982G-AC-5	Eaton Vance CDO Ltd Series 2014-1A Class B	1	7,019,982	6,895,046
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,250,000	17,249,897	12/31/2012	12/31/2042	Interest Rate Swaps			27830D-AC-4	Race Point CLO Ltd. Series 2013-8A Class C	1	17,250,000	17,249,897
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,070,027	3,001,071	12/31/2012	12/31/2042	Interest Rate Swaps			74982L-AG-5	Greywolf CLO Ltd Series 2015-1A Class A1	1	3,070,027	3,001,071
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,750,000	21,766,791	12/31/2012	12/31/2042	Interest Rate Swaps			38808P-AA-4	Ares XXVI CLO Ltd. Series 2013-26A Class A	1	21,750,000	21,766,791
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	28,294,674	40,508,116	04/09/2013	04/09/2043	Interest Rate Swaps		12,890,579	04014J-AA-2	GT Loan Financing I Ltd. Sr Secd Note Class B	1	28,294,674	27,617,537
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,795,034	4,808,872	04/09/2013	04/09/2043	Interest Rate Swaps			36248M-AB-3	Cavalry CLO III Ltd Sr Secd Note Class B	1	4,795,034	4,808,872
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,563,965	12,475,237	04/09/2013	04/09/2043	Interest Rate Swaps			14954W-AC-0	OHA Credit Partners X Ltd Mezz Secd Def Nt Cl C	1	12,563,965	12,475,237
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,225,000	6,226,693	04/09/2013	04/09/2043	Interest Rate Swaps			67106J-AG-5	Hildene CLO I Ltd Sr Secd Nt Cl A	1	6,225,000	6,226,693
57629*AI1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,321,638	6,187,978	04/09/2013	04/09/2043	Interest Rate Swaps			43132R-AA-9	Atlas Senior Loan Fund III Ltd Series 2013-1A Class B	1	6,321,638	6,187,978
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	60,000,000	22,400,000	36,319,695	04/09/2013	04/09/2043	Interest Rate Swaps		14,062,450	04941G-AC-2	Goldentree Loan Opp VII Ltd Sr Secured Nt Class B-1 144A	1	22,400,000	22,257,245
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,150,000	9,115,971	04/09/2013	04/09/2043	Interest Rate Swaps			38137D-AC-1	Bluemountain CLO 2012-1 Ltd Sr Sec Def Note Class C 144A	1	9,150,000	9,115,971
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,790,646	3,651,248	04/09/2013	04/09/2043	Interest Rate Swaps			09625Y-AG-6	Bluemountain CLO 2013-1 Ltd Sr Secured Note Class A-2 144A	1	3,790,646	3,651,248
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,000,000	22,940,384	04/09/2013	04/09/2043	Interest Rate Swaps			09626U-AC-2	Callidus Debt Partners CDO Fnd Series 6A Class A2	1	23,000,000	22,940,384
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,012,252	2,942,061	04/09/2013	04/09/2043	Interest Rate Swaps			13124B-AE-6	Goldentree Loan Opp III Ltd Series 2007-3A Class A1BS	1	3,012,252	2,942,061
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	1,553,975	13,805,540	04/09/2013	04/09/2043	Interest Rate Swaps		12,250,845	38136B-AE-2		1	1,553,975	1,554,695

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STATEMENT AS OF SEPTEMBER 30, 2016 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*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,863,561	7,805,070	04/09/2013	04/09/2043	Interest Rate Swaps			50184V-AG-9	L C M Ltd Partnership Series 14A Class C	1	7,863,561	7,805,070
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,100,000	17,101,727	04/09/2013	04/09/2043	Interest Rate Swaps			55818P-AC-4	Madison Park Funding Ltd Series 2014-12A Class B1	1	17,100,000	17,101,727
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,500,000	12,526,975	04/09/2013	04/09/2043	Interest Rate Swaps			50188G-AE-3	LCM XVIII Ltd Partnership Sr Nt Class B-1 144A	1	12,500,000	12,526,975
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,132,817	3,028,089	04/09/2013	04/09/2043	Interest Rate Swaps			67104L-AB-3	OHA Loan Funding Ltd. Series 2013-2A Class B	1	3,132,817	3,028,089
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,000,000	13,068,198	04/09/2013	04/09/2043	Interest Rate Swaps			26244Y-AC-0	DRYDEN 42 SENIOR LOAN FUND Sr Secd Note Class B	1	13,000,000	13,068,198
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	20,644,903	32,091,582	04/09/2013	04/09/2043	Interest Rate Swaps		12,250,845	27829K-AE-7	Eaton Vance CDO Ltd Series 2007-10A Class B2	1	20,644,903	19,840,737
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,100,000	2,094,557	04/09/2013	04/09/2043	Interest Rate Swaps			09626U-AC-2	Bluemountain CLO 2013-1 Ltd Sr Secured Note Class A-2 144A	1	2,100,000	2,094,557
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,123,400	3,062,634	04/09/2013	04/09/2043	Interest Rate Swaps			50184V-AC-8	L C M Ltd Partnership Series 14A Class A	1	3,123,400	3,062,634
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,610,000	8,620,031	04/09/2013	04/09/2043	Interest Rate Swaps			860444-AC-2	Stewart Park CLO Ltd Sr Secured Note Class B 144A	1	8,610,000	8,620,031
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,615,451	8,575,606	04/09/2013	04/09/2043	Interest Rate Swaps			26829C-AJ-6	ECP CLO 2015-7 Ltd Sr Secd Deferrable Nt Cl B-1	1	8,615,451	8,575,606
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,500,000	7,505,077	04/09/2013	04/09/2043	Interest Rate Swaps			568416-BB-6	MARINE PARK CLO LTD Sr Secd Note Class A-2-R 144A	1	7,500,000	7,505,077
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	7,015,904	04/09/2013	04/09/2043	Interest Rate Swaps			50188Q-AC-5	LCM XIX Ltd Partnership Series 19A Class B	1	7,000,000	7,015,904
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,825,000	4,825,545	04/09/2013	04/09/2043	Interest Rate Swaps			89473L-AB-0	TREMAN PARK CLO LTD Sr Secd Nt Class B-1 144A	1	4,825,000	4,825,545
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	28,597,780	40,559,457	04/09/2013	04/09/2043	Interest Rate Swaps		11,711,764	67110H-AA-6	OZLM, LTD.	1	28,597,780	28,847,693
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,962,397	16,559,351	04/09/2013	04/09/2043	Interest Rate Swaps			54303P-AB-1	Longfellow Place CLO LTD Series 2013-1A Class B	1	16,962,397	16,559,351
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,000,000	13,104,780	04/09/2013	04/09/2043	Interest Rate Swaps			50189C-AE-1	LCM XXI LP Sr Note Cl B-1	1	13,000,000	13,104,780
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	60,000,000	38,024,315	50,599,162	04/09/2013	04/09/2043	Interest Rate Swaps		12,776,470	04941G-AA-6	Atlas Senior Loan Fund III Ltd Series 2013-1A Class A	1	38,024,315	37,822,692
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		25,269,778	24,799,427	04/09/2013	04/09/2043	Interest Rate Swaps			14310G-AA-8	Carlyle Global Mkt CLO 2013-3 Sr Secd Note Class A-1 144A	1	25,269,778	24,799,427
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	55,800,000	66,456,912	04/09/2013	04/09/2043	Interest Rate Swaps		10,657,135	54303P-AA-3	Longfellow Place CLO LTD Series 2013-1A Class A	1	55,800,000	55,799,777
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	55,800,000	66,456,912	04/09/2013	04/09/2043	Interest Rate Swaps		10,657,135	54303P-AA-3	Longfellow Place CLO LTD Series 2013-1A Class A	1	55,800,000	55,799,777
92553PA*3	Viacom, Inc. Senior Note	2	20,000,000	23,785,906	26,738,554	12/20/2013	03/20/2019	5 Yr Credit Default Swap	285,906	306,741	Q3915H-AB-2	Fletcher Building Intl LP Gtd Senior Note Series B	2	23,500,000	26,431,813
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	112,133,203	136,569,119	03/05/2014	03/05/2034	Interest Rate Swaps		26,568,459	872455-AA-8	TIPC CLO Ltd Series 2014-1A Class A1	1	112,133,203	110,000,660
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	102,024,151	126,597,380	03/05/2014	03/05/2034	Interest Rate Swaps		26,599,980	854432-AA-9	Stanford Street CLO Ltd Series 2014-1A Class A	1	102,024,151	99,997,400
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,177,378	4,780,145	03/05/2014	03/05/2034	Interest Rate Swaps			40537X-AE-5	Halcyon Loan Advisors Fnd Ltd Series 2013-1A Class B	1	5,177,378	4,780,145
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	164,659,184	212,154,587	05/19/2014	05/19/2044	Interest Rate Swaps		50,888,301	09627L-AA-5	Bluemountain CLO 2014-1 Ltd Sr Secured Note Class A 144A	1	164,659,184	161,266,286
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	85,444,074	112,431,990	05/19/2014	05/19/2034	Interest Rate Swaps		28,794,478	43132R-AA-9	Hiidene CLO Ltd Series 2013-1A Class A	1	85,444,074	83,637,512
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		40,881,679	39,068,449	05/19/2014	05/19/2034	Interest Rate Swaps			49638W-AD-8	Kingsland Ltd Series 2013-6A Class B	1	40,881,679	39,068,449
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,277,184	13,014,300	05/19/2014	05/19/2034	Interest Rate Swaps			26249E-AC-9	Dryden Senior Loan Fund Series 2014-31A Class B	1	13,277,184	13,014,300
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	156,000,000	207,240,060	05/19/2014	05/19/2044	Interest Rate Swaps		51,227,112	05363U-AC-7	Avery Point CLO Ltd Series 2014-1A Class A	1	156,000,000	156,012,948
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	149,763,718	200,921,691	05/19/2014	05/19/2044	Interest Rate Swaps		51,166,300	04941M-AA-3	Atlas Senior Loan Fund Ltd Series 2014-1A Class A	1	149,763,718	149,755,391
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,778,188	8,676,579	05/19/2014	05/19/2044	Interest Rate Swaps			03765D-AE-0	Apidos CDO Series 2014-18A Class B	1	8,778,188	8,676,579

