QUARTERLY STATEMENT

OF THE

C.M. Life Insurance Company

TO THE

Insurance Department

OF THE

STATE OF

FOR THE QUARTER ENDED SEPTEMBER 30, 2017

LIFE AND ACCIDENT AND HEALTH

2017



LIFE AND ACCIDENT AND HEALTH COMPANIES - ASSOCIATION EDITION

QUARTERLY STATEMENT

AS OF SEPTEMBER 30, 2017 OF THE CONDITION AND AFFAIRS OF THE

MML Bay State Life Insurance Company

NAIC Group Code 0435 0435 NAIC Company Code 70416 Employer's ID Number 43-0581430

United States o ard, 1295 State (Street and N	Commenced Business(City or 7	
ard, 1295 State	Commenced Business(City or 7	Enfield , CT, US 06082
1295 State	(City or 1	Enfield , CT, US 06082
1295 State	Street	
	Street	Fown, State, Country and Zip Code)
(Street and N	Number)	
		413-788-8411
	(Are	ea Code) (Telephone Number)
	!	Springfield , MA, US 01111
,		Fown, State, Country and Zip Code)
1295 State	Street	
(Street and N		
	(Are	413-788-8411 ea Code) (Telephone Number)
	,	, (
www.massmu	utuai.com	
llen	,	413-744-3193
		(Area Code) (Telephone Number) 413-226-4086
		(FAX Number)
OFFICE	ERS	
<u> </u>	Treasurer Apointed Actuary	
	Apolitica Actuary	Bouglas Wilght Paylor
OTHE	ER .	
ael Robert Fanning, E	xecutive Vice President	Melvin Timothy Corbett, Executive Vice President
DIRECTORS OR	RTRUSTEES	
Michael Robe	ert Fanning	Elizabeth Ward Chicares
	-	
_		
SS:		
said reporting entity, therein contained, and od stated above, and bunting Practices and accounting practices also included officers also included.	free and clear from any liens of nexed or referred to, is a full an of its income and deductions t Procedures manual except to and procedures, according to ides the related corresponding	rting entity, and that on the reporting period stated above, or claims thereon, except as herein stated, and that this d true statement of all the assets and liabilities and of the herefrom for the period ended, and have been completed the extent that: (1) state law may differ; or, (2) that state to the best of their information, knowledge and belief, electronic filling with the NAIC, when required, that is an per requested by various regulators in lieu of or in addition
	•	Todd Garett Picken Treasurer Yes [X] No []
	S: say that they are the said reporting entity, herein contained, and od stated above, and accounting Practices and accounting practices ded officers also incluing the enclosed statem.	say that they are the described officers of said reposaid reporting entity, free and clear from any liens wherein contained, annexed or referred to, is a full an od stated above, and of its income and deductions trunting Practices and Procedures manual except to accounting practices and procedures, according to ded officers also includes the related corresponding the enclosed statement. The electronic filing may be provided to the procedures of the enclosed statement. The electronic filing may be provided to the provided that the enclosed statement is the enclosed statement. The electronic filing may be provided to the enclosed statement in the electronic filing may be provided to the enclosed statement.

Number of pages attached......

ASSETS

			Current Statement Date		4
		1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	December 31 Prior Year Net Admitted Assets
1.	Bonds	4,231,498,735		4,231,498,735	4,077,217,996
2.	Stocks:				
	2.1 Preferred stocks	26,113,630		26,113,630	25,449,045
		313,954,626		313,954,626	
3.	Mortgage loans on real estate:				
	3.1 First liens	960,339,312		960,339,312	966,656,414
4.	Real estate:				
	4.1 Properties occupied by the company (less \$encumbrances)				
	4.2 Properties held for the production of income (less successions) encumbrances)				
	,				
•	4.3 Properties held for sale (less \$				
_	encumbrances)				
5.	Cash (\$(29,183,562)), cash equivalents				
	(\$50,836,206) and short-term	04 050 044		04.050.044	101 000 005
	investments (\$				
	Contract loans (including \$ premium notes)			143,735,425	, ,
	Derivatives				
	Other invested assets				
	Receivables for securities			224,291,947	207,318,099
10.	Securities lending reinvested collateral assets				
	Aggregate write-ins for invested assets				
	Subtotals, cash and invested assets (Lines 1 to 11)	6,562,248,742	159,803	6,562,088,939	6,602,762,364
13.	Title plants less \$ charged off (for Title insurers				
	only)				
14.	Investment income due and accrued	103,077,709	369,740	102,707,969	95,388,468
	Premiums and considerations:				
	15.1 Uncollected premiums and agents' balances in the course of collection	66,459	4,790	61,669	124,575
	15.2 Deferred premiums, agents' balances and installments booked but				
	deferred and not yet due (including \$				
	earned but unbilled premiums)	(30,110,455)		(30,110,455)	(25,502,651)
	15.3 Accrued retrospective premiums (\$				
	contracts subject to redetermination (\$				
16.	Reinsurance:				
	16.1 Amounts recoverable from reinsurers	58,733,362	1,617,472	57,115,890	28,958,578
	16.2 Funds held by or deposited with reinsured companies				
	16.3 Other amounts receivable under reinsurance contracts	6,445,943		6,445,943	(3,777,509)
17.	Amounts receivable relating to uninsured plans				
18.1	Current federal and foreign income tax recoverable and interest thereon				2,905,366
18.2	Net deferred tax asset	151,534,536	106,331,543	45,202,993	42,079,981
19.	Guaranty funds receivable or on deposit	964,893		964,893	987,213
20.	Electronic data processing equipment and software				
21.	Furniture and equipment, including health care delivery assets				
	(\$				
22.	Net adjustment in assets and liabilities due to foreign exchange rates				
23.	Receivables from parent, subsidiaries and affiliates	292,854		292,854	273,263
	Health care (\$) and other amounts receivable				
	Aggregate write-ins for other than invested assets				
26.	Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	6,855,556,343	110,719,418	6,744,836,925	6,744,260,890
27.	From Separate Accounts, Segregated Accounts and Protected Cell	4 007 407 440		4 007 407 440	4 747 674 467
	Accounts				
	Total (Lines 26 and 27)	8,692,723,761	110,719,418	8,582,004,343	8,462,232,355
	DETAILS OF WRITE-INS				
1101.					
1102.					
1103.					
1198.	Summary of remaining write-ins for Line 11 from overflow page				
	Totals (Lines 1101 through 1103 plus 1198)(Line 11 above)				
	Miscellaneous other assets			66,230	61,242
2502.	Cash advanced to agents	2,233,126	2,233,126		
2503.					
2598.	Summary of remaining write-ins for Line 25 from overflow page				
		2,302,300	2,236,070	1	

LIABILITIES, SURPLUS AND OTHER FUNDS

	LIADILITIES, SOITI EOS AND OTTILITO	1 Current	2 December 31
1.	Aggregate reserve for life contracts \$	Statement Date	Prior Year
	(including \$		
	Liability for deposit-type contracts (including \$ Modco Reserve)	79,387,067	79,252,906
٠.	4.1 Life	15,440,625	17,495,061
_	4.2 Accident and health		
	Policyholders' dividends \$		
0.	6.1 Dividends apportioned for payment (including \$ Modco)		
	6.2 Dividends not yet apportioned (including \$ Modco)		
7.	6.3 Coupons and similar benefits (including \$ Modco)		
	Premiums and annuity considerations for life and accident and health contracts received in advance less		
_	\$ discount; including \$ accident and health premiums	57, 125	4,548
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		
	9.3 Other amounts payable on reinsurance, including \$	147 500	22 721
	9.4 Interest Maintenance Reserve	49,743,534	36,885,767
10.	Commissions to agents due or accrued-life and annuity contracts \$, accident and health		
11	\$s and deposit-type contract funds \$		
11. 12.	General expenses due or accrued		
	Transfers to Separate Accounts due or accrued (net) (including \$(5.978.942) accrued for expense		
14	allowances recognized in reserves, net of reinsured allowances)	(6,578,333)	(5,948,356)
	Current federal and foreign income taxes, including \$		
	Net deferred tax liability		
16.	Unearned investment income		
17. 18.	Amounts withheld or retained by company as agent or trustee		
19.	Remittances and items not allocated	(23,830,846)	14,847,940
20.	Net adjustment in assets and liabilities due to foreign exchange rates		
21. 22.	Liability for benefits for employees and agents if not included above		
23.	Dividends to stockholders declared and unpaid		
24.	Miscellaneous liabilities:	04 000 040	04 004 000
	24.01 Asset valuation reserve		
	24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
	24.04 Payable to parent, subsidiaries and affiliates		19,622,615
	24.05 Drafts outstanding		
	24.07 Funds held under coinsurance		
	24.08 Derivatives		
	24.09 Payable for securities		
	24.11 Capital notes \$ and interest thereon \$		
25.	Aggregate write-ins for liabilities	415,656,030	421,571,924
26. 27.	Total liabilities excluding Separate Accounts business (Lines 1 to 25) From Separate Accounts Statement	5,143,287,931 1,837,167,418	5,197,587,095 1,717,971,465
28.	Total liabilities (Lines 26 and 27)	6,980,455,349	6,915,558,560
29.	Common capital stock		2,500,000
30. 31.	Preferred capital stock		
32.	Surplus notes		
33.	Gross paid in and contributed surplus	450,276,208	450,276,208
34. 35.	Aggregate write-ins for special surplus funds		
	Less treasury stock, at cost:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,000,001,007
	36.1shares common (value included in Line 29 \$		
37.	36.2 shares preferred (value included in Line 30 \$	1,599,048,994	1,544,173,795
38.	Totals of Lines 29, 30 and 37	1,601,548,994	1,546,673,795
39.	Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	8,582,004,343	8,462,232,355
2501	DETAILS OF WRITE-INS Repurchase agreements	221 520 772	237,307,712
2501. 2502.	Derivative accrued interest		96, 192, 412
2503.	Derivative collateral	73,489,161	85,521,623
2598. 2599.	Summary of remaining write-ins for Line 25 from overflow page	3,383,693 L 415,656,030	2,550,177 421,571,924
2599. 3101.	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	, ,	421,5/1,924
3102.			
3103.	Company of variable with the feet line Of from profiles page		
3198. 3199.	Summary of remaining write-ins for Line 31 from overflow page		
3401.	Totals (Lines 3101 tillough 3100 plus 3130)(Line 31 above)		
3402.			
3403. 3498.	Summary of remaining write-ins for Line 34 from overflow page		
3499.	Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)		
_			