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STATEMENT AS OF SEPTEMBER 30, 2016 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*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	142,929,413	189,908,742	05/19/2014	05/19/2044	Interest Rate Swaps	50,749,302	49638W-AB-2	Kingsland Ltd Series 2013-6A Class A1	1	142,929,413	139,159,440	
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,479,590	4,479,590	4,489,191	05/19/2014	05/19/2044	Interest Rate Swaps		639107-AE-1	Nautique Funding Ltd Series 2006-1A Class A3	1	4,479,590	4,489,191	
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,020,558	4,020,558	4,061,796	05/19/2014	05/19/2044	Interest Rate Swaps		82835A-AE-6	Silverado CLO Ltd Series 2006-2A Class A1J	1	4,020,558	4,061,796	
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	11,143,848	11,143,848	11,368,176	05/19/2014	05/19/2044	Interest Rate Swaps		05617W-AA-1	BABSON CLO LTD. 2013-I Kingsland Ltd Series 2014-7A Class A	1	11,143,848	11,368,176	
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	145,618,489	193,607,446	05/19/2014	05/19/2044	Interest Rate Swaps	50,749,302	49638Y-AA-0	Galaxy XVII CLO Ltd Sr Note Class B 144A	1	145,618,489	142,858,144	
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	18,734,016	18,734,016	18,332,770	05/19/2014	05/19/2044	Interest Rate Swaps		36320D-AC-2	GT Loan Financing Ltd. Series 2013-1A Class A	1	18,734,016	18,332,770	
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	40,845,139	90,757,321	05/19/2014	05/19/2044	Interest Rate Swaps	50,818,801	36248M-AA-5	JFIN CLO 2014-II Ltd Sr Secured Note Class A-1 144A	1	40,845,139	39,938,520	
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	77,000,000	77,000,000	76,999,923	05/19/2014	05/19/2044	Interest Rate Swaps		46617N-AA-5	L C M Ltd Partnership Series 14A Class A	1	77,000,000	76,999,923	
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	32,596,700	32,596,700	31,962,528	05/19/2014	05/19/2044	Interest Rate Swaps		50184V-AC-8	Symphony CLO LTD Series 2013-12A Class B1	1	32,596,700	31,962,528	
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	1,766,990	1,766,990	1,706,819	05/19/2014	05/19/2044	Interest Rate Swaps		87159F-AB-8	CVP Cascade Clo Ltd Series 2013-CL01 Class A1	1	1,766,990	1,706,819	
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	122,823,526	171,066,253	05/19/2014	05/19/2044	Interest Rate Swaps	50,836,176	126612-AA-8	Goldentree Loan Opp VIII Ltd Sr Secured Nt Class A 144A	1	122,823,526	120,230,077	
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	32,801,118	32,801,118	32,451,266	05/19/2014	05/19/2044	Interest Rate Swaps		38137L-AA-7	KVK CLO LTD Series 2014-1A Class A1	1	32,801,118	32,451,266	
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	135,000,000	112,306,209	156,242,489	05/19/2014	05/19/2044	Interest Rate Swaps	46,237,319	48274L-AA-9	KVK CLO LTD Series 2014-1A Class B	1	112,306,209	110,005,170	
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	33,765,979	33,765,979	33,075,611	05/19/2014	05/19/2044	Interest Rate Swaps		48274L-AC-5	Qzm Ltd Series 2014-6A Class A1	1	33,765,979	33,075,611	
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	85,000,000	94,908,766	113,891,937	05/09/2014	05/09/2034	Interest Rate Swaps	21,038,873	67108L-AA-1	KVK Clo Ltd Series 2013-2A Class A	1	94,908,766	92,853,064	
57629*BQ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	60,000,000	67,674,039	87,826,924	06/05/2014	06/05/2044	Interest Rate Swaps	21,763,676	48274H-AA-8	CVP Cascade CLO Ltd Series 2014-2A Class A1	1	67,674,039	66,063,248	
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	132,178,570	171,776,846	07/22/2014	07/22/2044	Interest Rate Swaps	41,818,836	126611-AA-0	CVP Cascade CLO Ltd Series 2014-2A Class A1	1	132,178,570	129,958,010	
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	24,402,197	65,825,636	07/22/2014	07/22/2044	Interest Rate Swaps	41,833,388	126611-AA-0	Commercial Indus Finance Corp Series 2007-3A Class A1J	1	24,402,197	23,992,248	
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	22,802,551	22,802,551	22,905,792	07/22/2014	07/22/2044	Interest Rate Swaps		17178N-AC-3	Symphony CLO LTD Series 2013-12A Class A	1	22,802,551	22,905,792	
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	39,285,798	39,285,798	38,523,506	07/22/2014	07/22/2044	Interest Rate Swaps		87159F-AA-0	Cavalry CLO Ltd Series 2013-3A Class A	1	39,285,798	38,523,506	
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	25,469,580	25,469,580	24,999,725	07/22/2014	07/22/2044	Interest Rate Swaps		14954W-AA-4	Dryden Senior Loan Fund Series 2013-30A Class A	1	25,469,580	24,999,725	
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	7,754,760	7,754,760	7,599,947	04/09/2013	04/09/2043	Interest Rate Swaps		26249B-AA-9	Dryden 36 Senior Loan Fund Sr Secd Deferrable Nt Class C	1	7,754,760	7,599,947	
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	2,249,731	2,249,731	2,254,973	04/09/2013	04/09/2043	Interest Rate Swaps		26249K-AE-1	Dryden Senior Loan Fund Series 2012-25A Class B1	1	2,249,731	2,254,973	
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	7,500,000	7,500,000	7,508,557	04/09/2013	04/09/2043	Interest Rate Swaps		26250J-AB-6	TICP CLO II Ltd Sr Secured Note Class A-1A	1	7,500,000	7,508,557	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	39,100,698	80,281,616	07/22/2014	07/22/2044	Interest Rate Swaps	41,833,388	87247C-AA-1	Octagon Inv Partners XVI Ltd Series 2013-1A Class A	1	39,100,698	38,448,228	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,038,701	9,038,701	8,876,422	07/22/2014	07/22/2044	Interest Rate Swaps		67590B-AA-8	Avery Point CLO Ltd Series 2014-1A Class B1	1	9,038,701	8,876,422	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	25,000,000	25,000,000	25,003,250	07/22/2014	07/22/2044	Interest Rate Swaps		05363U-AE-3	Bluemountain CLO 2014-1 Ltd Sr Secured Note Class B-1 144A	1	25,000,000	25,003,250	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	25,558,824	25,558,824	25,001,925	07/22/2014	07/22/2044	Interest Rate Swaps		09627L-AC-1	Madison Park Funding Ltd. Series 2013-11A Class B1	1	25,558,824	25,001,925	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	10,334,976	10,334,976	9,957,190	07/22/2014	07/22/2044	Interest Rate Swaps		55818K-AG-6	Apidos CLO XX Mezzanine Deferrable Note Cl C	1	10,334,976	9,957,190	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,451,673	4,451,673	4,461,919	07/22/2014	07/22/2044	Interest Rate Swaps		03765L-AG-7	Babson CLO Ltd 2012-1 Series 2012-1A Class C	1	4,451,673	4,461,919	
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,343,439	4,343,439	4,503,398	07/22/2014	07/22/2044	Interest Rate Swaps		05617L-AD-9		1	4,343,439	4,503,398	

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STATEMENT AS OF SEPTEMBER 30, 2016 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*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,244,476	8,265,644	07/22/2014	07/22/2044	Interest Rate Swaps			75887N-AC-3	REGATTA VI FUNDING LTD. Sr Secd Nt Class A	1	8,244,476	8,265,644
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,071,439	2,998,332	07/22/2014	07/22/2044	Interest Rate Swaps			48274H-AA-8	KVK Clo Ltd Series 2013-2A Class A	1	3,071,439	2,998,332
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,550,537	1,499,991	07/22/2014	07/22/2044	Interest Rate Swaps			87244D-AC-8	Wind River CLO Ltd Series 2013-1A Class A2	1	1,550,537	1,499,991
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	24,967,719	66,227,828	07/22/2014	07/22/2044	Interest Rate Swaps		41,775,179	828428-AA-0	Silvermore Clo Ltd Series 2014-1A Class A1	1	24,967,719	24,452,649
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		24,697,750	24,283,661	07/22/2014	07/22/2044	Interest Rate Swaps			03764D-AB-7	Apidos CDO Series 2013-12A Class B1	1	24,697,750	24,283,661
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,749,742	22,008,866	07/22/2014	07/22/2044	Interest Rate Swaps			49638W-AE-6	Kingsland Ltd Series 2013-6A Class C	1	22,749,742	22,008,866
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,691,462	19,999,760	07/22/2014	07/22/2044	Interest Rate Swaps			67104L-AB-3	CHA Loan Funding Ltd. Series 2013-2A Class B	1	20,691,462	19,999,760
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,621,164	23,254,580	07/22/2014	07/22/2044	Interest Rate Swaps			09627R-AA-2	Bluemountain CLO 2014-3 Ltd Sr Secured Note Class A-1 144A	1	23,621,164	23,254,580
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	15,004,785	07/22/2014	07/22/2044	Interest Rate Swaps			05363U-AJ-2	Avery Point CLO Ltd Series 2014-1A Class C	1	15,000,000	15,004,785
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	23,657,718	65,047,614	07/22/2014	07/22/2044	Interest Rate Swaps		41,789,732	67590R-AC-9	Octagon Loan Funding Ltd Series 2014-1A Class A1	1	23,657,718	23,257,882
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,527,869	23,103,928	07/22/2014	07/22/2044	Interest Rate Swaps			38137D-AA-5	Goldentree Loan Opp VII Ltd Sr Secured Nt Class A 144A	1	23,527,869	23,103,928
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,899,389	22,317,949	07/22/2014	07/22/2044	Interest Rate Swaps			67108F-AA-4	Ozlim Funding Ltd Series 2013-4A Class A1	1	22,899,389	22,317,949
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,400,000	22,082,211	07/22/2014	07/22/2044	Interest Rate Swap			053635-AC-2	Avery Point II CLO Limited Series 2013-2A Class B1	1	22,400,000	22,082,211
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,195,331	21,654,265	07/22/2014	07/22/2044	Interest Rate Swap			50183J-AB-8	LCM Ltd Partnership Series 9A Class B	1	22,195,331	21,654,265
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,402,393	20,000,540	07/22/2014	07/22/2044	Interest Rate Swap			43132R-AC-5	Hildene CLO Ltd Series 2013-1A Class B1	1	20,402,393	20,000,540
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		30,000,000	22,000,000	08/18/2014	08/18/2044	Interest Rate Swap		9,618,433	72349B-AC-8	Pinnacle Park CLO Ltd Series 2014-1A Class B	1	22,000,000	22,011,858
57629*B10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,843,555	13,181,377	08/18/2014	08/18/2044	Interest Rate Swap			87155F-AL-0	Symphony CLO Ltd Series 2006-2A Class A3	1	12,843,555	13,181,377
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	20,193,484	35,397,521	08/27/2014	08/27/2044	Interest Rate Swap		15,618,192	26249G-AB-6	Dryden 33 Senior Loan Fund Series 2014-33A Class B	1	20,193,484	19,779,329
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,148,118	19,634,500	08/27/2014	08/27/2044	Interest Rate Swap			872455-AE-0	TICP CLO Ltd Series 2014-1A Class A2B	1	20,148,118	19,634,500
57629*BZ3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,000,000	12,999,922	08/27/2014	08/27/2044	Interest Rate Swap			50183U-AH-0	LCM Ltd Partnership Series 10AR Class BR	1	13,000,000	12,999,922
57629*CA7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	19,565,628	34,742,462	08/27/2014	08/27/2044	Interest Rate Swap		15,641,545	38137L-AJ-8	Goldentree Loan Opp VIII Ltd Sr Secured Nt Class B-1 144A	1	19,565,628	19,100,917
57629*CA7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,575,749	19,101,413	08/27/2014	08/27/2044	Interest Rate Swap			67108L-AC-7	Ozlim Ltd Series 2014-6A Class A2A	1	19,575,749	19,101,413
57629*CA7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,900,000	18,901,682	08/27/2014	08/27/2044	Interest Rate Swap			74982N-AB-2	Race Point CLO Ltd. Series 2011-5AR Class BR	1	18,900,000	18,901,682
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	18,650,000	34,234,300	08/27/2014	08/27/2044	Interest Rate Swap		15,583,162	05363X-AE-7	Avery Point CLO Ltd Series 2014-5A Class B	1	18,650,000	18,651,138
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,095,427	18,750,338	08/27/2014	08/27/2044	Interest Rate Swap			03765D-AC-4	Apidos CDO Series 2014-18A Class A2A	1	19,095,427	18,750,338
57629*CB5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,500,000	18,501,425	08/27/2014	08/27/2044	Interest Rate Swap			04941M-AB-1	Atlas Senior Loan Fund Ltd Series 2014-1A Class B	1	18,500,000	18,501,425
57629*CC3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	50,000,000	18,500,000	34,043,699	08/27/2014	08/27/2044	Interest Rate Swap		15,542,293	67106J-AE-0	Oak Hill Credit Partners Series 2014-10A Class B	1	18,500,000	18,501,406
57629*CC3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,878,847	18,501,794	08/27/2014	08/27/2044	Interest Rate Swap			49638Y-AC-6	Kingsland Ltd Series 2014-7A Class B	1	18,878,847	18,501,794
57629*CC3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,615,812	18,674,096	08/27/2014	08/27/2044	Interest Rate Swap			04015B-AC-4	Ares XXI CLO Ltd Series 2014-31A Class A2	1	18,615,812	18,674,096
57629*CD1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	30,000,000	18,632,269	27,510,460	09/04/2014	09/04/2044	Interest Rate Swap		9,234,601	096260-AC-1	Bluemountain CLO 2014-2 Ltd Sr Secured Note Class B-1 144A	1	18,632,269	18,275,859
57629*CD1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,853,837	16,444,109	09/04/2014	09/04/2044	Interest Rate Swap			14954T-AC-7	Cavalry CLO Ltd Series 2A Class B1	1	16,853,837	16,444,109