SUMMARY OF OPERATIONS

		1 1	2	3
		Current Year	Prior Year	Prior Year Ended
		To Date	To Date	December 31
1.	Premiums and annuity considerations for life and accident and health contracts	, ,	229,363,054	(79,937,671)
2. 3.	Considerations for supplementary contracts with life contingencies		839,539 224.530.000	850,099 299,047,027
3. 4.	Amortization of Interest Maintenance Reserve (IMR)			13.124.666
5.	Separate Accounts net gain from operations excluding unrealized gains or losses		11,200,000	10, 121,000
6.	Commissions and expense allowances on reinsurance ceded	17,982,539	14,345,863	105,200,132
7.	Reserve adjustments on reinsurance ceded			
8.	Miscellaneous Income:			
	8.1 Income from fees associated with investment management, administration and contract	00 040 000	00 700 005	00 004 400
	guarantees from Separate Accounts		28,738,635	38,301,429
	8.2 Charges and fees for deposit-type contracts		1,648,432	2,175,902
9.	Totals (Lines 1 to 8.3)		510.716.216	378,761,584
10.	Death benefits		62,491,381	105,310,788
11.	Matured endowments (excluding guaranteed annual pure endowments)		02,431,001	
12.	Annuity benefits			102,128,619
13.	Disability benefits and benefits under accident and health contracts	372,662	419,720	487,971
14.	Coupons, guaranteed annual pure endowments and similar benefits			
15.	Surrender benefits and withdrawals for life contracts	284,870,940	288,005,222	385,325,513
16.	Group conversions			
17.	Interest and adjustments on contract or deposit-type contract funds	2,903,758	1,584,601	2,564,585
18.	Payments on supplementary contracts with life contingencies		725,912	967,425
19.	Increase in aggregate reserves for life and accident and health contracts		(23,489,541)	(407,371,221)
20.	Totals (Lines 10 to 19)	413,381,805	406, 181, 925	189,413,680
21.	Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	20 562 939	51,680,525	64, 129,687
22.	Commissions and expense allowances on reinsurance assumed			04, 129,007
23.	General insurance expenses		30,999,487	46,273,949
24.	Insurance taxes, licenses and fees, excluding federal income taxes	7,971.054		8,692,466
25.	Increase in loading on deferred and uncollected premiums	(2,740,787)	5,200,444	5,046,298
26.	Net transfers to or (from) Separate Accounts net of reinsurance			(101, 153, 377)
27.	Aggregate write-ins for deductions	(4,497,473)	302,497	76,525,952
28.	Totals (Lines 20 to 27)	397,400,617	428,211,631	288,928,655
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus			
	Line 28)	88,265,202	82,504,585	89,832,929
30.	Dividends to policyholders			
31.	Net gain from operations after dividends to policyholders and before federal income taxes (Line 29		82,504,585	89,832,929
32.	minus Line 30) Federal and foreign income taxes incurred (excluding tax on capital gains)		82,504,585 19,311,388	23,469,815
33.	Net gain from operations after dividends to policyholders and federal income taxes and before	. 22,791,300	19,511,000	20,400,010
33.	realized capital gains or (losses) (Line 31 minus Line 32)	65,473,696	63, 193, 197	66,363,114
34.	Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital			,,,,,
	gains tax of \$			
	transferred to the IMR)	(9,547,852)	(6,092,544)	(4,642,416)
35.	Net income (Line 33 plus Line 34)	. 55,925,844	57,100,653	61,720,698
	CAPITAL AND SURPLUS ACCOUNT			
36.	Capital and surplus, December 31, prior year		1,395,991,896	1,395,991,896
37.	Net income (Line 35)	55,925,844	57,100,653	61,720,698
38.	Change in net unrealized capital gains (losses) less capital gains tax of \$(12,301,995)	(16,833,671)	68,076,417	47,399,039
39.	Change in net unrealized foreign exchange capital gain (loss)	33,265,693	(9,721,257)	(23,588,824)
40.	Change in net deferred income tax			
41.	Change in nonadmitted assets			
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			
45. 46.	Change in treasury stock			
47.	Other changes in surplus in Separate Accounts Statement			
48.	Change in surplus notes			
49.	Cumulative effect of changes in accounting principles			
50.	Capital changes:	-		
-5.	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. 53.	Dividends to stockholders		(4,035,604)	76,237,328
	Net change in capital and surplus for the year (Lines 37 through 53)		144,711,152	150,681,899
55.		1,601,548,994	1,540,703,048	1,546,673,795
55.		1,001,000,00	1,070,100,040	1,070,010,130
	Capital and surplus, as of statement date (Lines 36 + 54) DETAILS OF WRITE-INS		l	
08.301	DETAILS OF WRITE-INS	1 634 506	1 643 080	2 164 741
				2,164,741
08.302.	DETAILS OF WRITE-INS Revenue sharing	17,953	5,352	, ,
08.302. 08.303.	DETAILS OF WRITE-INS Revenue sharing Miscellaneous	17,953	5,352	11, 161
08.302. 08.303. 08.398. 08.399.	DETAILS OF WRITE-INS Revenue sharing Miscel laneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	1,652,459	1,648,432	2,175,902
08.302. 08.303. 08.398. 08.399. 2701.	DETAILS OF WRITE-INS Revenue sharing Miscellaneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment	1,652,459 (5,516,549)	1,648,432	11,161
08.302. 08.303. 08.398. 08.399. 2701. 2702.	DETAILS OF WRITE-INS Revenue sharing Miscellaneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscellaneous charges to operations	1,652,459 (5,516,549) 1,019,076	1,648,432	2,175,902
08.302. 08.303. 08.398. 08.399. 2701. 2702. 2703.	DETAILS OF WRITE-INS Revenue sharing Miscellaneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscellaneous charges to operations	1,652,459 (5,516,549) (1,019,076)		2,175,902
08.302. 08.303. 08.398. 08.399. 2701. 2702. 2703. 2798.	DETAILS OF WRITE-INS Revenue sharing Miscel laneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscel laneous charges to operations Summary of remaining write-ins for Line 27 from overflow page	1,652,459 (5,516,549) 1,019,076	1,648,432	2,175,902 80,997,397 (4,471,445)
08.302. 08.303. 08.398. 08.399. 2701. 2702. 2703. 2798. 2799.	DETAILS OF WRITE-INS Revenue sharing Miscel laneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscel laneous charges to operations Summary of remaining write-ins for Line 27 from overflow page Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	1,652,459 (5,516,549) 1,019,076 (4,497,473)	1,648,432 1,302,497	2,175,902 80,997,397 (4,471,445) 76,525,952
08.302. 08.303. 08.398. 08.399. 2701. 2702. 2703. 2798. 2799. 5301.	DETAILS OF WRITE-INS Revenue sharing Miscel laneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscel laneous charges to operations Summary of remaining write-ins for Line 27 from overflow page Totals (Lines 2701 through 2703 plus 2798)(Line 27 above) Reinsurance ceded adjustment	1,652,459 (5,516,549) 1,019,076 (4,497,473) (5,516,549)	1,648,432 302,497	2,175,902 80,997,397 (4,471,445) 76,525,952 78,099,538
08.302. 08.398. 08.399. 2701. 2702. 2703. 2798. 2799. 5301. 5302.	DETAILS OF WRITE-INS Revenue sharing Miscel laneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscel laneous charges to operations Summary of remaining write-ins for Line 27 from overflow page Totals (Lines 2701 through 2703 plus 2798)(Line 27 above) Reinsurance ceded adjustment Other changes in surplus	1,652,459 (5,516,549) 1,019,076 (4,497,473) (5,516,549) (4,599,702)	302,497 (4,035,604)	2,175,902 80,997,397 (4,471,445) 76,525,952 78,099,538 (1,862,210)
08.302. 08.303. 08.398. 08.399. 2701. 2702. 2703. 2798. 2799. 5301. 5302. 5303.	DETAILS OF WRITE-INS Revenue sharing Miscellaneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscellaneous charges to operations Summary of remaining write-ins for Line 27 from overflow page Totals (Lines 2701 through 2703 plus 2798)(Line 27 above) Reinsurance ceded adjustment Other changes in surplus	1,652,459 (5,516,549) 1,019,076 (4,497,473) (5,516,549) (4,599,702)	1,648,432 302,497	2,175,902 80,997,397 (4,471,445) 76,525,952 78,099,538
08.302. 08.303. 08.398. 08.399. 2701. 2702. 2703. 2798. 2799. 5301. 5302. 5303. 5398.	DETAILS OF WRITE-INS Revenue sharing Miscel laneous Summary of remaining write-ins for Line 8.3 from overflow page Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment Miscel laneous charges to operations Summary of remaining write-ins for Line 27 from overflow page Totals (Lines 2701 through 2703 plus 2798)(Line 27 above) Reinsurance ceded adjustment Other changes in surplus	1,652,459 (5,516,549) 1,019,076 (4,497,473) (5,516,549) (4,599,702)	302,497 (4,035,604)	2,175,902 80,997,397 (4,471,445) 76,525,952 78,099,538 (1,862,210)

		1 Current Year	2 Prior Year	3 Prior Year Ended
		To Date	To Date	December 31
	Cash from Operations			
1.		, ,	, ,	(83,809,319
2.		224,578,350	237,263,910	303,620,327
3.	Miscellaneous income	33,092,109	40,119,567	155,427,406
4.	Total (Lines 1 to 3)	471,529,941	494, 176, 650	375,238,414
5.	Benefit and loss related payments		437,067,854	600,771,349
6.	Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts		(73, 151, 463)	
7.	Commissions, expenses paid and aggregate write-ins for deductions		66,419,305	99,061,99
8.				
9.	Federal and foreign income taxes paid (recovered) net of \$1,132,635 tax on capital	14 400 404	05 040 074	00,000,000
	gains (losses)	14,489,404	25,919,274	36,006,30
10.	Total (Lines 5 through 9)	507,742,528	456,254,970	634,256,35
11.	Net cash from operations (Line 4 minus Line 10)	(36,212,587)	37,921,680	(259,017,94
	Cash from Investments			
12.	Proceeds from investments sold, matured or repaid:			
	12.1 Bonds	790,573,543	520,693,935	881,884,68
			9,086,403	
	12.3 Mortgage loans	96,254,036	85,747,545	133,341,87
	12.5 Other invested assets			53, 113, 13
	12.6 Net gains or (losses) on cash, cash equivalents and short-term investments		(1,985,422)	(1,915,37
	12.7 Miscellaneous proceeds	13,859,434	(11,799,761)	5,094,58
	12.8 Total investment proceeds (Lines 12.1 to 12.7)	957,245,771	636,019,364	1,086,831,28
13.	Cost of investments acquired (long-term only):			
	13.1 Bonds	901,737,072	699,875,291	779,997,02
	13.2 Stocks	1,262,428	9,081,108	9,461,73
	13.3 Mortgage loans	85,362,182	107,595,067	123,326,08
	13.5 Other invested assets	23,425,215	27,005,423	37,524,16
	13.6 Miscellaneous applications	(1,795,921)	2,785,452	1,960,94
	13.7 Total investments acquired (Lines 13.1 to 13.6)	1,009,990,976	846,342,341	952,269,94
14.	Net increase (or decrease) in contract loans and premium notes	(35,271)	(1,797,859)	(9,653,57
15.	Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(52,709,934)	(208,525,118)	144,214,909
	Cash from Financing and Miscellaneous Sources			
16.	Cash provided (applied):			
	16.1 Surplus notes, capital notes			
	16.2 Capital and paid in surplus, less treasury stock			
	16.4 Net deposits on deposit-type contracts and other insurance liabilities			11 608 54
	16.5 Other each provided (applied)	(49,212,504)	131,863,655	(49,399,21
17.	16.6 Other cash provided (applied)	(43,212,304)	131,003,003	(49,099,21
17.	plus Line 16.6)	(50,723,740)	137,093,675	(37,790,67
	DECONOR INTO OF CACH CACH FOUNTALENTS AND SHORT TERM INVESTMENTS			
18.	RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(139,646,261)	(33 500 763)	(150 500 71
19.		(133,040,201)	(35,369,765)	(152,595,71
19.	Cash, cash equivalents and short-term investments: 19.1 Beginning of year	161,298,905	313,892,618	313,892,61
	19.2 End of period (Line 18 plus Line 19.1)	21,652,644	280,382,855	161,298,90
		,	-	·
	upplemental disclosures of cash flow information for non-cash transactions: D1. Bond conversions and refinancing	23 EE3 106	(90,310)	21,303,72
0.00	02. Net investment income payment in-kind bonds		320,607	446,22
	pg. Dividend reinvestment		134,636 22,500	134,63 849,21
0.00	D5. Other invested assets to stock		13,407,953	849,2
0.00	D6. Other invested assets to stock distribution		427,613 345,365	345,36
0.00 0.00	OB. Interest capitalization for long-term debt DB. Bank loan rollovers		340,353 99,332	84,89 99,33