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SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	63,810,346	109,226,600	09/08/2014	09/08/2044	Interest Rate Swap	46,723,662	46,723,662	48274L-AA-9	KVK CLO LTD Series 2014-1A Class A1	1	63,810,346	62,502,938
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	7,626,413	7,626,413	7,625,098	09/08/2014	09/08/2044	Interest Rate Swap			40536Y-AC-8	Halcyon Loan Investors CLO Ltd Series 2007-2A Class A1S	1	7,626,413	7,625,098
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,440,719	4,440,719	4,457,715	09/08/2014	09/08/2044	Interest Rate Swap			69841B-AC-7	Pangaea CLO Ltd Series 2007-1A Class A2	1	4,440,719	4,457,715
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	60,000,000	60,000,000	60,420,360	09/08/2014	09/08/2044	Interest Rate Swap			949496-AC-7	WELLFLEET CLO LTD Series 2015-1A Class A1	1	60,000,000	60,420,360
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,330,000	4,330,000	4,398,167	09/08/2014	09/08/2044	Interest Rate Swap			55954E-AJ-8	MAGNETITE XVII LTD Def Mezz Nt Cl C	1	4,330,000	4,398,167
57629*CE9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	13,000,000	13,000,000	13,024,479	09/08/2014	09/08/2044	Interest Rate Swap			48250W-AA-3	KKR CLO 14 Ltd Sr Sec Nt Cl A-1A Limerock CLO Series 2014-2A Class B1	1	13,000,000	13,024,479
57629*CF6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	30,000,000	18,504,197	28,594,325	09/17/2014	09/17/2044	Interest Rate Swap	10,594,451	10,594,451	532621-AC-3	Carlyle Global Mkt CLO 2013-4 Sr Secd Note Class A-1 144A	1	18,504,197	17,999,874
57629*CF6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	18,000,000	18,000,000	18,000,450	09/17/2014	09/17/2044	Interest Rate Swap			14310K-AC-5	Galaxy XVII CLO Ltd Class C	1	18,000,000	18,000,450
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	55,000,000	9,270,857	20,583,159	10/06/2014	10/06/2034	Interest Rate Swap		11,479,610	36320D-AE-8	Deferrab Mezz Floating Madison Park Funding Ltd Series 2014-14A Class C1	1	9,270,857	9,103,549
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,300,000	9,300,000	9,302,530	10/06/2014	10/06/2034	Interest Rate Swap			55818R-AJ-5	Babson CLO Ltd 2013-I Series 2013-1A Class B	1	9,300,000	9,302,530
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,359,714	9,359,714	9,291,637	10/06/2014	10/06/2034	Interest Rate Swap			05617W-AC-7	Atlas Senior Loan Fund III Ltd Series 2013-1A Class C	1	9,359,714	9,291,637
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,471,114	9,471,114	9,200,911	10/06/2014	10/06/2034	Interest Rate Swap			04941G-AE-8	Dryden 33 Senior Loan Fund Sr Secd Deferrable Nt Class D	3	9,471,114	9,200,911
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,652,054	4,652,054	4,419,413	10/06/2014	10/06/2034	Interest Rate Swap			26249G-AD-2	CHA Loan Funding 2015-1 Ltd Mezz Secd Deferrable Nt Cl D	2	4,652,054	4,419,413
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,258,505	4,258,505	4,174,288	10/06/2014	10/06/2034	Interest Rate Swap			67109B-AJ-3	ALM LOAN FUNDING Series 14-14A Class A2	1	4,258,505	4,174,288
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,113,510	4,113,510	4,050,608	10/06/2014	10/06/2034	Interest Rate Swap			00164K-AC-1	LCM XVIII Ltd Partnership Series 18A Class D	3	4,113,510	4,050,608
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	3,806,482	3,806,482	3,713,085	10/06/2014	10/06/2034	Interest Rate Swap			50188G-AN-3	Babson CLO Ltd 2015-1 Sr Secd Deferrable Note Cl D-1	2	3,806,482	3,713,085
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	3,703,008	3,703,008	3,620,540	10/06/2014	10/06/2034	Interest Rate Swap			056162-AG-5	FLATIRON CLO LTD Babson CLO 2013-IIA Series 2013-IIA Class A2	1	3,703,008	3,620,540
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	1,550,000	1,550,000	1,546,595	10/06/2014	10/06/2034	Interest Rate Swap			33883B-AB-4	Babson CLO Ltd 2014-III Sr Secd Term Note Cl B-1 144A	1	1,550,000	1,546,595
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	100,000,000	17,228,538	47,350,874	10/06/2014	10/06/2044	Interest Rate Swap	30,516,480	30,516,480	05617Y-AC-3	Wood Park CDO Ltd Series 2006-1A Class B	1	17,228,538	16,834,394
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	20,833,567	20,833,567	20,498,362	10/06/2014	10/06/2044	Interest Rate Swap			05618M-AE-4	Bluemountain CLO 2014-3 Ltd Sr Sec Def Note Class B 144A	1	20,833,567	20,498,362
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,784,868	9,784,868	10,066,486	10/06/2014	10/06/2044	Interest Rate Swap			46186G-AG-8	Octagon Inv Partners XII Ltd Series 2012-1AR Class B1R	1	9,784,868	10,066,486
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,325,509	9,325,509	9,266,345	10/06/2014	10/06/2044	Interest Rate Swap			09627R-AE-4	Babson CLO Ltd 2014-1 Class A-2 144A	1	9,325,509	9,266,345
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	5,300,000	5,300,000	5,300,180	10/06/2014	10/06/2044	Interest Rate Swap			67572N-AW-6	A Voce CLO Ltd Series 2014-1A Class A2A	1	5,300,000	5,300,180
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	13,544,975	13,544,975	13,225,026	10/06/2014	10/06/2044	Interest Rate Swap			05618D-AC-8	Wasatch Ltd Series 2006-1A Class A1B	1	13,544,975	13,225,026
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	12,102,173	12,102,173	11,873,563	10/06/2014	10/06/2044	Interest Rate Swap			00248P-AC-0	Symphony CLO Ltd Series 2014-14A Class B1	1	12,102,173	11,873,563
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	9,510,933	9,510,933	9,262,443	10/06/2014	10/06/2044	Interest Rate Swap			93677P-AB-7	MADISON PARK FUNDING XVII LTD Def Note Class C	1	9,510,933	9,262,443
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	11,500,000	11,500,000	11,504,566	10/06/2014	10/06/2044	Interest Rate Swap			87159Q-AJ-7	RRPF Engine Leasing Ltd Senior Secured Note Series D	1	11,500,000	11,504,566
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	4,005,466	4,005,466	4,005,652	10/06/2014	10/06/2044	Interest Rate Swap			55818Y-AG-6	NTC Capital I Unsecured Bond Cullen/Frost Capital Trust II Subordinated Note	2	4,005,466	4,005,652
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	175,000,000	60,000,000	110,418,622	10/10/2014	10/10/2044	Interest Rate Swap	50,304,082	50,304,082	67332P-AD-5		1	60,000,000	60,114,540
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	26,722,583	26,722,583	26,209,500	10/10/2014	10/10/2044	Interest Rate Swap			629394-AA-5		2	26,722,583	26,209,500
57629*CH2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	20,671,555	20,671,555	20,662,858	10/10/2014	10/10/2044	Interest Rate Swap			230000-AB-7		2	20,671,555	20,662,858