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

110to: Cappionional dicolocator of cach new information for fich cach transactions.		
20.0011. Transfer of mortgage loan to other than invested assets	 	1,357,792

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

	DIRECT PREMIUMS AND DEPOSIT-TYPE CO	UNITACIS	2	3
		Current Year To Date	Prior Year To Date	Prior Year Ended December 31
1.	Industrial life			
2.	Ordinary life insurance	162,147,557	170,041,486	228,947,613
3.	Ordinary individual annuities	223,638,920	171,333,366	218,167,919
4.	Credit life (group and individual)			
5.	Group life insurance	53,595	12,778	650,373
6.	Group annuities			
7.	A & H - group			
8.	A & H - credit (group and individual)			
9.	A & H - other			
10.	Aggregate of all other lines of business			
11.	Subtotal	385,840,072	341,387,630	447,765,905
12.	Deposit-type contracts			
13.	Total	385,840,072	341,387,630	447,765,905
	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)			

TABLE OF CONTENTS

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

Note 1 - Summary of Significant Accounting Policies and Going Concern

Accounting practices:

The accompanying financial statements of C.M. 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 State of Connecticut Insurance Department (the Department).

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

		F/S	F/S		
	SSAP#	Page	Line #	2017	2016
NET INCOME					
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$ 55,925,844	\$ 61,720,698
(2) State prescribed practices that increase/(decrease) NAIC SAP:	; N/A	N/A	N/A	-	-
(3) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		<u>-</u> _
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	\$ 55,925,844	\$ 61,720,698
SURPLUS					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 1,601,548,994	\$ 1,546,673,795
(6) State prescribed practices that increase/(decrease) NAIC SAP:	; N/A	N/A	N/A	-	-
(7) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		<u>-</u> _
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	\$ 1,601,548,994	\$ 1,546,673,795

- Use of estimates in the preparation of the financial statements No change
- Accounting policy:
 - (1-5) No change
 - (6) For loan-backed and structured securities, such as asset-backed securities, mortgage-backed securities, including residential mortgage-backed securities and commercial mortgage-backed securities, and structured securities, including collateralized debt obligations, amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies.

Certain fixed income securities with the highest ratings from a rating agency follow the retrospective method of accounting. Under the retrospective method, the recalculated effective yield equates the present value of the actual and anticipated cash flows, including new prepayment assumptions, to the original cost of the investment. Prepayment assumptions are based on borrower constraints and economic incentives such as the original term, age and coupon of the loan as affected by the interest rate environment. The current carrying value is then increased or decreased to the amount that would have resulted had the revised yield been applied since inception, and investment income is correspondingly decreased or increased.

All other fixed income securities, such as floating rate bonds and interest only securities, including those that have been impaired, follow the prospective method of accounting. Under the prospective method, the recalculated future effective yield equates the carrying value of the investment to the present value of the anticipated future cash flows.

(7-14) No change

Going concern - No change

Note 2 – Accounting Changes and Corrections of Errors

a. For the nine months ended September 30, 2017, corrections of prior years' errors were recorded in shareholder's equity, net of tax:

	Increase (Decrease) to:					Correction
	Prior Current		Current		of Asset	
		Years'		Year		or Liability
	!	Net Income		Surplus		Balances
Partnerships and limited liability companies	\$	-	\$	(227,387)	\$	(227,387)
Other than invested assets		(2,921,931)		(2,921,931)		(2,921,931)
General expenses due or accrued		(447,929)		(447,929)		447,929
Other Liabilities		(351,787)		(351,787)		(351,787)
Total	\$	(3,721,647)	\$	(3,949,034)	\$	(3,053,176)

Of the \$3,949,034 decrease to surplus for prior years' errors, \$3,721,647 was recorded as prior period adjustments and \$227,387 was recorded, net of tax, as a change in nonadmitted assets in the Statutory Statements of Changes in Surplus.

For the nine months ended September 30, 2016, corrections of prior years' errors were recorded in shareholder's equity, net of tax:

		Increase (D	e) to:	(Correction		
		Prior Current		Prior			of Asset
		Years'		Year		or Liability	
	1	Net Income		Surplus		Balances	
Federal income tax receivable	\$	(1,862,209)	\$	(1,862,209)	\$	1,862,209	
Total	\$	(1,862,209)	\$	(1,862,209)	\$	1,862,209	

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

b. Adoption of new accounting standards

In June 2016, the NAIC adopted modifications to SSAP No. 26, Bonds, Excluding Loan-backed and Structured Securities, and SSAP No. 43R, Loan-backed and Structured Securities, which were effective January 1, 2017 and should be prospectively applied. These modifications clarified that the amount of prepayment penalties or acceleration fees reported as investment income should equal the total proceeds received less the par value of the investment; and any difference between the carrying value and the par value at the time of disposal will be reported as realized capital gains and losses. These modifications also added specific disclosures related to securities sold, redeemed or otherwise disposed of as a result of a callable feature. These modifications did not have a significant impact on the Company's financial statements.

In June 2016, the NAIC adopted substantive revisions to SSAP No. 51R, *Life Contracts*, to incorporate references to the Valuation Manual (VM) and to facilitate the implementation of PBR, which were effective on January 1, 2017. The adoption of PBR only applies to new life insurance policies issued after January 1, 2017, however the Company plans to adopt these revisions to SSAP No.51 using the 3-year phased in approach by no later than January 1, 2020. The Company currently uses formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company will be required to hold the higher of (a) the reserve using prescribed factors and (b) the PBR reserve which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. The Company is currently assessing the impact of these modifications on the Company's financial statements.

In August 2016, the NAIC adopted modifications to SSAP No. 51R, *Life Contracts*, which were effective January 1, 2017. These modifications clarified 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 directly to surplus instead of through income. These modifications were made to accommodate PBR which became effective January 1, 2017. These modifications did not have an impact on the Company's financial statements.

In June 2017, the NAIC adopted modifications to SSAP No. 30, Investment in Common Stock, SSAP No. 48, Joint Ventures, Partnerships and Limited Liability Method of Accounting, and SSAP No. 97, Investments in Subsidiary Controlled and Affiliated Entities as they relate to ASU 2016-07, Simplifying the Transition to the Equity Method of Accounting, which were effective January 1, 2017. These modifications included the definition of control and provided guidance as to when an investment qualified (or no longer qualifies) for the equity method of accounting. These modifications further specified that when the level of investment in a subsidiary, controlled or affiliated (SCA) entity fell below the level of control, defined as the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of the investee in SSAP No. 97, the reporting entity should discontinue the use of the equity method of accounting. When an entity becomes qualified to use the equity method of accounting, the entity should add the cost of acquiring the additional interest in the investee to the current basis of the previously held interest and apply the equity method of accounting, prospectively. The Company has adopted these modifications.

In June 2017, the NAIC adopted modifications to SSAP No. 37, *Mortgage Loans*, which became effective June 8, 2017. These modifications clarify that a reporting entity providing a mortgage loan as a "participant in a mortgage loan agreement", should consider the mortgage loan in the scope of SSAP No. 37. Specifically, in addition to mortgage loans directly originated, a mortgage loan also includes mortgages acquired through assignment, syndication or participation. These modifications also clarify the impairment assessment and incorporate new disclosures for these types of mortgage loans to identify mortgage loans in which the insurer is a participant or co-lender. These modifications did not have a financial impact on the Company. The Company is adding the additional disclosures to the Company's financial statements for the year ended December 31, 2017.

Note 3 – Business Combinations and Goodwill - No change

Note 4 - Discontinued Operations - No change

Note 5 - Investments

- a. Mortgage loans, including mezzanine real estate loans No change
- b. Debt restructuring No change
- c. Reverse mortgages No change
- d. Loan-backed 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.