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STATEMENT AS OF SEPTEMBER 30, 2016 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		59,937,753	60,016,200	10/10/2014	10/10/2044	Interest Rate Swap			63534P-AF-4	National City Bank Clev Ohio Senior Subordinated Note	1	59,937,753	60,016,200
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,822,521	1,843,539	10/10/2014	10/10/2044	Interest Rate Swap			09627L-AJ-6	Bluemountain CLO 2014-1 Ltd Sr Secd Deferrable Nt Class D	1	1,822,521	1,843,539
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,489,141	4,487,746	10/10/2014	10/10/2044	Interest Rate Swap			09627V-AG-0	Bluemountain CLO 2014-4 Ltd Sr Secd Deferrable Nt Class D	2	4,489,141	4,487,746
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,147,355	3,055,260	10/10/2014	10/10/2044	Interest Rate Swap			05617Y-AG-4	Babson CLO 2013-IIA Series 2013-IIA Class C	1	3,147,355	3,055,260
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,731,171	6,706,995	10/10/2014	10/10/2044	Interest Rate Swap			09625J-AF-1	Bluemountain CLO 2013-3 Ltd Sr Secd Deferrable Nt Class D	2	6,731,171	6,706,995
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	13,382,129	48,952,807	11/04/2014	11/04/2044	Interest Rate Swap		35,947,490	86482B-AC-5	Sugar Creek CLO Ltd Series 2012-1A Class B	1	13,382,129	13,005,317
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,286,227	13,001,274	11/04/2014	11/04/2044	Interest Rate Swap			12627U-AB-7	COA Summit CLO Ltd Series 2014-1A Class A2	1	13,286,227	13,001,274
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,980,159	12,758,118	11/04/2014	11/04/2044	Interest Rate Swap			69688X-AC-5	Palmer Square CLO Ltd Series 2014-1A Class A2	1	12,980,159	12,758,118
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,500,000	12,320,650	11/04/2014	11/04/2044	Interest Rate Swap			26251B-AC-0	Dryden Senior Loan Fund Series 2013-28A Class A2L	1	12,500,000	12,320,650
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,554,071	4,570,644	11/04/2014	11/04/2044	Interest Rate Swap			817176-AE-0	Seneca Park CLO Ltd Series 2014-1A Class C	1	4,554,071	4,570,644
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,186,304	13,486,083	11/04/2014	11/04/2044	Interest Rate Swap			291086-AB-2	Emerson Place CLO LTD Series 2006 - 1A Class B	1	13,186,304	13,486,083
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,125,000	12,125,412	11/04/2014	11/04/2044	Interest Rate Swap			143090-AU-5	Carlyle Global Mkt CLO 2012-2 Sr Secd Note Class B-1-R 144A	1	12,125,000	12,125,412
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,100,000	12,162,860	11/04/2014	11/04/2044	Interest Rate Swap			404360-AC-6	HPS Loan Mgmt 9-2016 Ltd Sr Secd Note Class A-2	1	12,100,000	12,162,860
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,536,241	6,442,074	11/04/2014	11/04/2044	Interest Rate Swap			673898-AC-6	Oaktree CLO Ltd Series 2014-2A Class A2A	1	6,536,241	6,442,074
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,862,481	6,801,890	11/04/2014	11/04/2044	Interest Rate Swap			46616A-AE-6	JFIN CLO 2012 Ltd Note Class B 144A	1	6,862,481	6,801,890
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,007,150	6,070,253	11/04/2014	11/04/2044	Interest Rate Swap			381366-AD-3	Goldentree Loan Opp IV Ltd Sr Secured Nt Class A-1B-3	1	6,007,150	6,070,253
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,484,486	3,449,831	11/04/2014	11/04/2044	Interest Rate Swap			806713-AD-5	Schiller Park CLO LTD Series 2007-1A Class B	1	3,484,486	3,449,831
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,948,585	5,921,952	11/04/2014	11/04/2044	Interest Rate Swap			43132W-AE-0	Hildene CLO IV Ltd Series 2015-4A Class B	1	5,948,585	5,921,952
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,948,585	5,921,952	11/04/2014	11/04/2044	Interest Rate Swap			46617Y-AB-9	JFIN CLO LTD Series 2015 Class C1	1	5,948,585	5,921,952
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	14,113,133	49,879,944	11/04/2014	11/04/2044	Interest Rate Swap		35,976,830	09627D-AC-9	Bluemountain CLO 2013-4 Ltd Sr Secured Note Class B-1 144A	1	14,113,133	13,903,114
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,148,546	13,901,348	11/04/2014	11/04/2044	Interest Rate Swap			55818R-AG-1	Madison Park Funding Ltd Series 2014-14A Class B	1	14,148,546	13,901,348
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,148,410	13,911,857	11/04/2014	11/04/2044	Interest Rate Swap			14955A-AC-7	CAVALRY CLO LTD Series 2014-4A Class B1	1	14,148,410	13,911,857
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,149,081	13,779,355	11/04/2014	11/04/2044	Interest Rate Swap			27830B-AC-8	Eaton Vance CDO Ltd Series 2013-1A Class A2	1	14,149,081	13,779,355
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,763,507	13,824,940	11/04/2014	11/04/2044	Interest Rate Swap			38136B-AJ-1	Goldentree Loan Opp III Ltd Sr Secured Nt Class A-2 144A	1	13,763,507	13,824,940
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,837,212	13,703,850	11/04/2014	11/04/2044	Interest Rate Swap			88390A-AF-7	Wind River CLO Ltd Series 2014-2A Class B1	1	13,837,212	13,703,850
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,600,000	13,577,152	11/04/2014	11/04/2044	Interest Rate Swap			037640-AC-6	Apidos CDO Series 2013-15A Class A2A	1	13,600,000	13,577,152
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,102,998	12,882,727	11/04/2014	11/04/2044	Interest Rate Swap			00191L-AC-6	Ares XXVIII CLO Ltd Class B-1 Sr Floating Rate Nt	1	13,102,998	12,882,727
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,617,672	13,307,554	11/04/2014	11/04/2044	Interest Rate Swap			64129X-AG-4	Neuberger Berman CLO XVI Ltd Sr Secured Note Class B-1	1	13,617,672	13,307,554
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,788,091	10,600,806	11/04/2014	11/04/2044	Interest Rate Swap			05873L-AC-0	Ballyrock Ltd Series 2014-1A Class A2	1	10,788,091	10,600,806
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	12,977,881	49,211,745	11/04/2014	11/04/2044	Interest Rate Swap		36,211,550	67105V-AE-4	OHA Credit Partners IX Ltd Sr Secd Note Class B-1 144A	1	12,977,881	13,000,195
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,879,869	14,355,783	11/04/2014	11/04/2044	Interest Rate Swap			50184V-AE-4	L C M Ltd Partnership Series 14A Class B	1	14,879,869	14,355,783

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STATEMENT AS OF SEPTEMBER 30, 2016 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		13,000,000	12,971,439	11/04/2014	11/04/2044	Interest Rate Swap			33883B-AB-4	Flatiron CLO Ltd Series 2013 - 1A Class 2	1	13,000,000	12,971,439
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,550,000	14,559,923	11/04/2014	11/04/2044	Interest Rate Swap			09073V-AC-8	Birchwood Park CLO Ltd Series 2014-1A Class B1	1	14,550,000	14,559,923
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,491,064	13,424,897	11/04/2014	11/04/2044	Interest Rate Swap			398080-AC-5	GREYWOLF CLO IV Ltd Sr Secured Note Class A-2 144A	1	13,491,064	13,424,897
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,242,260	14,019,992	11/04/2014	11/04/2044	Interest Rate Swap			04941R-AC-8	Atlas Senior Loan Fund Ltd Series 2014-6A Class B	1	14,242,260	14,019,992
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,243,926	14,061,600	11/04/2014	11/04/2044	Interest Rate Swap			09627R-AC-8	Bluemountain CLO 2014-3 Ltd Sr Secured Note Class A-2 144A	1	14,243,926	14,061,600
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,313,289	7,322,302	11/04/2014	11/04/2044	Interest Rate Swap			398080-AE-1	GREYWOLF CLO IV Ltd Sr Secd Deferrable Nt Class B	1	7,313,289	7,322,302
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,528,535	5,499,220	11/04/2014	11/04/2044	Interest Rate Swap			04941G-AA-6	Atlas Senior Loan Fund III Ltd Series 2013-1A Class A	1	5,528,535	5,499,220
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,975,762	14,908,628	11/04/2014	11/04/2044	Interest Rate Swap			08180R-AC-9	Benefit St Partners CLO VII Series 2015-VIIA Class A2	1	14,975,762	14,908,628
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	15,000,000	51,240,890	11/04/2014	11/04/2044	Interest Rate Swap		36,240,890	87155P-AC-8	Symphony CLO Ltd Series 2012-9A Class B	1	15,000,000	15,000,000
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	15,003,390	11/04/2014	11/04/2044	Interest Rate Swap			74982D-AQ-1	Race Point CLO Series 2012-6RA Class BR	1	15,000,000	15,003,390
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,527,694	15,250,595	11/04/2014	11/04/2044	Interest Rate Swap			00900A-AB-4	Aimco Series 2014-AA Class B1	1	15,527,694	15,250,595
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,251,822	14,899,185	11/04/2014	11/04/2044	Interest Rate Swap			854432-AB-7	Stanford Street CLO Ltd Series 2014-1A Class B	1	15,251,822	14,899,185
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,173,414	15,001,650	11/04/2014	11/04/2044	Interest Rate Swap			50183X-AE-1	LM Ltd Partnership Series 11A Class B	1	15,173,414	15,001,650
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,980,932	14,599,912	11/04/2014	11/04/2044	Interest Rate Swap			92912V-AC-9	Voya CLO Ltd Series 2014-2A Class A2	1	14,980,932	14,599,912
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,873,411	14,452,117	11/04/2014	11/04/2044	Interest Rate Swap			67104C-AB-3	Oak Hill Credit Partners Series 2013 - 8A Class B	1	14,873,411	14,452,117
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,070,000	12,121,985	11/04/2014	11/04/2044	Interest Rate Swap			14312L-AC-1	Carlyle Global Mkt CLO 2016-2 Sr Secd Note Class A-2A	1	12,070,000	12,121,985
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,978,556	3,108,714	11/04/2014	11/04/2044	Interest Rate Swap			862015-AC-8	Stoney Lane Funding Ltd Series 2007-1A Class A2	1	2,978,556	3,108,714
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,060,000	8,131,581	11/04/2014	11/04/2044	Interest Rate Swap			74983D-AC-1	RACE POINT CLO, LIMITED	1	8,060,000	8,131,581
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	18,414,190	54,063,568	11/04/2014	11/04/2044	Interest Rate Swap		36,328,910	40538C-AG-5	Halcyon Loan Advisors Fnd Ltd Series 2014-1A Class B1	1	18,414,190	17,734,658
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,600,000	16,429,535	11/04/2014	11/04/2044	Interest Rate Swap			05874P-AC-0	Ballyrock CLO 2013-1 Ltd Series 2013-1A Class B	1	16,600,000	16,429,535
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,886,976	16,500,512	11/04/2014	11/04/2044	Interest Rate Swap			04014W-AC-9	Ares XXIX CLO Ltd Series 2014-1A Class A2	1	16,886,976	16,500,512
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,827,290	15,922,512	11/04/2014	11/04/2044	Interest Rate Swap			14309B-AL-8	Carlyle High Yield Partners Series 2006-9A Class A3	1	15,827,290	15,922,512
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,131,983	15,000,525	11/04/2014	11/04/2044	Interest Rate Swap			46617E-AC-1	JFIN CLO 2014 Ltd Sr Secured Note Class B-1	1	15,131,983	15,000,525
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,220,641	14,745,270	11/04/2014	11/04/2044	Interest Rate Swap			87247C-AC-7	TICP CLO II Ltd Sr Secured Note Class A-2A	1	15,220,641	14,745,270
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,391,405	12,935,390	11/04/2014	11/04/2044	Interest Rate Swap			87159F-AB-8	Symphony CLO LTD Series 2013-12A Class B1	1	13,391,405	12,935,390
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,777,109	11,801,109	11/04/2014	11/04/2044	Interest Rate Swap			87154E-AC-4	Symphony CLO XV Ltd SR NT CL B-1 144A	1	11,777,109	11,801,109
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,975,000	13,906,159	11/04/2014	11/04/2044	Interest Rate Swap			26250C-AU-9	Dryden XXI Senior Loan Fund Series 2012-23RA Class A2R	1	13,975,000	13,906,159
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	25,232,127	61,505,350	11/04/2014	11/04/2044	Interest Rate Swap		36,504,950	87154E-AB-6	Symphony CLO XV Ltd SR NT CL A 144A	1	25,232,127	25,000,400
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,200,303	23,006,739	11/04/2014	11/04/2044	Interest Rate Swap			532621-AA-7	Limerock CLO Series 2014-2A Class A	1	23,200,303	23,006,739
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,744,107	21,180,827	11/04/2014	11/04/2044	Interest Rate Swap			40538C-AC-4	Halcyon Loan Advisors Fnd Ltd Series 2014-1A Class A1	1	21,744,107	21,180,827
57629*CO2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		25,195,955	25,000,075	11/04/2014	11/04/2044	Interest Rate Swap			053633-AB-9	Avery Point CLO Limited Series 2013-3A Class A	1	25,195,955	25,000,075