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

		Γ	(1)	(2)				(3)	
			Amortized	OTTI Recognized					
			Cost Basis			in Los			
		ł	Before	(2			b)		Fair Value
			OTTI	Inte	,	•	n-interest		1-(2a+2b)
			0111	iiile	CSL	110	II-IIILEI ESL		1-(2a+2b)
OTT	TI 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		4,815,924		-		31,502		4,784,422
C.	Total first quarter	\$	4,815,924	\$	_	\$	31,502	\$	4,784,422
						_			
OTT	I 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	_	4,452,491				74,160		4,378,331
f.	Total second quarter	\$	4,452,491	\$		\$	74,160	\$	4,378,331
	I 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		04.070				4.400		00.400
	recover the amortized cost basis	_	31,370				1,188	_	30,182
i.	Total third quarter	\$	31,370	\$		\$	1,188	\$	30,182
OTI	I recognized in the fourth quarter								
j.	Intent to sell	\$		e		\$		Ф	
ا k.	Inability or lack of intent to retain the investment	φ	-	φ	-	φ	-	φ	-
K.	in the security for a period of time sufficient to								
	recover the amortized cost basis		_		_		_		_
I.	Total fourth quarter	\$		\$		\$		\$	
••		<u> </u>		-		-		*	
m.	Annual aggregate total			\$		\$	106,850		
				<u> </u>		<u> </u>			

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

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

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
22541QJR4	\$ 3,126.29	\$ 15.01	\$ (3,111.28	3) \$ 15.01	\$ 1,926.23	March 31, 2017
45660LYW3	130,210.18	121,919.75	(8,290.43	121,919.75	118,232.29	March 31, 2017
86358RA23	224,855.80	212,420.66	(12,435.14	212,420.66	218,429.62	March 31, 2017
88157QAL2	39,747.30	36,415.86	(3,331.4	36,415.86	89,960.46	March 31, 2017
77277LAF4	2,504,112.68	2,501,621.14	(2,491.54	2,501,621.14	3,522,211.89	March 31, 2017
77277LAH0	126,242.42	126,120.88	(121.54	126,120.88	295,836.23	March 31, 2017
77277LAJ6	1,787,629.01	1,785,908.32	(1,720.69	1,785,908.32	2,216,416.26	March 31, 2017
76110H4M8	1,297.98	684.22	(613.70	684.22	1,198.02	June 30, 2017
86358RLG0	244.55	190.61	(53.94	190.61	2,119.63	June 30, 2017
88157QAL2	37,298.26	30,851.62	(6,446.64	30,851.62	88,941.72	June 30, 2017
77277LAF4	2,501,621.14	2,463,054.83	(38,566.3	2,463,054.83	3,813,186.02	June 30, 2017
77277LAH0	126,120.88	124,239.83	(1,881.0	124,239.83	304,270.58	June 30, 2017
77277LAJ6	1,785,908.32	1,759,309.67	(26,598.6	5) 1,759,309.67	2,399,517.05	June 30, 2017
88157QAL2	31,369.74	30,181.32	(1,188.42	2) 30,181.32	97,082.40	September 30, 2017
Totals	\$ 9,299,784.55	\$ 9,192,933.72	\$ (106,850.8	3) \$ 9,192,933.72	\$ 13,169,328.40	

(4) As of September 30, 2017, 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	\$ (2,301,870)
2.	12 months or longer	\$ (150,886)

b. The aggregate related fair value of securities with unrealized losses:

1.	Less than 12 months	\$ 164,905,893
2.	12 months or longer	\$ 6,160,092

(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:

A structured note is a direct debt issuance by a corporation, municipality, or government entity, ranking pari-passu with the issuer's other debt issuance of equal seniority where either: (a) the coupon and/or principal payments are linked, in whole or in part, to prices or payment streams from index or indices, or assets deriving their value from other than the issuer's credit quality, or (b) the coupon and/or principal payments are leveraged by a formula that is different from either a fixed coupon, or a non-leveraged floating rate coupon linked to an interest rate index, including but not limited to the London Interbank Offered Rate (LIBOR) or the prime rate. As structured notes are issuer obligations without a trust, they are within the scope of SSAP No. 26, "Bonds, Excluding Loan-backed and Structured Securities" (SSAP No. 26). Structured notes are different than the asset backed structured securities, which are accounted for under SSAP No. 43R, "Revised - Loan-Backed and Structured Securities" (SSAP No. 43R), as they lack either a trust or assets backing them. The disclosure below allows regulators to assess the volume of activity in structured notes and to determine whether additional accounting or reporting revisions, such as valuation and risk-based capital, are needed. To satisfy this request, the Company is required to separately identify structured notes, on a CUSIP basis and provide information by CUSIP for actual cost, fair value, book/adjusted carrying value, and whether the structured note is a mortgage-referenced security. The following sets forth the actual cost, fair value and carrying value of structured notes as of September 30, 2017:

CUSIP Identification	Actual Cost	Fair Value	Book / Adjusted Carrying Value	Mortgage- Referenced Security (YES/NO)
30711XBE3	\$ 4,893	\$ 4,895	\$ 4,893	YES
3137G0EQ8	128,045	128,210	128,045	YES
3137G0HQ5	148,074	148,500	148,074	YES
391164AF7	444,402	440,352	433,956	NO
Total	\$ 725,414	\$ 721,957	\$ 714,968	XXX

I. 5* Securities

	Investment	Number of 5*	Securities	Aggregate	BACV	Aggregate Fair Value				
		Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year			
(1)	Bonds - AC	16	15	12,439,101	15,324,549	12,438,080	15,481,310			
(2)	Bonds - FV	-	-	-	-	-	-			
(3)	LB&SS - AC	-	-	-	-	-	-			
(4)	LB&SS - FV	-	-	-	-	-	-			
(5)	Preferred Stock - AC	2	2	2,058,000	2,058,000	2,400,333	2,226,717			
(6)	Preferred Stock - FV	-	-	-	-	-	-			
(7)	Total (1+2+3+4+5+6)	18	17	\$14,497,101	17,382,549	\$14,838,413	17,708,027			

AC - Amortized Cost FV - Fair Value

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

Note 7 - Investment Income - No change

Note 8 - Derivative Instruments - No change

Note 9 - Income Taxes - No change

Note 10 - Information Concerning Parent, Subsidiaries and Affiliates

a-n. No change

Note 11 - Debt

- a. No change
- b. The Company is not a member of the Federal Home Loan Bank (FHLB) therefore it has no FHLB funding agreements.

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

- a. Defined Benefit Plan
 - (1-3) No change
 - (4) The company did not have any defined benefit pension plans for which the reporting entity is directly liable.
 - (5-21) No change
- b-j. No change

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

Note 14 - Liabilities, Contingencies and Assessments

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

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 2017 or 2016.
 - (3) No change
 - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2017 or 2016.
 - (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 nine months ended September 30, 2017 that were reacquired within 30 days of the sale date.

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

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

Note 20 - Fair Value Measurements

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

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

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

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

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

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

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

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 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 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, 2017									
	Level 1		Level 2		Level 3		Total			
Financial assets:										
Bonds:										
Industrial and miscellaneous	\$ -	\$	15,925	\$	561,783	\$	577,708			
Parent, subsidiaries and affiliates	-		184,552		6,614,199		6,798,751			
Preferred stocks	-		-		91,061		91,061			
Common stock - subsidiary and affiliates	17,584,653		-		-		17,584,653			
Common stock - unaffiliated	350,607		-		3,074,033		3,424,640			
Derivatives:										
Interest rate swaps	-		413,066,895		-		413,066,895			
Options	-		19,850,308		_		19,850,308			
Currency swaps	-		25,320,497		-		25,320,497			
Forward contracts	-		907,196		-		907,196			
Separate account assets	1,837,165,457		1,961		-		1,837,167,418			
Total financial assets carried							_			
at fair value	\$ 1,855,100,717	\$	459,347,334	\$	10,341,076	\$	2,324,789,127			
Financial liabilities:										
Derivatives:										
Interest rate swaps	\$ -	\$	484,094,676	\$	-	\$	484,094,676			
Options	-		60,109		-		60,109			
Currency swaps	=		13,001,013		-		13,001,013			
Forward contracts	-		2,428,206		-		2,428,206			
Credit default swaps			28,814		-		28,814			
Total financial liabilities carried	•	_		_		_				
at fair value	\$ -	\$	499,612,818	\$	-	\$	499,612,818			

For the period ended September 30, 2017, there were no significant transfers between Level 1 and Level 2.

	December 31, 2016										
	Level 1	Level 2	Level 3	Total							
Financial assets:											
Bonds:											
Industrial and miscellaneous	\$ -	\$ 220,000	\$ 759,384	\$ 979,384							
Parent, subsidiaries and affiliates	-	1,481,879	5,773,679	7,255,558							
Preferred stocks	1,230,851	-	357,219	1,588,070							
Common stock - subsidiary and affiliates	20,771,586	-	-	20,771,586							
Common stock - unaffiliated	398,181	-	2,235,432	2,633,613							
Derivatives:											
Interest rate swaps	-	426,368,022	-	426,368,022							
Options	-	26,052,843	-	26,052,843							
Currency swaps	-	54,642,404	-	54,642,404							
Forward contracts	-	1,794,714	-	1,794,714							
Separate account assets	1,717,971,424	41	-	1,717,971,465							
Total financial assets carried											
at fair value	\$ 1,740,372,042	\$ 510,559,903	\$ 9,125,714	\$ 2,260,057,659							
Financial liabilities:											
Derivatives:											
Interest rate swaps	\$ -	\$ 497,544,408	\$ -	\$ 497,544,408							
Currency swaps	-	814,610	-	814,610							
Forward contracts	-	2,696,585	-	2,696,585							
Credit default swaps	-	59,862	-	59,862							
Total financial liabilities carried											
at fair value	\$ -	\$ 501,115,465	\$ -	\$ 501,115,465							

For the year ended December 31, 2016, 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 01/01/2017	Tran In	sfers	(1) Out	(Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sale	es	,	Settlements	Balance as of 09/30/2017
Financial assets:													
Bonds:													
Industrial and miscellaneous	\$ 759,384	\$ 56,694	\$	(42,003)	\$ (38,704)	\$ (76,734)	\$ 3,157	\$ - \$		-	\$	(100,011)	\$ 561,783
Parent, subsidiaries and affiliates	5,773,679	-		-	-	840,520	-	-		-		-	6,614,199
Preferred stocks	357,219	-		(253,185)	-	(12,973)	-	-		-		-	91,061
Common stocks - unaffiliated	2,235,432	-		(8,717)	(66,934)	713,547	200,705	-		-		-	3,074,033
Total financial assets	\$ 9,125,714	\$ 56,694	\$	(303,905)	\$ (105,638)	\$ 1,464,360	\$ 203,862	\$ - \$		-	\$	(100,011)	\$ 10,341,076

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

	Balance as of	Trans	fers ⁽¹)	•	Losses) Gains in	(L	Gains osses) in									Balance as of
	01/01/2016	In		Out	Ne	et Income		Surplus	Ρ	urchases	Is	suances	Sales	Se	ettlements	1	2/31/2016
Financial assets:																	
Bonds:																	
Industrial and miscellaneous	\$ 173,966	\$ 1,392,338	\$	-	\$	39,420	\$	(815,360)	\$	4,848	\$	76,462	\$ (4,667)	\$	(107,623)	\$	759,384
Parent, subsidiaries and affiliates	4,998,577	-		-		(1,515)		775,102		217,005		217,005	-		(432,495)		5,773,679
Preferred stock	270,437	-		(173,897)		-		(10,271)		270,950		-	-		-		357,219
Common stock - unaffiliated	2,209,554	-				(69,722)		106,882		307,898		-	(171,914)		(147,266)		2,235,432
Total financial assets	\$ 7,652,534	\$ 1,392,338	\$	(173,897)	\$	(31,817)	\$	56,353	\$	800,701	\$	293,467	\$ (176,581)	\$	(687,384)	\$	9,125,714

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

3. The Company reviews the fair value hierarchy classifications at each reporting period. Overall, reclassifications between levels occur when there are changes in the observability of inputs and market activity used in the valuation of a financial asset or liability. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. Given the types of assets classified as Level 1 (primarily equity securities and mutual fund investments), transfers between Level 1 and Level 2 measurement categories are expected to be infrequent. Transfers into and out of Level 3 are summarized in the schedule of changes in Level 3 assets and liabilities.