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STATEMENT AS OF SEPTEMBER 30, 2016 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*002	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,479,969	3,481,582	11/04/2014	11/04/2044	Interest Rate Swap			38136B-AE-2	Goldentree Loan Opp III Ltd Series 2007-3A Class A1BS	1	3,479,969	3,481,582
57629*002	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,086,308	14,001,372	11/04/2014	11/04/2044	Interest Rate Swap			38123H-AC-8	Goldentree Loan Opp IX Ltd Sr Secured Nt Class B-1 144A	1	14,086,308	14,001,372
57629*002	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,493,930	4,308,865	11/04/2014	11/04/2044	Interest Rate Swap			82842B-AC-6	Silvermore Clo Ltd Series 2014-1A Class A2	1	4,493,930	4,308,865
57629*002	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,230	6,949,120	11/04/2014	11/04/2044	Interest Rate Swap			15135D-AJ-6	Cent CDO Ltd Series 2007-14A Class A2A	1	7,000,230	6,949,120
57629*002	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,000,000	15,012,900	11/04/2014	11/04/2044	Interest Rate Swap			46619T-AA-0	JFIN CLO 2016 LTD Sr Secd Nt Cl A-1	1	15,000,000	15,012,900
57629*002	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,657,273	3,634,204	11/04/2014	11/04/2044	Interest Rate Swap			14311D-AJ-5	Carlyle Global Mkt CLO 2015-1 Mezz Secd Def Note Cl D	2	3,657,273	3,634,204
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	37,257,988	73,250,867	11/04/2014	11/04/2044	Interest Rate Swap	36,475,610		43132V-AA-0	Hildene CLO III Ltd Sr Secd Nt Cl A	1	37,257,988	36,775,257
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,575,571	16,517,144	11/04/2014	11/04/2044	Interest Rate Swap			03329K-AA-1	ANCHORAGE CAPITAL CLO 8 LTD Sr Secd Note Cl A1	1	16,575,571	16,517,144
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,040,000	16,084,463	11/04/2014	11/04/2044	Interest Rate Swap			282523-AB-5	GUGENHEIM 1828 CLO LLC SR SECD NT CL A-1-S	1	16,040,000	16,084,463
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,314,927	21,981,599	11/04/2014	11/04/2044	Interest Rate Swap			50181G-AC-4	LMI Ltd Partnership Series 16A Class A	1	22,314,927	21,981,599
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,426,904	9,357,050	11/04/2014	11/04/2044	Interest Rate Swap			50184N-AD-4	LMI Ltd Partnership Series 15A Class C	1	9,426,904	9,357,050
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,767,123	4,725,165	11/04/2014	11/04/2044	Interest Rate Swap			26249B-AE-1	Dryden Senior Loan Fund Series 2013-30A Class C	1	4,767,123	4,725,165
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,802,197	4,703,328	11/04/2014	11/04/2044	Interest Rate Swap			388079-AE-3	Greywolf CLO Ltd. Series 2013-1A Class B	1	4,802,197	4,703,328
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,536,508	4,576,725	11/04/2014	11/04/2044	Interest Rate Swap			14310V-AE-7	Carlyle Global Mkt Strategies Mezzanine Secd Deferrable Cl C Pangaea CLO Ltd Series 2007-1A	1	4,536,508	4,576,725
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,475,426	4,598,717	11/04/2014	11/04/2044	Interest Rate Swap			69841B-AE-3	Class B Voya CLO 2014-4 Ltd Deferrable Note	1	4,475,426	4,598,717
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,533,836	4,543,922	11/04/2014	11/04/2044	Interest Rate Swap			92914R-AG-7	Class C 144A WELFLEET CLO LTD Series 2015-1A	2	4,533,836	4,543,922
57629*CRO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,000,000	5,035,030	11/04/2014	11/04/2044	Interest Rate Swap			949496-AC-7	Class A1 Harbourview CLO VII Ltd Series 7A	1	5,000,000	5,035,030
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	65,000,000	101,541,570	11/04/2014	11/04/2044	Interest Rate Swap	36,534,290		41165G-AA-7	Class A1 Blumentain CLO 2014-1 Ltd Sr Secd	1	65,000,000	65,007,280
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		4,566,261	4,600,925	11/04/2014	11/04/2044	Interest Rate Swap			09627L-AG-2	Deferrable Nt Class C Voya CLO 2014-4 Ltd Note Class A-1	1	4,566,261	4,600,925
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,623,147	22,306,980	11/04/2014	11/04/2044	Interest Rate Swap			92914R-AA-0	144A CHA Loan Funding Ltd Series 2014-1A	1	22,623,147	22,306,980
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,124,765	22,050,904	11/04/2014	11/04/2044	Interest Rate Swap			67706T-AA-0	Class A1 Neuberger Berman CLO XVIII Ltd Sr Secd Deferrable Nt Class B	1	22,124,765	22,050,904
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,838,770	6,855,165	11/04/2014	11/04/2044	Interest Rate Swap			64128Q-AE-5	Dryden 36 Senior Loan Fund Sr Secured Note Class B 144A	1	6,838,770	6,855,165
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,226,375	9,129,033	11/04/2014	11/04/2044	Interest Rate Swap			26249K-AC-5	Secured Note Class B 144A	1	9,226,375	9,129,033
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	18,644,169	50,836,222	12/16/2014	12/16/2044	Interest Rate Swap	32,281,667		979JXH-1I-5	AUTOSTRADA WIELKOPOLSKA SA	3	18,644,169	18,554,555
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		16,274,311	15,929,376	12/16/2014	12/16/2044	Interest Rate Swap			UB270Y-ZZ-4	SILVER STATE SOLAR SOUTH Kingsland Ltd Series 2007-5A Class A2B	2	16,274,311	15,929,376
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,321,656	10,729,770	12/16/2014	12/16/2044	Interest Rate Swap			49636R-AL-3	Dryden Senior Loan Fund Series 2013-30A Class B	1	11,321,656	10,729,770
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,516,165	11,102,385	12/16/2014	12/16/2044	Interest Rate Swap			26249B-AC-5	Ballyrock CLO 2013-1 Ltd Series 2013-1A Class C	1	11,516,165	11,102,385
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,496,992	11,199,933	12/16/2014	12/16/2044	Interest Rate Swap			05874P-AE-6	Voya Clo Ltd Series 2014-2A Class B	1	11,496,992	11,199,933
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,612,925	9,401,607	12/16/2014	12/16/2044	Interest Rate Swap			92912V-AG-0	Octagon Inv Partners XVI Ltd Series 2013-1A Class B1	1	9,612,925	9,401,607
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,950,000	10,794,521	12/16/2014	12/16/2044	Interest Rate Swap			67590B-AC-4	Babson CLO Ltd 2012-1 Series 2012-1A Class A2	1	10,950,000	10,794,521
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,124,264	11,009,416	12/16/2014	12/16/2044	Interest Rate Swap			05617L-AB-3		1	11,124,264	11,009,416