4. Valuation Techniques and Inputs

The Company determines the fair value of its investments using primarily the market approach or the income approach. The use of quoted prices for identical assets and matrix pricing or other similar techniques are examples of market approaches, while the use of discounted cash flow methodologies is an example of the income approach. The Company attempts to maximize the use of observable inputs and minimize the use of unobservable inputs in selecting whether the market or the income approach is used.

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

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

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

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

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

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

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

- b. The Company provides additional fair value information in Note 21. "Other Items".
- c. The following presents a summary of the carrying values and fair values of the Company's financial instruments:

September 30, 2017

			Coptombol	 		Not Practicable
	Aggregate	Admitted				(Carrying
	Fair Value	Assets	Level 1	Level 2	Level 3	Value)
Financial assets:						
Bonds:						
U. S. government and agencies	\$ 283,269,161	\$ 273,633,343	\$ -	\$ 283,269,161	\$ -	\$ -
All other governments	1,401,057	1,401,191	-	1,401,057	-	-
States, territories and possessions	33,346,345	29,903,136	-	33,346,345	-	-
Political subdivisions	17,300,510	15,723,364	-	17,300,510	-	-
Special revenue	136,402,165	122,213,197	-	136,402,165	-	-
Industrial and miscellaneous	3,712,707,149	3,533,494,456	-	1,903,753,388	1,808,953,761	-
Parent, subsidiaries and affiliates	262,450,684	255,130,048	-	39,763,122	222,687,562	-
Preferred stocks	27,457,289	26,113,630	18,369,130	-	9,088,159	-
Common stock - subsidiary and affiliates ⁽¹⁾	17,584,653	17,584,653	17,584,653	-	-	-
Common stock - unaffiliated	3,424,640	3,424,640	350,607	-	3,074,033	-
Mortgage loans - commercial	845,859,434	819,761,268	-	-	845,859,434	-
Mortgage loans - residential	136,849,664	140,578,044	-	-	136,849,664	-
Cash, cash equivalents and						
short-term investments	21,652,644	21,652,644	(29,183,562)	50,836,206	-	-
Derivatives:						
Interest rate swaps	413,066,895	413,066,895	-	413,066,895	-	-
Options	19,850,308	19,850,308	-	19,850,308	-	-
•	25,320,497	25,320,497	-	25,320,497	-	_
Currency swaps Forward contracts	907,196	907,196	-	907,196	-	-
	1,837,167,418	1,837,167,418	1,837,165,457	1,961	_	_
Separate account assets	, , , , ,	, , . ,	, , , .	,		
Financial liabilities:	230,199,020	230,199,020	_	230,199,020	_	_
Repurchase agreements	3,626,521,161	3,041,578,462	_		3,626,521,161	_
Individual annuity contracts	64,684,933	64,044,488	_	_	64,684,933	_
Supplementary contracts	01,001,000	01,011,100			01,001,000	
Derivatives:	484,094,676	484,094,676	_	484,094,676	_	_
Interest rate swaps	60,109	60,109	_	60,109	_	_
Options	13,001,013	13,001,013		13,001,013		
Currency swaps	2,428,206	2,428,206	-	2,428,206	-	-
Forward contracts			-	28,814	-	-
Credit default swaps	28,814	28,814	-	20,614	-	-

⁽¹⁾ Common stock - subsidiary and affiliates does not include MML Bay State, which had a statutory carrying value of \$292,945,333.

			December 3	31, 2	016		
	Aggregate Fair Value	Admitted Assets	Level 1		Level 2	Level 3	Not Practicable (Carrying Value)
Financial assets:							
Bonds:							
U. S. government and agencies	286,239,873	\$ 271,782,823	\$ -	\$	286,239,873	\$ -	\$ -
All other governments	1,375,579	1,424,435	-		1,375,579	-	-
States, territories and possessions	36,138,133	32,845,567	-		36,138,133	-	-
Political subdivisions	16,330,724	15,255,335	-		16,330,724	-	-
Special revenue	137,597,172	126,129,789	-		137,292,072	305,100	-
Industrial and miscellaneous	3,495,414,794	3,360,947,164	-		1,850,041,065	1,645,373,729	-
Parent, subsidiaries and affiliates	275,213,009	268,832,883	-		35,476,429	239,736,580	-
Preferred stocks	25,078,956	25,449,045	15,943,224		-	9,135,732	-
Common stock - subsidiary and affiliates ⁽¹⁾	20,771,586	20,771,585	20,771,586		-	-	-
Common stock - unaffiliated	2,633,613	2,633,613	398,181		-	2,235,432	-
Mortgage loans - commercial	839,408,170	816,137,821	-		-	839,408,170	-
Mortgage loans - residential	146,402,827	150,518,593	-		-	146,402,827	-
Cash, cash equivalents and							
short-term investments	161,298,905	161,298,905	11,826,118		149,472,787	-	-
Derivatives:							
Interest rate swaps	426,368,022	426,368,021	-		426,368,022	-	-
Options	26,052,843	26,052,843	-		26,052,843	-	-
Currency swaps	54,642,404	54,642,404	-		54,642,404	-	-
Forward contracts	1,794,714	1,794,714	-		1,794,714	-	-
Separate account assets	1,717,971,465	1,717,971,465	1,717,971,424		41	-	-
Financial liabilities:							
Repurchase agreements	236,963,235	236,963,235	-		236,963,235	-	-
Individual annuity contracts	3,635,969,026	3,089,363,030	-		-	3,635,969,026	-
Supplementary contracts	65,978,799	65,325,544	-		-	65,978,799	-
Derivatives:							
Interest rate swaps	497,544,408	497,544,408	-		497,544,408	-	-
Currency swaps	814,610	814,610	-		814,610	-	-
Forward contracts	2,696,585	2,696,585	-		2,696,585	-	-
Credit default swaps	59,862	59,862	-		59,862	-	-

⁽f)Common stock - subsidiary and affiliates does not include MML Bay State, which had a statutory carrying value of \$288,294,439.

d. As of September 30, 2017 and December 31, 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

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. The Company reinsures certain life insurance policies to mitigate the impact of its underwriting risk.

Investment and interest rate risks

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

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

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

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

Currency exchange risk

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

_		Sept	Nine Months Ended September 30, 2017			
	Actual		Carrying	Fair		
Alt-A:	Cost		Value	Value		OTTI
a. Residential mortgage-backed securities \$	19,848,846	\$	21,356,770	\$ 25,773,162	\$	12,015
b. Commercial mortgage-backed securities	-		-	-		-
c. Collateralized debt obligations	-		-	-		-
d. Structured securities	-		-	-		-
e. Equity investments in SCAs *	1,084,697		1,126,194	1,339,052		7,000
f. Other assets	-		-	-		-
g. Total	20,933,543	\$	22,482,964	\$ 27,112,214	\$	19,015

_		September 3	30, 2017			nths Ended er 30, 2017
	Actual	Carryin	9	Fair		
Subprime:	Cost	Value		Value	0	TTI
a. Residential mortgage-backed securities \$	9,797,781	\$ 10,55	3,446 \$	11,628,777	\$	10,969
b. Commercial mortgage-backed securities	-		-	-		-
 Collateralized debt obligations 	-		-	-		-
d. Structured securities	-		-	-		-
e. Equity investments in SCAs *	1,301,916	1,63	0,071	2,053,511		-
f. Other assets	=		-			
g. Total \$	11,099,697	\$ 12,18	3,517 \$	13,682,288	\$	10,969

^{*} The Company's SCA, MML Bay State, has investments in Alt-A and subprime mortgages. These investments comprise less than 1% of the Company's invested assets.

							Year Ended
		Dec	ember 31, 201	6		Dec	ember 31, 2016
	Actual		Carrying		Fair		
Alt-A:	Cost		Value		Value		OTTI
a. Residential mortgage-backed securities \$	33,327,210	\$	23,689,332	\$	28,469,080	\$	3,053
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	2,025,204		1,322,448		1,746,541		19
f. Other assets	-		-		-		
g. Total \$	35,352,414	\$	25,011,780	\$	30,215,621	\$	3,072
_	-				-	·	

_		Dec	ember 31, 2010	6		-	ember 31, 2016
	Actual		Carrying		Fair		
Subprime:	Cost		Value		Value		OTTI
a. Residential mortgage-backed securities \$	17,695,407	\$	13,922,234	\$	14,902,278	\$	5,497
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	3,193,121		1,803,842		2,235,591		6,452
f. Other assets	-		-		-		
g. Total	20,888,528	\$	15,726,076	\$	17,137,869	\$	11,949

^{*} The Company's SCA, MML Bay State, has investments in Alt-A and subprime mortgages. These investments comprise less than 1% of the Company's invested assets.

g. Retained asset accounts - No change

Note 22 - Events Subsequent

Management of the Company has evaluated subsequent events through November 10, 2017, the date the financial statements were available to be issued. No 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 - No change

Note 24 - Retrospectively Rated Contracts and Contracts Subject to Redetermination

a – d. No change.

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

Note 25 - Change in Incurred Losses and Loss Adjustment Expenses - No change

Note 26 - Intercompany Pooling Arrangements - No change

Note 27 - Structured Settlements - No change

 $\underline{\textbf{Note 28 - Health Care Receivables}} \text{ - No change}$

Note 29 - Participating Policies - No change

Note 30 - Premium Deficiency Reserves - No change

Note 31 - Reserves for Life Contracts and Annuity Contracts - No change

⁽²⁾ The Company has no underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty insurance coverage.

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	.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?							
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 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 S is an insurer? If yes, complete Schedule Y, Parts 1 and 1A.					Yes [X]	No []	
3.2	Have there been any substantial changes in the organizational chart	since the prior quarter end?				Yes []	No [X]	
3.3	If the response to 3.2 is yes, provide a brief description of those char	nges.						
4.1	Has the reporting entity been a party to a merger or consolidation do	uring the period covered by this stateme	ent?			Yes []	No [X]	
4.2	If yes, provide the name of the entity, NAIC Company Code, and staceased to exist as a result of the merger or consolidation.	te of domicile (use two letter state abbre	eviation) for any entity t	nat has				
	1	2	3					
	Name of Entity	NAIC Company Code	e State of Domicile					
5.	If the reporting entity is subject to a management agreement, includi in-fact, or similar agreement, have there been any significant changer of the second significant changes o	ng third-party administrator(s), managir les regarding the terms of the agreeme	ng general agent(s), atto ent or principals involved	orney- 1? Yes	s [] No [X] N/A []	
6.1	State as of what date the latest financial examination of the reporting	g entity was made or is being made				12/31/2014		
6.2	State the as of date that the latest financial examination report becardate should be the date of the examined balance sheet and not the					12/31	/2014	
6.3	State as of what date the latest financial examination report became the reporting entity. This is the release date or completion date of the date).	ne examination report and not the date	of the examination (bal	ance shee	t	05/31	/2016	
6.4	By what department or departments?							
6.5	State of Connecticut Insurance Department Have all financial statement adjustments within the latest financial estatement filed with Departments?	xamination report been accounted for ir	n a subsequent financia	I Ye:	s [] No [] N/A [X]	
6.6	Have all of the recommendations within the latest financial examinat	ion report been complied with?		Ye:	s [X	[] No [] N/A []	
7.1	Has this reporting entity had any Certificates of Authority, licenses or revoked by any governmental entity during the reporting period?	registrations (including corporate regis	stration, if applicable) su	spended	or 	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	g 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 regulatory services agency [i.e. the Federal Reserve Board (FRB), Insurance Corporation (FDIC) and the Securities Exchange Committee (FDIC) and the Securities (FDIC) and t	the Office of the Comptroller of the Curr	rency (OCC), the Feder	al Deposit				
	1	2	_3_	4	5	6		
	Affiliate Name	Location (City, State)		OCC F	DIC	SEC		
	Baring International Investment Limited	London, UK				YES		
	MML Distributors, LLC	Enfield, CT				YES		
	MML Investment Advisers, LLC	Enfield, CT				YES		
	MML Investors Services, LLC					YES		
	MML Strategic Distributors, LLC					YES		
	MMLISI Financial Alliances, LLC	Springfield, MA				YES		
	OppenheimerFunds Distributor, Inc.	New York, NY				YES		
	The MaccMutual Trust Company FCB	Enfield CT		VEQ		1 1		

GENERAL INTERROGATORIES

9.1	Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or similar functions) of the reporting entity subject to a code of ethics, which includes the following standards?	nal and professional	Yes [X] N	No []
	(d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and			
9.11	(e) Accountability for adherence to the code. If the response to 9.1 is No, please explain:			
9.11	il the response to 5.1 is No, please explain.			
9.2	Has the code of ethics for senior managers been amended?		Yes [] N	No [X]
9.21	If the response to 9.2 is Yes, provide information related to amendment(s).			
9.3 9.31	Have any provisions of the code of ethics been waived for any of the specified officers?		Yes [] N	No [X]
	FINANCIAL			
10.1 10.2	Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? If yes, indicate any amounts receivable from parent included in the Page 2 amount:	\$	Yes [X] N	lo [] 0
	INVESTMENT			
	Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or other use by another person? (Exclude securities under securities lending agreements.) If yes, give full and complete information relating thereto:		Yes [X] N	No []
	Repurchase agreements, Letter stock or securities restricted as to sale - excluding FHLB Capital Stock, On deposit w as collateral - excluding collateral pledged to an FHLB.			
12. 13.	Amount of real estate and mortgages held in other invested assets in Schedule BA: 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?	Ψ	Yes [X] N	In []
14.2	If yes, please complete the following:		100 [X] I	
		1		2
		Prior Year-End		Quarter
		Book/Adjusted Carrying Value		djusted g Value
14 21	Bonds\$	268 832 887	\$2	
	Preferred Stock \$		\$	
	Common Stock \$		\$ 2	92 945 333
	Short-Term Investments \$		\$	
	Mortgage Loans on Real Estate\$		\$	
	All Other\$		\$	
	Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) \$		\$ 6	
	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] N	No []
15.2	If yes, has a comprehensive description of the hedging program been made available to the domiciliary state?		Yes [X] N	No []

GENERAL INTERROGATORIES

	For the reporting entity's secu	rity lending	program, state the amount of t	the follo	wing as of the current sta	itement date:			
	16.1 Total fai	r value of re	invested collateral assets repo	orted on	Schedule DL, Parts 1 ar	nd 2		\$	
	16.2 Total bo	ok adjusted	carrying value of reinvested c	ollateral	assets reported on Sche	edule DL, Par	ts 1 and 2	\$	
			curities lending reported on the						
	custodial agreement with a q	sit boxes, w ualified ban ions, Custo	ere all stocks, bonds and othe k or trust company in accorda dial or Safekeeping Agreemen	er securi ance with ats of the	ties, owned throughout the h Section 1, III - General e NAIC Financial Condition	ne current yea Examination on Examiners	ar held pursuant to a Considerations, F. Handbook?		[X] No [
		1				2			
	Nan	ne of Custo	dian(s)	000	Gi	ustodian Add	ress		
							1		
							w York, NY 10005		
	State Street Global Service	S		801	Pennsylvania Avenue, Ka	nsas City, M	0 64105		
2	For all agreements that do not location and a complete expl		•	C Financ	cial Condition Examiners	Handbook, p	provide the name,		
	1		2			3			
	Name(s)		Location(s)		Co	mplete Expla	anation(s)		
	Have there been any changes If yes, give full information rela			an(s) ide	ntified in 17.1 during the	current quart	er?	Yes [] No []
	Old Custodian		New Custodian		Date of Change		Reason		
	Old Odstodian		New Odstodian		Date of Orlange		ricason		
	Narings LLC	1 me of Firm o	ment accounts"; "handle se		Affiliation AU				
	17.5097 For those firms/indivi	duals listed		do any	firms/individuals unaffilia			Yes	[] No [
	17.5098 For firms/individuals total assets under ma	unaffiliated anagement	with the reporting entity (i.e. deaggregate to more than 50% of	esignate of the rep	d with a "U") listed in the porting entity's assets?	table for Que	estion 17.5, does the	Yes	[] No [
	For those firms or individuals table below.	listed in the	table for 17.5 with an affiliation	n code c	of "A" (affiliated) or "U" (u	naffiliated), p	rovide the information for	the	
	1		2		3		4		5 Investmer
	Central Registration Depository Number		Name of Firm or Individual		Legal Entity Identifier (LEI)	Registered With		Manageme Agreemer (IMA) File
	106006	Barings II	Name of Firm or Individual		MMPFROOMXYFNC8A2G084	SEC			DS
			ors Pty Ltd			SEC			NO
	Have all the filing requirement If no, list exceptions:	s of the Pur	poses and Procedures Manua	al of the	NAIC Investment Analysi	is Office beer	followed?	Yes	[] No [

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	Amount
	1.11 Farm Mortgages	5
	1.12 Residential Mortgages	140,578,044
	1.13 Commercial Mortgages	819,761,268
	1.14 Total Mortgages in Good Standing	960,339,312
	1.2 Long-Term Mortgages In Good Standing with Restructured Terms	
	1.21 Total Mortgages in Good Standing with Restructured Terms	\$
	1.3 Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months	
	1.31 Farm Mortgages	5
	1.32 Residential Mortgages	5
	1.33 Commercial Mortgages	5
	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	S
	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)	960,339,312
.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	5
	1.64 Total Mortgages Foreclosed and Transferred to Real Estate	<u> </u>
2.	Operating Percentages:	
	2.1 A&H loss percent	%
	2.2 A&H cost containment percent	%
	2.3 A&H expense percent excluding cost containment expenses	%
3.1	Do you act as a custodian for health savings accounts?	Yes [] No [X]
3.2	If yes, please provide the amount of custodial funds held as of the reporting date	5
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\$

SCHEDULE S - CEDED REINSURANCE

Showing All New Reinsurance Treaties - Current Year to Date

1	2	3	4	5	6	7	8	9
NAIC					Type of		Certified Reinsurer	Effective Date of Certified
Company	ID	Effective		Domiciliary	Reinsurance		Rating	Reinsurer
Code	Number	Date	Name of Reinsurer	Jurisdiction	Ceded	Type of Reinsurer	(1 through 6)	Rating
87726	06-0566090	07/28/2017	Brighthouse Life Insurance Company	DE	ACO/I	Author i zed		

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS Current Year To Date - Allocated by States and Territories Direct Bus Life Contracts Accident and Health Insurance Premiums, Including Policy, Membership Total Deposit-Type Contracts Active Life Insurance Annuity Other Columns <u>Premiums</u>1,964,148 States, Etc Considerations and Other Fees Considerations Through 5 Alabama AL 4.702.804 .2.738.656 Alaska 47,921 3. Arizona ΑZ .2,486,294 2 695 378 5.181.672 4. AR .451.720 .1.629.879 2.081.599 Arkansas 20,021,624 10,301,029 California 30.322.653 6. Colorado CO .1.770.817 1 682 207 3.453.024 5.673.461 14.214.486 Connecticut CT .8.541.025 8. Delaware DE 213,746 .110,769 324.515 9 District of Columbia DC 1.397.152 .60.911 .1,458,063 10. Florida FL 17.580.202 15.012.976 32.593.178 GΑ 4,097,251 ..1,837,587 .5.934.838 11. Georgia 12. Hawaii н 1,709,144 942 410 2 651 554 13. Idaho. ID .368.948 .804.526 .1.173.474 4,911,200 8,208,613 13,119,813 14. Illinois IL 8,629,993 Indiana 15 INI 2.027.760 10.657.753 16. lowa. IΑ 1.296.734 .795.214 2.091.948 17. KS 1,059,192 1,470,420 2,529,612 Kansas 18. Kentucky ΚY .996.399 .882.343 1.878.742 8 398 957 19. Louisiana LA 1 287 900 9 686 857 ME 620,276 20. Maine. .414,891 .1,035,167 21. MD 5,359,249 4.414.750 9,773,999 Maryland 22 Massachusetts MA 4 405 807 20 954 949 25 360 756 MI 3,770,183 23. Michigan .11,231,326 .15,001,509 MN 2,954,233 24 Minnesota 10,276,928 .13,231,161 25. Mississippi MS 2 050 068 1 301 652 3 351 720 МО 12.024.041 26. Missouri. 2.170.983 .9.853.058 МТ 869,283 27 .230,594 .638,689 28. Nebraska NE 1 716 773 699 938 2 416 711 NV 1.587.034 1.002.667 .584.367 29. Nevada. New Hampshire NH .995,462 .2,566,796 .3,562,258 New Jersey 31. NJ 8 568 581 8 320 396 16.888.977 32. New Mexico NM ..448.519 .1.109.550 .661.031 NY 5.321.695 34 North Carolina NC .7, 125, 091 3.718.569 10,843,660 35. North Dakota ND ..25.334 .25.334 ОН 4,475,905 10.623.786 15,099,691 1,567,469 2,137.794 37. Oklahoma ΩK .570,325 OR 38. Oregon. ..828.843 .800.111 .1.628.954 Pennsylvania 39. РΑ 7,094,155 19.454.679 .26,548,834 40. Rhode Island RI 765 668 3.783.588 4 549 256 41. South Carolina SC .3.121.646 .1.849.378 4.971.024 42 South Dakota SD 74,937 .113,278 188,215 43. Tennessee ΤN 3,762,485 8,510,467 12.272.952 44. Texas. TX 9.723.650 12 646 319 22.369.969 45. UT 1,797,034 1,240,751 3,037,785 Utah .. 46. VT 411, 186 1,011,464 1,422,650 Vermont Virginia 47. VA 6 258 301 4 981 843 11 240 144 48. Washington WA 2,099,676 1,487,056 .3,586,732 49. West Virginia wv 502,429 .225,458 727,887 50. Wisconsin WΙ 1 324 865 5 127 396 6 452 261 WY ..121,783 .216,415 51. Wyoming .338, 198 AS 52 American Samoa N 53. Guam GU N 180 180 .3, 187, 405 .3,431,359 Puerto Rico .243.954 PR 54. U.S. Virgin Islands ۷I 55 .2,136 56 Northern Mariana Islands MP N CAN .15.613 .15.613 57. Canada. N 58. Aggregate Other Aliens141,630 59. Subtotal 163.198.739 223.638.920 386.837.659 90. Reporting entity contributions for employee benefits XXX 91. Dividends or refunds applied to purchase paid-up additions and annuities XXX 92. Dividends or refunds applied to shorten endowment or premium paying period.... XXX Premium or annuity considerations waived under disability or other contract provisions..... 93. XXX 929,470 929,470

164, 128, 209

164.128.209

118,653,182

45,475,027

141.630

141.630

223,638,920

223.638.920

.55,254,465

168,384,455

387,767,129

387.767.129

173,907,647

213,859,482

141.630

141,630

Aggregate or other amounts not allocable by State

Totals (All Business) less Reinsurance Ceded

Summary of remaining write-ins for Line 58 from

Summary of remaining write-ins for Line 94 from

Totals (Lines 9401 through 9403 plus 9498)(Line

Totals (Lines 58001 through 58003 plus

Totals (Direct Business)...