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STATEMENT AS OF SEPTEMBER 30, 2016 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*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,260,544	11,013,845	12/16/2014	12/16/2044	Interest Rate Swap			46617N-AC-1	JFIN CLO 2014-11 Ltd Sr Secured Note Class A-2 144A	1	11,260,544	11,013,845
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,939,055	10,804,849	12/16/2014	12/16/2044	Interest Rate Swap			46616A-AJ-5	JFIN CLO 2012 Ltd Note Class A2B 144A	1	10,939,055	10,804,849
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,778,828	10,595,177	12/16/2014	12/16/2044	Interest Rate Swap			50181G-AE-0	LCM Ltd Partnership Series 16A Class B	1	10,778,828	10,595,177
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,058,149	5,953,344	12/16/2014	12/16/2044	Interest Rate Swap			27830D-AE-0	Eaton Vance CDO Ltd Series 2014-1A Class C	1	6,058,149	5,953,344
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,463,749	7,203,031	12/16/2014	12/16/2044	Interest Rate Swap			14310G-AG-5	Carlyle Global Mkt CLO 2013-3 Sr Secd Def Note Class B 144A	1	7,463,749	7,203,031
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,850,000	3,851,409	12/16/2014	12/16/2044	Interest Rate Swap			67572N-BA-3	Octagon Inv Partners XII Ltd Series 2012-1AR Class CR	1	3,850,000	3,851,409
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,712,463	3,590,571	12/16/2014	12/16/2044	Interest Rate Swap			46186G-AJ-2	Inwood Park CDO Ltd Series 2006-1A Class C	1	3,712,463	3,590,571
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,100,000	8,136,823	12/16/2014	12/16/2044	Interest Rate Swap			00162E-AC-4	ALM XIX LTD	1	8,100,000	8,136,823
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	150,000,000	9,000,000	40,929,045	12/16/2014	12/16/2044	Interest Rate Swap		31,928,424	05617W-AE-3	Babson CLO Ltd 2013-1 Series 2013-1A Class C	1	9,000,000	9,000,621
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,203,782	7,100,745	12/16/2014	12/16/2044	Interest Rate Swap			46617E-AE-7	JFIN CLO 2014 Ltd Mezz Secd Deferrable NT Cl C	1	7,203,782	7,100,745
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,048,017	7,032,088	12/16/2014	12/16/2044	Interest Rate Swap			33882W-AE-3	Flatiron CLO Ltd. Series 2011-1A Class C1	1	7,048,017	7,032,088
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,000,000	6,968,976	12/16/2014	12/16/2044	Interest Rate Swap			14310D-AE-7	Carlyle Global Mkt CLO 2013-2 Sr Secd Note Class B 144A	1	7,000,000	6,968,976
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,963,958	2,952,428	12/16/2014	12/16/2044	Interest Rate Swap			09627X-AC-5	Bluemountain CLO 2015-1 Ltd Sr Secured Note Class A-2 144A	1	2,963,958	2,952,428
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,762,908	2,701,058	12/16/2014	12/16/2044	Interest Rate Swap			67091H-AE-1	O H A Loan Funding LTD. Series 2012-1A Class C	1	2,762,908	2,701,058
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,619,822	2,552,605	12/16/2014	12/16/2044	Interest Rate Swap			26249E-AG-0	Dryden Senior Loan Fund Series 2014-31A Class D	1	2,619,822	2,552,605
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,500,000	2,382,738	12/16/2014	12/16/2044	Interest Rate Swap			15132V-AG-5	Cent CLO Ltd Series 2007-15A Class C	2	2,500,000	2,382,738
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,894,672	2,131,505	12/16/2014	12/16/2044	Interest Rate Swap			46615P-AG-9	JFIN CLO 2007 Ltd Deferrable Mezz Note Class D	1	1,894,672	2,131,505
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,765,989	1,973,867	12/16/2014	12/16/2044	Interest Rate Swap			15135A-AD-5	Cent CDO Ltd Series 2006-12A Class D	1	1,765,989	1,973,867
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,289,297	6,316,681	12/16/2014	12/16/2044	Interest Rate Swap			92557W-AE-3	VIBRANT CLO IV LTD	1	6,289,297	6,316,681
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		41,400,000	41,540,636	12/16/2014	12/16/2044	Interest Rate Swap			74983D-AA-5	RACE POINT CLO LTD RACEP 2016-10A A	1	41,400,000	41,540,636
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,614,019	17,817,681	12/16/2014	12/16/2044	Interest Rate Swap			94949R-AC-1	Wellfleet CLO Ltd 2016-1A A	1	17,614,019	17,817,681
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,242,290	17,368,087	12/16/2014	12/16/2044	Interest Rate Swap			858102-AD-8	STEELE CREEK CLO LTD STCR 2016-1A A	1	17,242,290	17,368,087
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,891,710	14,732,877	12/16/2014	12/16/2044	Interest Rate Swap			38137L-AA-7	Goldentree Loan Opp VIII Ltd Series 2014-8A Class A	1	14,891,710	14,732,877
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,896,598	7,828,277	12/16/2014	12/16/2044	Interest Rate Swap			26250U-AC-9	Dryden Senior Loan Fund Series 2013-26A Class A	1	7,896,598	7,828,277
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,750,000	13,863,108	12/16/2014	12/16/2044	Interest Rate Swap			02014P-AC-8	ALM XVII LTD SR SECOD NT CL A-2 144A	1	13,750,000	13,863,108
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	250,000,000	40,101,249	88,710,759	12/16/2014	12/16/2044	Interest Rate Swap		53,979,400	979JXQ-11-5	CONNECT PLUS M25 LTD	2	40,101,249	34,731,359
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,316,641	17,928,419	12/16/2014	12/16/2044	Interest Rate Swap			U8270Y-ZZ-4	SILVER STATE SOLAR SOUTH	2	18,316,641	17,928,419
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		14,000,000	14,000,882	12/16/2014	12/16/2044	Interest Rate Swap			15136G-AQ-2	Cent CLO LP Series 2014-16AR Class A2R	1	14,000,000	14,000,882
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		34,978,062	34,537,533	12/16/2014	12/16/2044	Interest Rate Swap			87247U-AC-7	TICP CLO III Ltd Sr Secured Note Class A 144A	1	34,978,062	34,537,533
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		19,704,337	19,528,568	12/16/2014	12/16/2044	Interest Rate Swap			67400L-AC-2	Oaktree EIF II Ltd Series 2014-A2 Class B	1	19,704,337	19,528,568
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,661,835	12,509,888	12/16/2014	12/16/2044	Interest Rate Swap			09627V-AC-9	Bluemountain CLO 2014-4 Ltd Sr Secured Note Class B-1	1	12,661,835	12,509,888

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STATEMENT AS OF SEPTEMBER 30, 2016 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*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,343,634	22,053,572	12/16/2014	12/16/2044	Interest Rate Swap			09627V-AA-3	Bluemountain CLO 2014-4 Ltd Sr Secured Note Class A-1	1	22,343,634	22,053,572
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,609,621	11,609,923	12/16/2014	12/16/2044	Interest Rate Swap			55818V-AC-1	Madison Park Funding Ltd 2014-15A Class A2	1	11,609,621	11,609,923
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		18,826,756	18,552,783	12/16/2014	12/16/2044	Interest Rate Swap			04964W-AC-9	Atrium XI Series 11A Class B	1	18,826,756	18,552,783
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		20,502,213	20,220,425	12/16/2014	12/16/2044	Interest Rate Swap			04964W-AA-3	Atrium XI Series 11A Class A1	1	20,502,213	20,220,425
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,422,138	12,321,688	12/16/2014	12/16/2044	Interest Rate Swap			88432D-AC-8	THL Credit Wind Riv 2014-3 CLO Series 2014-3A Class B	1	12,422,138	12,321,688
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,581,654	12,318,643	12/16/2014	12/16/2044	Interest Rate Swap			05618L-AB-2	Babson CLO Ltd 2014-II Sr Secd Note Class B-1 144A	1	12,581,654	12,318,643
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,262,762	11,750,599	12/16/2014	12/16/2044	Interest Rate Swap			82817R-AB-7	Silver Spring CLO Ltd Series 2014-1A Class B1	1	12,262,762	11,750,599
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,052,120	13,040,131	12/16/2014	12/16/2044	Interest Rate Swap			87230A-AA-4	TCI-FLATIRON CLO 2016-1 LTD SR SECD NT CL A	1	13,052,120	13,040,131
57629*CI9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,205,264	8,266,005	12/16/2014	12/16/2044	Interest Rate Swap			09628B-AA-6	Bluemountain CLO 2015-2 Ltd Sr Secd Note Class A-1	1	8,205,264	8,266,005
57629*CU3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	250,000,000	328,073,426	392,716,459	12/16/2014	12/16/2044	Interest Rate Swap		52,860,797	57542Z-A0-7	Secured Revolver A	1	328,073,426	339,855,662
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	200,000,000	24,452,881	65,997,686	12/16/2014	12/16/2044	Interest Rate Swap		41,817,647	65531W-AA-8	Nomad CLO Ltd Series 2013-1A Class A1	1	24,452,881	24,180,039
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,637,040	23,301,025	12/16/2014	12/16/2044	Interest Rate Swap			09625J-AA-2	Bluemountain CLO 2013-3 Ltd Sr Secured Note Class A 144A	1	23,637,040	23,301,025
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,225,000	23,228,902	12/16/2014	12/16/2044	Interest Rate Swap			14310U-AA-7	Carlyle Global Mkt CLO 2014-4 Sr Secd Note Class A-1 144A	1	23,225,000	23,228,902
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,007,038	10,948,674	12/16/2014	12/16/2044	Interest Rate Swap			04941G-AA-6	Atlas Senior Loan Fund III Ltd Series 2013-1A Class A	1	11,007,038	10,948,674
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		17,523,396	17,255,158	12/16/2014	12/16/2044	Interest Rate Swap			095560-AC-2	Blue Hill CLO Ltd Series 2013-1A Class A	1	17,523,396	17,255,158
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,109,942	5,295,334	12/16/2014	12/16/2044	Interest Rate Swap			38136G-AG-6	Goldentree Loan Opp IV Ltd Sr Secd Deferrable Nt Class C	1	5,109,942	5,295,334
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,838,026	5,929,782	12/16/2014	12/16/2044	Interest Rate Swap			55819T-AG-6	Madison Park Funding Ltd 2016-20A Class C	1	5,838,026	5,929,782
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		23,064,127	22,871,699	12/16/2014	12/16/2044	Interest Rate Swap			532621-AA-7	Limerock CLO Series 2014-1A Class A	1	23,064,127	22,871,699
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,114,094	22,275,617	12/16/2014	12/16/2044	Interest Rate Swap			83609J-AA-7	Sound Point CLO LTD Series 2016-1A Class A	1	22,114,094	22,275,617
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,595,306	21,680,007	12/16/2014	12/16/2044	Interest Rate Swap			08180R-AA-3	BENEFIT STREET PARTNERS CLO L Series 15-VIIA Class A1A	1	21,595,306	21,680,007
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,613,764	21,661,213	12/16/2014	12/16/2044	Interest Rate Swap			55818Y-AC-5	MADISON PARK FUNDING LTD Series 15-17A Class A2	1	21,613,764	21,661,213
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		24,188,117	24,000,072	12/16/2014	12/16/2044	Interest Rate Swap			053633-AB-9	Avery Point CLO Limited Series 2013-3A Class A	1	24,188,117	24,000,072
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		56,000,000	58,011,151	12/16/2014	12/16/2044	Interest Rate Swap			57542Z-A0-7	Secured Revolver A	1	56,000,000	58,011,151
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	18,048,203	31,543,281	12/16/2014	12/16/2044	Interest Rate Swap		13,681,911	57542Z-A0-7	Secured Revolver A	1	18,048,203	17,861,370
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		28,415,422	28,227,532	02/05/2015	02/05/2045	Interest Rate Swap			67105V-AC-8	CHA Credit Partners IX Ltd OAKC 2013 - 9A A1	1	28,415,422	28,227,532
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		27,113,721	27,029,784	02/05/2015	02/05/2045	Interest Rate Swap			50184K-AC-2	L C M Ltd Partnership Series 13A Class A	1	27,113,721	27,029,784
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,509,773	22,251,988	02/05/2015	02/05/2045	Interest Rate Swap			939218-AC-7	Washington Mill CLO Ltd Senior Note Class A-1 144A	1	22,509,773	22,251,988
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		22,333,055	22,097,540	02/05/2015	02/05/2045	Interest Rate Swap			36319Q-AA-0	Galaxy XIX CLO Ltd Senior Note Class A-1 144A	1	22,333,055	22,097,540
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,771,996	5,627,666	02/05/2015	02/05/2045	Interest Rate Swap			10302V-AC-9	Bowman Park CLO Ltd Series 2014-1A Class B1	1	5,771,996	5,627,666
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		5,455,726	5,400,313	02/05/2015	02/05/2045	Interest Rate Swap			33882U-AC-1	Flatiron CLO Ltd Series 2014-1A Class B	1	5,455,726	5,400,313
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		15,581,163	15,259,733	02/05/2015	02/05/2045	Interest Rate Swap			828428-AA-0	Silvermore Clo Ltd Series 2014-1A Class A1	1	15,581,163	15,259,733