Less Reinsurance Ceded

DETAILS OF WRITE-INS ZZZ Other Alien

Totals (All Business)

overflow page .

overflow page

94 above)

58998)(Line 58 above)

Plus Reinsurance Assumed

XXX XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

94.

95.

96. 97

98.

99.

58001.

58002.

58003.

58998.

58999.

9401

9402.

9403.

9498.

9499.

⁽L) Licensed or Chartered - Licensed Insurance Carrier or Domiciled RRG; (R) Registered - Non-domiciled RRGs; (Q) Qualified - Qualified or Accredited Reinsurer; (E) Eligible - Reporting Entities eligible or approved to write Surplus Lines in the state; (N) None of the above - Not allowed to write business in the state.

PART 1 – ORGANIZATIONAL CHART

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

	Federal Tax ID	NAIC Co Code	State of Domicile
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor, LLC	06-1041383		Delaware
CML Mezzanine Investor L, LLC	06-1041383		Delaware
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
MML Mezzanine Investor L, LLC	04-1590850		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timber Sales, Inc.	20-5305426		New York
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
WP-SC, LLC*	26-4441097		Delaware
MSP-SC, LLC	04-1590850		Delaware
Country Club Office Plaza LLC*	27-1435692		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Invicta Advisors LLC	56-2574604		Delaware
Jefferies Finance LLC	27-0105644		Delaware
Apex Credit Partners LLC	None		Delaware
Apex Credit CLO 2017-II Ltd.	None		Cayman Islands
JFIN Fund III LLC	None		Delaware
JFIN Asset Management LLC	None		Delaware
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
JFAM Loan Fund, LP	None		Delaware
JFIN 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

^{*}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.

	Federal Tax ID	NAIC Co Code	State of Domicile
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN MM CLO 2014 Ltd.*	None		Cayman Islands
JFIN CLO 2015 Ltd.*	None		Cayman Islands
Apex Credit CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO 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 Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-II Ltd.	None		Cayman Islands
Apex Credit CLO 2016 Ltd.	None		Cayman Islands
Apex Credit CLO 2017 Ltd.	None		Cayman Islands
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
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental 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 Fern Street LLC	04-2854319 37-1732913		Delaware Delaware
	62-0951563		
First Mercantile Trust Company	46-2252944		Tennessee
Haven Life Insurance Agency, LLC MassMutual Assignment Company	46-2252944 06-1597528		Delaware North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
MassMutual Capital Partners LLC MassMutual Ventures LLC	47-1296410		Delaware Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Investors Services, LLC MML Insurance Agency, LLC	04-1590850		Massachusetts
MINE III III III III III III III III III	U 1- 1370030		iviassaciiuscus

^{*}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.

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
MMLISI Financial Alliances, LLC	41-2011634		Delaware
Society of Grownups, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None		Korea
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Baring Asset Management (Japan) Limited	98-0236449		Japan
Baring Asset Management (Australia) Pty Limited	98-0457456		Australia
Barings Investment Advisors (Hong Kong) Limited	None		Hong Kong, Special Administrative Region of China
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
BCF Senior Funding I Designated Activity Company	None		Ireland
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Investment Fund (LUX) GP S.à. r.l.	None		Luxembourg
Barings GPC GP S.à. r.l.	None		Luxembourg
Almack Mezzanine GP III Limited	None		United Kingdom
Almack Holding Partnership GP Limited	None		United Kingdom
Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund II Limited	None		United Kingdom
Barings 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 Multifamily Capital Holdings LLC	None		Delaware
Barings Multifamily Capital LLC	None		Michigan
Barings Multifamily Capital Corporation	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
Barings Real Estate Advisers Japan KK	None		Japan
Barings Real Estate UK Holdings Limited	None		Delaware
BREAE AIFM LLP	None		United Kingdom
Barings Real Estate Advisers (Continental Europe) Limited	98-0654401		United Kingdom
Barings Real Estate Advisers Europe LLP	98-0654388		United Kingdom
Barings Real Estate Advisers Europe Finance LLP	98-0654412		United Kingdom

98-1194368

Germany

Barings Real Estate Advisers GmbH

^{*}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.

	Federal Tax ID	NAIC Co Code	State of Domicile
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	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Asset Management GmbH	98-0465031		Germany
Baring International Fund Managers (Ireland) Limited	98-0524272		Ireland
Baring Asset Management Switzerland Sàrl	None		Switzerland
Baring France SAS	98-0497550		France
Baring Fund Managers Limited	98-0457586		United Kingdom
Baring Pension Trustees Limited	98-0457574		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	98-0457456		Australia
Alchemy Copyrights, LLC.*	47-2642354		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC*	81-4065378		Connecticut
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 I, LLC	46-0687392		Delaware
U.S. Pharmaceuticals Holdings II, LLC	47-5436800		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Wood Creek Aircraft Holding I, LP	None		Cayman Islands
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Babson Capital Floating Rate Income Fund Management, LLC	04-1590850		Delaware
Babson Global Loan Feeder Management, LLC	None		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings TERO Management LLC	None		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
Great Lakes III GP, 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.

	Federal Tax ID NAIC Co Code	State of Domicile
	N	D.I.
Lake Jackson LLC	None 04-1590850	Delaware
Loan Strategies Management LLC Mezzco LLC	04-1590850 04-1590850	Delaware 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
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
HarbourView Asset Management Corporation	22-2697140	New York
OFI Global Trust Company	13-3459790	New York
OFI International, Ltd.	None	United Kingdom
SNW Asset Management Corporation	None	Delaware
Seattle Northwest Asset Management LLC	None	Washington
Trinity Investment Management Corporation	25-1951632	Pennsylvania
OFI SteelPath, Inc.	84-1128397	Delaware
Shareholder Services, Inc.	84-1066811	Colorado
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, LLC	62-1210532	New York
Tremont Partners, LLC	06-1121864	Connecticut
Tremont GP, LLC	20-8215352	Delaware
Settlement Agent, LLC	90-0874510	Delaware
Tremont (Bermuda) Limited	None	Bermuda
MassMutual International LLC	04-3313782	Delaware
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

^{*}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.

	Federal Tax ID	NAIC Co Code	State of Domicile
MassMutual Life Insurance Company	None		Japan
MassMutual Internacional (Chile) SpA	98-1033127		Chile
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MML Mezzanine Investor II. LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
Cornerstone Global REIT Corporation	20-8730751		Delaware
Other Affiliates & Funds:			
100 w, 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
300 South Tryon LLC	04-1590850		Delaware
54 West Capital LLC	20-3887968		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Almack Mezzanine Fund III LP*	None		United Kingdom
Barings Emerging Markets Corporate Bond Fund	None		Ireland
Barings Emerging Markets Local Debt Fund	None		Ireland
Barings 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
Barings US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 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
Barings CLO Ltd. 2017-I	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Babson Euro CLO 2016-I BV	None		Netherlands
Baring Focused EAFE Equity Fund	11-3789446		Delaware
Baring Global Dynamic Asset Allocation Fund	30-0607379		Delaware
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Barings Global Private Loan Fund	None		Luxembourg
Barings North American Private Loan Fund LP	38-4010344		Delaware
Barings Real Estate Credit Strategies VII LP	98-1332384		Delaware
Baring International Small Cap Equity Fund	26-4142796		Delaware
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Real Estate European Value Add I SCSp*	None		United Kingdom
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
Barings European Core Property Fund SCSp	None		Luxembourg
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
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 LP*	80-0691253		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Gillem GA Industrial LLC	04-1590850		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-404	1012	New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059		New York
Kazwell Realty Partners LLC	20-3887968		Delaware
KKR-MM Vector LP	82-1512591		Delaware
Marco Hotel LLC	46-4255307		Delaware
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
Sedona TFMP Land LLC	04-1590850		Delaware
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
South Pasco Properties 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.