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STATEMENT AS OF SEPTEMBER 30, 2016 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*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	15,276,922	28,760,484	02/05/2015	02/05/2045	Interest Rate Swap		13,652,360	14311D-AC-0	CARLYLE GLOBAL MARKET STRATEG Series 2015-1A Class A	1	15,276,922	15,108,124
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		12,502,686	12,478,343	02/05/2015	02/05/2045	Interest Rate Swap			55818P-AE-0	Madison Park Funding Ltd Series 2014-12A Class C	1	12,502,686	12,478,343
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		11,250,000	11,251,350	02/05/2015	02/05/2045	Interest Rate Swap			38137H-AC-2	Goldentree Loan Opp XI Ltd Sr Secured Nt Class B 144A	1	11,250,000	11,251,350
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,850,000	9,863,475	02/05/2015	02/05/2045	Interest Rate Swap			36319Q-AC-6	Galaxy XIX QLO Ltd Senior Note Class A-2 144A	1	9,850,000	9,863,475
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,580,000	9,602,743	02/05/2015	02/05/2045	Interest Rate Swap			14311D-AE-6	CARLYLE GLOBAL MARKET STRATEG Series 2015-1A Class A	1	9,580,000	9,602,743
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,055,532	8,837,129	02/05/2015	02/05/2045	Interest Rate Swap			15135A-AC-7	Cent CDO Ltd Series 2006-12A Class C	1	9,055,532	8,837,129
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,492,880	7,880,976	02/05/2015	02/05/2045	Interest Rate Swap			44983W-AD-0	J N G Investment Management Series 2007-5A Class B	1	7,492,880	7,880,976
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,238,025	9,151,427	02/05/2015	02/05/2045	Interest Rate Swap			09626Q-AE-7	Bluemountain QLO 2014-2 Ltd Sr Sec Def Note Class C 144A	1	9,238,025	9,151,427
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,276,821	9,139,166	02/05/2015	02/05/2045	Interest Rate Swap			33882W-AC-7	Flatiron QLO Ltd. Series 2011-1A Class B	1	9,276,821	9,139,166
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,244,455	9,001,872	02/05/2015	02/05/2045	Interest Rate Swap			09626U-AE-8	Bluemountain QLO 2013-1 Ltd Sr Sec Def Note Class B 144A	1	9,244,455	9,001,872
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,000,000	9,000,585	02/05/2015	02/05/2045	Interest Rate Swap			67104C-AC-1	Oak Hill Credit Partners Series 2013-8A Class C	1	9,000,000	9,000,585
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		3,966,592	3,895,452	02/05/2015	02/05/2045	Interest Rate Swap			55817X-AC-8	Madison Park Funding Ltd Series 2007-5A Class A2	1	3,966,592	3,895,452
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		13,500,000	13,053,042	02/05/2015	02/05/2045	Interest Rate Swap			47032B-AK-7	James Campbell Company LLC Senior Note Series 2014-E	2	13,500,000	13,053,042
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,375,525	6,729,818	02/05/2015	02/05/2045	Interest Rate Swap			806713-AE-3	Schiller Park QLO LTD Series 2007-1A Class C	1	6,375,525	6,729,818
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		6,385,139	6,370,370	02/05/2015	02/05/2045	Interest Rate Swap			55817X-AB-0	Madison Park Funding Ltd Series 2007-5A Class A1B	1	6,385,139	6,370,370
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	9,000,000	22,424,334	02/05/2015	02/05/2045	Interest Rate Swap		13,445,502	053635-AG-3	Avery Point II QLO Limited Series 2013-2A Class C	1	9,000,000	8,978,832
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,243,288	9,001,512	02/05/2015	02/05/2045	Interest Rate Swap			14310M-AG-2	Carlyle Global Mkt QLO 2014-1 Mezz Secd Def Nt Class C 144A	1	9,243,288	9,001,512
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,221,710	8,999,946	02/05/2015	02/05/2045	Interest Rate Swap			03764X-AC-1	Apidos CDO Series 2014-17A Class A2A	1	9,221,710	8,999,946
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,222,604	9,001,719	02/05/2015	02/05/2045	Interest Rate Swap			05363X-AG-2	Avery Point QLO Ltd Series 2014-5A Class C	1	9,222,604	9,001,719
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,962,180	8,834,434	02/05/2015	02/05/2045	Interest Rate Swap			50181G-AG-5	LCM Ltd Partnership Series 16A Class C	1	8,962,180	8,834,434
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,550,000	8,566,818	02/05/2015	02/05/2045	Interest Rate Swap			55952Y-AE-7	Magnetite VIII QLO Ltd Series 2014-8A Class C	1	8,550,000	8,566,818
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,632,958	8,550,975	02/05/2015	02/05/2045	Interest Rate Swap			00900A-AC-2	Aimco Series 2014-AA Class C1	1	8,632,958	8,550,975
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		21,949,874	21,370,914	02/05/2015	02/05/2045	Interest Rate Swap			49638W-AB-2	Kingsland Ltd Series 2013-6A Class A1	1	21,949,874	21,370,914
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,508,204	8,301,187	02/05/2015	02/05/2045	Interest Rate Swap			24823B-AE-0	Denali Capital QLO X Ltd Series 2013-1A Class A3L	1	8,508,204	8,301,187
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,240,169	8,251,023	02/05/2015	02/05/2045	Interest Rate Swap			04941M-AC-9	Atlas Senior Loan Fund Ltd Series 2014-1A Class C	1	8,240,169	8,251,023
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,226,257	8,226,291	02/05/2015	02/05/2045	Interest Rate Swap			14310V-AJ-6	Carlyle Global Mkt Strategies Sr Secd Note Class B-2 144A	1	8,226,257	8,226,291
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,828,274	7,989,941	02/05/2015	02/05/2045	Interest Rate Swap			43164Q-AB-0	Hillmark Funding Series 2006-1A Class A2	1	7,828,274	7,989,941
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,418,841	8,200,853	02/05/2015	02/05/2045	Interest Rate Swap			09626Y-AE-0	Bluemountain QLO 2013-2 Ltd Sr Sec Def Note Class C 144A	1	8,418,841	8,200,853
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,796,544	1,739,320	02/05/2015	02/05/2045	Interest Rate Swap			15015P-AB-1	Cedar Creek QLO Ltd Series 2013-1A Class B	1	1,796,544	1,739,320
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,668,298	1,664,660	02/05/2015	02/05/2045	Interest Rate Swap			09627X-AG-6	Bluemountain QLO 2015-1 Ltd Sr Secd Deferrable Nt Class C	2	1,668,298	1,664,660
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		9,399,594	9,376,537	02/05/2015	02/05/2045	Interest Rate Swap			384895-AN-8	Gramercy Park QLO LTD	1	9,399,594	9,376,537

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STATEMENT AS OF SEPTEMBER 30, 2016 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	14 NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,037,566	1,999,978	02/05/2015	02/05/2045	Interest Rate Swap			14954W-AA-4	Cavalry CLO Ltd Series 2013-3A Class A	1	2,037,566	1,999,978
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1	125,000,000	8,293,612	21,426,289	02/05/2015	02/05/2045	Interest Rate Swap		13,268,196	26249G-AC-4	Dryden 33 Senior Loan Fund Series 2014-33A Class C	1	8,293,612	8,158,093
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,388,744	8,066,652	02/05/2015	02/05/2045	Interest Rate Swap			67108F-AC-0	Ozlm Funding Ltd Series 2013-4A Class A2	1	8,388,744	8,066,652
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,165,228	8,013,184	02/05/2015	02/05/2045	Interest Rate Swap			38137L-AE-9	Goldentree Loan Opp VIII Ltd Mezz Deferrable Nt Cl C 144A	1	8,165,228	8,013,184
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,136,362	8,000,736	02/05/2015	02/05/2045	Interest Rate Swap			39808F-AE-8	Greywolf CLO Ltd Series 2014-1A Class B	1	8,136,362	8,000,736
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		8,157,939	8,000,376	02/05/2015	02/05/2045	Interest Rate Swap			05618L-AD-8	Babson CLO Ltd 2014-II Sr Secd Note Class C 144A	1	8,157,939	8,000,376
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		26,257,679	25,786,254	02/05/2015	02/05/2045	Interest Rate Swap			67590B-AA-8	Octagon Inv Partners XVI Ltd Series 2013-1A Class A	1	26,257,679	25,786,254
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		2,585,084	2,499,998	02/05/2015	02/05/2045	Interest Rate Swap			87155P-AD-6	Symphony CLO Ltd Series 2012-9A Class C	1	2,585,084	2,499,998
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,850,000	7,705,591	02/05/2015	02/05/2045	Interest Rate Swap			15136R-AE-5	Cent CLO 18 Limited Series 2013-18A Class B	1	7,850,000	7,705,591
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		46,150,000	46,656,912	02/05/2015	02/05/2045	Interest Rate Swap			589433-G8-4	Meredith Corp. Senior Note Series Q	3	46,150,000	46,656,912
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		7,478,360	7,499,940	02/05/2015	02/05/2045	Interest Rate Swap			36248M-AB-3	GT Loan Financing Ltd. Series 2013-1A Class B	1	7,478,360	7,499,940
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,938,066	2,557,747	02/05/2015	02/05/2045	Interest Rate Swap			278287-AC-1	Eaton Vance CDO Ltd Series 2006-8A Class B	1	1,938,066	2,557,747
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		1,836,625	2,000,258	02/05/2015	02/05/2045	Interest Rate Swap			38136A-AA-2	Goldentree Loan Opp III Ltd Secd Deferrable Nt Cl D-1 144A	1	1,836,625	2,000,258
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds	1		10,015,240	12,658,800	02/05/2015	02/05/2045	Interest Rate Swap			24820R-AA-6	Statoil ASA Senior Unsecured Note	1	10,015,240	12,658,800
12518*FHB	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	625,000,000	403,306,516	445,842,280	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index	5,881,002	8,858,125	912828-PX-2	US Treasury 3.625% DUE 2/15/2021 Resolution Funding Corp Principal Strip	1	397,425,514	436,984,155
12518*FHB	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		225,902,270	265,972,530	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			76116F-AG-2	US Treasury 3.625% DUE 2/15/2021 Resolution Funding Corp Principal Strip	1	225,902,270	265,972,530
12518*FG0	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	590,000,000	307,047,226	340,248,770	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index	5,205,063	8,362,070	912828-PX-2	US Treasury 3.625% DUE 2/15/2021 Resolution Funding Corp Principal Strip	1	301,842,163	331,886,700
12518*FG0	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		288,385,877	339,539,400	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			76116F-AG-2	US Treasury 3.625% DUE 2/15/2021 Resolution Funding Corp Principal Strip	1	288,385,877	339,539,400
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	500,000,000	55,525,489	59,771,739	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index	4,725,489	7,086,500	92927K-AA-3	WABCO Holdings Inc Senior Note Series A	2	50,800,000	52,685,239
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		36,353,712	37,898,563	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			184692-B8-9	ClearBridge Energy MLP Fund Senior Secured Note Ser A	1	36,353,712	37,898,563
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		36,450,000	37,345,212	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			48661E-B*-8	Kayne Anderson Mdstm Egv Fd Senior Note Series D	1	36,450,000	37,345,212
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		36,000,000	38,330,964	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			Q3629#-AG-8	ETSA Utilities Finance Pty Ltd Gtd Senior Note Series B	1	36,000,000	38,330,964
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		47,000,000	50,409,803	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			89148B-B*-1	Tortoise MLP Fund Inc. Senior Note Series D	1	47,000,000	50,409,803
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		27,300,000	29,568,111	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			G9850B-AB-9	Yorkshire Water Svcs Bradford Gtd Senior Sec Note Cl A Ser 2	1	27,300,000	29,568,111
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		28,250,000	29,501,080	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			G8228*-AG-7	Smith & Nephew plc Senior Note Series C	1	28,250,000	29,501,080
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		28,000,000	30,512,300	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			Q9194#-AF-4	Transpower New Zealand Ltd Gtd Senior Note	1	28,000,000	30,512,300
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		22,600,000	25,110,747	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			55068#-AK-5	Luxottica US Holdings Corp. Gtd Senior Note Series I	1	22,600,000	25,110,747
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		25,000,000	30,235,925	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			085209-AA#-1	Bermuda Government Senior Note	1	25,000,000	30,235,925
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		21,600,000	23,763,370	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			G2044#-AY-1	Compass Group plc Senior Note Series K	1	21,600,000	23,763,370
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		20,030,479	25,317,600	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			24820R-AA-6	Statoil ASA Senior Unsecured Note	1	20,030,479	25,317,600
12518*FF2	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		20,000,000	22,262,640	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			73106B-AA#-1	Polaris Industries Inc. Senior Note Series 2011 Tr B	1	20,000,000	22,262,640

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STATEMENT AS OF SEPTEMBER 30, 2016 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
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		17,550,000	19,202,438	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			12656*-AC-6	CSLB Holdings Inc. Gtd Senior Note Series C	1	17,550,000	19,202,438
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		15,800,000	17,168,154	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			12656*-AB-8	CSLB Holdings Inc. Gtd Senior Note Series B	1	15,800,000	17,168,154
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		9,464,993	10,024,828	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			184690-AA-7	ClearBridge Energy MLP Total R Senior Secured Note Series B	1	9,464,993	10,024,828
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		12,015,385	12,571,241	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			48660P-D8-0	Kayne Anderson Energy Rtn Fd Senior Note Series K	1	12,015,385	12,571,241
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		15,900,000	17,048,457	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			749868-AM-3	FREEF America REIT II Inc. Senior Note Series C	1	15,900,000	17,048,457
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		5,355,000	5,725,336	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			48661E-AA-5	Kayne Anderson Mdstm Egy Fd Senior Note Series C	1	5,355,000	5,725,336
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		12,700,000	13,228,790	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			486606-K8-4	Kayne Anderson MLP Invest Co. Senior Note Series JJ	1	12,700,000	13,228,790
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		11,500,000	12,322,779	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			21867*-AA-6	Core Labs Interest Hldgs Inc. Senior Note Ser 2011A	2	11,500,000	12,322,779
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		11,400,000	12,375,965	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			21867*-AB-4	Core Labs Interest Hldgs Inc. Senior Note Ser 2011B	2	11,400,000	12,375,965
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		10,750,000	11,332,037	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			003009-AA-6	Aberdeen Asia-Pacific Income Senior Secured Note Series B	1	10,750,000	11,332,037
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		12,000,000	12,789,420	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			941848-C8-0	Waters Corporation Gtd Senior Note Series E	2	12,000,000	12,789,420
12518*FF2	Credit Default Indices (CDI G526/CDX.NA.IG.26)	2		9,000,000	9,760,248	03/21/2016	06/20/2021	5 Yr Credit Default Swap Index			56081#-AL-4	Major League Baseball Trust Senior Note Series 6	1	9,000,000	9,760,248
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2	250,000,000	37,311,176	39,585,350	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index	(3,538,824)	(3,285,500)	03189*-AC-3	DEXUS Funds Mgmt Ltd Senior Note Series C	1	40,850,000	42,870,850
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		42,400,000	44,960,070	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			03920#-AG-4	Fonterra Co-operative Group Lt Senior Note	1	42,400,000	44,960,070
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		25,200,000	26,399,495	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			57169*-AU-1	Mars Inc. Senior Note Series K	1	25,200,000	26,399,495
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		24,000,000	24,053,352	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			41242*-AY-8	Hardwood Funding LLC Senior Secured Note Series W	1	24,000,000	24,053,352
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		21,400,000	23,052,508	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			038336-E8-8	AptarGroup Inc. Senior Note Ser 2014-A-4	2	21,400,000	23,052,508
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		3,059,098	3,312,192	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			184692-C*-0	ClearBridge Energy MLP Fund Senior Secured Note Series A	1	3,059,098	3,312,192
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		17,500,000	18,888,905	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			091948-AC-1	Transpower New Zealand Ltd Senior Note Series C	1	17,500,000	18,888,905
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		17,600,000	19,201,459	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			12656*-AD-4	CSLB Holdings Inc. Gtd Senior Note Series D	1	17,600,000	19,201,459
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		17,600,000	17,573,371	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			655663-E8-5	Nordson Corp. Senior Note Series 2015-B	2	17,600,000	17,573,371
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		14,375,000	15,989,873	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			674003-AA-7	Oaktree Capital Mgmt LP Senior Note Series B	1	14,375,000	15,989,873
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		13,400,000	13,833,142	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			720186-F*-1	Piedmont Natural Gas Co. Senior Note Series B	1	13,400,000	13,833,142
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		13,800,000	16,508,388	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			G1108#-AG-3	British Land Company plc Senior Note Series D	1	13,800,000	16,508,388
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		12,500,000	14,855,225	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			G1744#-AM-0	Cadogan Estates Ltd Gtd Senior Note Series B	2	12,500,000	14,855,225
12518*FE5	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		13,499,462	14,284,004	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			662325-B8-7	North Shore Gas Co. First Mtg Bond Series P	1	13,499,462	14,284,004
12518*FJ4	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2	250,000,000	63,975,494	65,074,546	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index	(3,424,506)	(3,285,500)	G5147*-AD-8	Johnson Matthey plc Senior Note Series D	1	67,400,000	68,360,046
12518*FJ4	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		64,200,000	75,564,684	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			00832*-AD-8	Australia Pacific Airport Pty Gtd Senior Note Ser C	1	64,200,000	75,564,684
12518*FJ4	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		55,000,000	59,886,970	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			G8781#-AC-1	Thames Water Util Cayman Fin Gtd Senior Sec Note C1 A Ser 3	1	55,000,000	59,886,970
12518*FJ4	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		54,500,000	57,331,111	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			553799-AE-7	MU Finance plc Gtd Senior Secured Note	1	54,500,000	57,331,111
12518*FJ4	Credit Default Indices (CDI G026/CDX.NA.IG.26)	2		45,000,000	49,959,855	03/21/2016	06/20/2026	10 Yr Credit Default Swap Index			838515-G*-9	South Jersey Gas Company First Mortgage Bond Ser C	1	45,000,000	49,959,855

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STATEMENT AS OF SEPTEMBER 30, 2016 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
12518* HD5	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	450,000,000	328,760,516	362,990,109	09/22/2014	06/20/2021	5 Yr Credit Default Swap Index	4,431,112	6,377,850	912828-PX-2	US Treasury 3.625% DUE 2/15/2021	1	324,329,404	356,612,259
12518* HD5	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		70,494,325	82,998,520	09/22/2014	06/20/2021	5 Yr Credit Default Swap Index			76116F-AG-2	Resolution Funding Corp Principal Strip	1	70,494,325	82,998,520
12518* HD5	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2		86,917,364	123,926,740	09/22/2014	06/20/2021	5 Yr Credit Default Swap Index			912810-QK-7	US Treasury 3.875% DUE 8/15/2040	1	86,917,364	123,926,740
12518* HE3	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	100,000,000	128,746,976	184,046,180	09/22/2014	06/20/2021	5 Yr Credit Default Swap Index	658,229	1,417,300	912810-QK-7	US Treasury 3.875% DUE 8/15/2040	1	128,088,747	182,628,880
12518* HF0	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	50,000,000	64,356,838	92,023,090	09/22/2014	06/20/2021	5 Yr Credit Default Swap Index	312,464	708,650	912810-QK-7	US Treasury 3.875% DUE 8/15/2040	1	64,044,374	91,314,440
12518* HG8	Credit Default Indices (CDIG526/CDX.NA.IG.26)	2	50,000,000	64,303,336	92,023,090	09/22/2014	06/20/2021	5 Yr Credit Default Swap Index	258,962	708,650	912810-QK-7	US Treasury 3.875% DUE 8/15/2040	1	64,044,374	91,314,440
9999999 - Totals				11,139,437,922	13,413,179,623	XXX	XXX	XXX	14,794,897	1,917,855,343	XXX	XXX	XXX	11,124,643,025	11,495,324,280

STATEMENT AS OF SEPTEMBER 30, 2016 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	90	9,986,000,000	80	9,889,000,000	82	10,239,000,000			90	9,986,000,000
2. Add: Opened or Acquired Transactions.....	18	3,715,000,000	4	650,000,000					22	4,365,000,000
3. Add: Increases in Replication (Synthetic Asset) Transactions Statement Value.....	XXX		XXX		XXX		XXX		XXX	
4. Less: Closed or Disposed of Transactions.....	28	3,812,000,000	2	300,000,000					30	4,112,000,000
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	80	9,889,000,000	82	10,239,000,000	82	10,239,000,000			82	10,239,000,000

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.....	4,207,980,196
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance.....	.....
3.	Total (Line 1 plus Line 2).....	4,207,980,196
4.	Part D, Section 1, Column 5.....	15,567,362,988
5.	Part D, Section 1, Column 6.....	(11,359,382,792)
6.	Total (Line 3 minus Line 4 minus Line 5).....	.....
		Fair Value Check
7.	Part A, Section 1, Column 16.....	6,111,040,728
8.	Part B, Section 1, Column 13.....	.....
9.	Total (Line 7 plus Line 8).....	6,111,040,728
10.	Part D, Section 1, Column 8.....	17,470,031,190
11.	Part D, Section 1, Column 9.....	(11,358,990,462)
12.	Total (Line 9 minus Line 10 minus Line 11).....	.....
		Potential Exposure Check
13.	Part A, Section 1, Column 21.....	5,602,338,313
14.	Part B, Section 1, Column 20.....	110,542,300
15.	Part D, Section 1, Column 11.....	5,712,880,613
16.	Total (Line 13 plus Line 14 minus Line 15).....	.....

SCHEDULE E - VERIFICATION

(Cash Equivalents)

	1	2
	Year To Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year	2,706,693,131	1,205,471,894
2. Cost of cash equivalents acquired	65,814,844,184	106,803,093,016
3. Accrual of discount	16,353,876	12,058,367
4. Unrealized valuation increase (decrease)		
5. Total gain (loss) on disposals	45,577	25,837
6. Deduct consideration received on disposals	65,813,639,460	105,313,955,979
7. Deduct amortization of premium	5,778	4
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)	2,724,291,530	2,706,693,131
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	2,724,291,530	2,706,693,131