	Federal Tax ID	NAIC Co Code	State of Domicile
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
Barings Affiliates & Funds:			
Barings Emerging Markets Debt Blended Total Return Fund	None		Ireland
Barings Emerging Markets Debt Short Duration Fund	None		Ireland
Barings Emerging Markets Sovereign Debt Fund	None		Ireland
Babson Capital Floating Rate Income Fund, L.P.	27-3330830		Delaware
Barings 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
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
Barings Real Estate 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
Alexandria Towers Investors LLC	04-1590850		Delaware
Budapester Strasse LLC	81-4382111		Delaware
Calgary Railway Holding LLC*	82-2285211		Delaware
Cambridge Hotel 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		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts

^{*}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

	Federal Tax ID	NAIC Co Code	State of Domicile
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
CREA/PPC Venture LLC*	20-0348173		Delaware
CCB Montford Park LLC*	82-1563809		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
Landmark Manchester Holdings LLC	81-5360103		Delaware
MM Chatham Office LLC*	81-2871333		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center LLC*	27-2977720		Delaware
Seattle 1415 Hotel Owner LLC	04-1590850		Delaware
Ten Fan Pier Boulevard LLC*	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Twenty Two Liberty LLC*	35-2484550		Massachusetts
UK LIW Manager LLC	45-4606547		Delaware
UK LIW Member LLC	45-4606547		Delaware
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
Willowwood 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

^{*}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

	Federal Tax ID	NAIC Co Code	State of Domicile
MML Series Investment Funds:			
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
MML Series II Asset Momentum Fund	47-3517233		Massachusetts
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MML Series II Special Situations Fund	47-3559064		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual RetireSMART Conservative Fund	45-1618155		Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222		Massachusetts
MassMutual RetireSMART Moderate Fund	45-1618262		Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046		Massachusetts
Oppenheimer Funds:			
Oppenheimer Developing Markets Fund	93-6305075		Delaware
Oppenheimer Developing Markets Equity UCITS	None		Ireland
Oppenheimer Emerging Markets Innovators UCITS	None		Ireland
Oppenheimer Emerging Markets Revenue ETF	46-2984739		Delaware
Oppenheimer ESG Revenue ETF	81-3492794		Delaware
Oppenheimer Global ESG Revenue ETF	81-3480754		Delaware
Oppenheimer Global Equity UCITS	None		Ireland
Oppenheimer Global Multi-Asset Growth Fund	47-3676235		Delaware
Oppenheimer Global Multi-Asset Income Fund	47-1714929		Delaware
Oppenheimer Global Revenue ETF	81-5010075		Delaware
Oppenheimer Global Value Equity UCITS	None		Ireland
Oppenhemier International Growth & Income Fund	81-3136071		Delaware
Oppenheimer International Revenue ETF	81-4969331		Delaware
Oppenheimer Macquarie Global Infrastructure Fund	81-1080638		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

				FA		A - DE I AI	L OF INSURANC	∕⊏ ſ	JOLD	ING COMPANT	SISIEIVI				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
-	_		-				_				Type	If			
											of Control	Control			
											(Ownership,	is		Is an	
						Name of Constition			Deletion			_			
						Name of Securities		. .	Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
_		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance					
0435	Massachusetts Mut Life Ins Co	65935	04-1590850	3848388	0000225602		(MML1C)	MA	UDP	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
	CM Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	RE	Company	Ownership	100.000	MMLIC		
	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							CML Special Situations Investor LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
0000		I	04-1590850				MM Marranina Investor 1 110	DE	NIA	Massachusetts Mutual Life Insurance	O-manahi-	100.000	MMLIC		
0000			U4-109U85U				MML Mezzanine Investor L, LLC	VE	NI A	Company	Ownership	100.000	MMLIU		
0000							MM 0 0:44: 14 110	DE	NIA	Massachusetts Mutual Life Insurance	0hi	100.000	MMLIC		
0000							MML Special Situations Investor LLC	UE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			47-5322979				Timberland Ferent Helding IIC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLCTimberland Forest Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	Wood Creek Capital Management LLC	Management		MMLIC		
0000			41-3022313				Lyme Adirondack Forest Company, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership.	100.000	MMLIC		
0000			20-5305426				Lyme Adirondack Timber Sales, Inc.	NY	NIA	Timber land Forest Holding LLC	Ownership	100.000	MMLIC		
0000			20 3003420				Lyme Adirondack Timberlands I, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
0000							Lyme Adirondack Timberlands II, LLC	DE	NIA	Timber land Forest Holding LLC	Ownership	100.000	MMLIC		
							Lymo Narronadok Primborrando FF, ELO			Massachusetts Mutual Life Insurance	omior on p		I IIII I I I I I I I I I I I I I I I I		
0000			04-1590850				Berkshire Way LLC	DE	NIA	Company	Ownership	100.000	MML1C		
							201101110 114, 220			Massachusetts Mutual Life Insurance					
0000			26-4441097				WP-SC, LLC	DE	NI A	Company	Ownership	81.400	MML1C		
0000			26-4441097				WP-SC, LLC	DE	NI A	C.M. Life Insurance Company	Ownership	18.600	MMLIC		
										Massachusetts Mutual Life İnsurance	·				
0000			04-1590850				MSP-SC, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-1435692				Country Club Office Plaza LLC	DE	NI A	Company	Ownership	88.100	MMLIC		
0000			27-1435692				Country Club Office Plaza LLC	DE	NI A	C.M. Life Insurance Company	Ownership	11.900	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			56-2574604				Invicta Advisors LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				Insurance Road LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Trad Private Equity LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Intellectual Property LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		
		1						25		Massachusetts Mutual Life Insurance	l	50.005			
0000			27-0105644				Jefferies Finance LLC	DE	NI A	Company	Ownership	50.000	MMLIC		1
0000							Apex Credit Partners LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		ļ
0000							Apex Credit CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Fund III LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		ļ
							JFIN Asset Management LLC	DE	NI A	Jefferies Finance LLC	Ownership				
0000							JFAM GP LLCJFAM GP LP	DE	NI A	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000							JFAM GP LP	DE	NI A NI A	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000		l					JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN CO-ISSUER CORPORATION	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000		l					Jefferies Finance Europe, SCSp	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Jefferies Finance Business Credit LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Business Credit Fund LLC	DE	NIA	Jefferies Finance LLC	Owner ship	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		1

SCHEDULE Y

				PP	ND I I	A - DE I AI	L OF INSURANC	JEI	HULL	ING COMPANT	SISIEM				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	If			
											of Control	Control			
											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent. Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence.	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Group Name	Code	Number	KOOD	CIK	international)	JFIN CLO 2007 Ltd.	CYM	NIA	Jeffer ies Finance LLC	Ownership	100.000	MMLIC	(1/N)	
0000							JFIN CLO 2012 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 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	NI A	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	NI A	Jefferies Finance LLC	Ownership	44.000	MMLIC		
0000							JFIN CLO 2015 Ltd	CYM	NI A	Apex Credit Partners LLC	Ownership	56.000	MMLIC		
0000							Apex Credit CLO 2015-II Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	33.000	MMLIC		
0000							Apex Credit CLO 2015-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	53.000	MMLIC		
0000							JFIN Revolver CLO Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000				-			JFIN Revolver CLO 2014 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2015 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000				-			JFIN Revolver CLO 2015-II Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2017 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000				-			JFIN Revolver CLO 2017-II Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Apex Credit CLO 2016 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Apex Credit CLO 2017 Ltd.	JCYML	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Retirement Services, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			04-1090000				massmutual Retirement Services, LLC	DE	NI A	Massachusetts Mutual Life Insurance	. Owner Srifp		MMLIC		
0000			04-3356880		0000943903		MML Distributors LLC	MA	NIA	Company	Ownership	99.000	MMLIC		
0000			04-3356880		0000943903		MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership	1.000	MMLIC		
			04 0000000		. 0000340300		WINE DISTITUTIONS LEO			Massachusetts Mutual Life Insurance	owner simp		mmL10		
0000							MML Investment Advisers, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Mezzanine Investor, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		l
							·			Massachusetts Mutual Life Insurance	·				
0000			46-3238013				MML Strategic Distributors, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			06-1563535	2881445	. 0001103653		The MassMutual Trust Company, FSB	CT	NIA	Company	Ownership	100.000	MMLIC	Y	
										Massachusetts Mutual Life Insurance					
0000			04-1590850				MMC Equipment Finance LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			26-0073611				MassMutual Asset Finance LLC	DE	NI A	MMC Equipment Finance LLC	Ownership	99.600	MMLIC		
0000			26-0073611		-		MassMutual Asset Finance LLC	DE	NI A	C.M. Life Insurance Company	Ownership	0.400	MMLIC		
0000			27-1379258				MMAF Equipment Finance LLC 2009-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		·····
0000			45-2589019		-		MMAF Equipment Finance LLC 2011-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			04-1590850	1			MML Private Placement Investment Company I,	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MML1C		
0000			04-1090800				LLU	UE	NI A	Massachusetts Mutual Life Insurance	. Ownership	100.000	MMLIC		
0000			04-1590850		0000067160		MML Private Equity Fund Investor LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			04-1590850		. 0000007 100		MM Private Equity Intercontinental LLC	DE	NIA	MML Private Equity Fund Investor LLC	Ownership.	100.000	MMLIC		
			04 1000000				Will I I I Vate Equity Intercontinental EEO	DL		Massachusetts Mutual Life Insurance	- Owner strip		MINETO		
0000			45-2738137				Pioneers Gate LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
							1 1010010 0410 220			Massachusetts Mutual Life Insurance					
0000			45-4376777				MSC Holding Company, LLC	DE	NI A	Company	Ownership	100.000	MMLIC	Y	
0000			04-3341767				MassMutual Holding MSC, Inc.	MA	NI A	MSC Holding Company, LLC	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-2854319	2392316			MassMutual Holding LLC	DE	NI A	Company	Ownership	100.000	MMLIC	Y	l
0000			06-1597528				MassMutual Assignment Company	NC	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			37-1732913				Fern Street LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		ļ
0000			62-0951563	1160004	0001259664		First Mercantile Trust Company	TN	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		ļ
0000			46-2252944		.		Haven Life Insurance Agency, LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		l

SCHEDULE Y

						A - DL I AI	L OF INSURANC	<i>,</i> 🗀 1	IOLL	HING COMPAINT	SISILIVI				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	If] ,
											of Control	Control] ,
											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing] ,
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-] ,
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?] ,
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000			04-1590850		0001399869		MassMutual Capital Partners LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			47-1296410				MassMutual Ventures LLC	DE	NI A	MassMutual Holding LLC	. Ownership	100.000	. MMLIC		
0000			04-1590850				MM Rothesay Holdco US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	. MMLIC		.
0000			47-1466022				Society of Grownups, LLC	MA	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			04-1590850		0000701059		MML Investors Services, LLC	MA	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		-
0000			04-1590850		0001456663		MML Insurance Agency, LLC	MA	NI A	MML Investors Services, LLC	Ownership	100.000	MMLIC		·
0000			41-2011634 45-4000072		0001400003		MMLISI Financial Alliances, LLC	DE	NIA NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		·
0000			51-0504477		0000009015		Barings LLC	DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
0000			31-0304477		0000003013		Baring Asset Management (Asia) Holdings			masswatuar Asset management noruming LLC	Owner Sirr P	100.000	_ IMML10		
0000			98-0524271				Limited	HKG	NIA	Barings LLC	Ownership	100.000	MMLIC] ,
							Baring International Fund Managers (Bermuda)			Baring Asset Management (Asia) Holdings					
0000			98-0457465				Limited	BMU	NI A	Limited	Ownership	100.000	- MMLIC		
										Baring Asset Management (Asia) Holdings	·				
0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NI A	Limited	Ownership	100.000	MMLIC		.
0000							Baring Asset Management Korea Limited	KOR	NI A	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
			00 0457707				D	T110.1		Baring Asset Management (Asia) Holdings		400.000			
0000			98-0457707				Baring SICE (Taiwan) Limited	TWN	NI A	Limited	Ownership	100.000	MMLIC		
0000			98-0236449				Baring Asset Management (Japan) Limited	IDAI	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC] ,
0000			96-0230449				Baring Asset Management (Japan) Limited	JPN	NI A	Baring Asset Management (Asia) Holdings	Owner Shi p		. MMLIC		
0000			98-0457456				Limited	AUS	NIA	Limited	Ownership.	100.000	MMLIC] ,
			00 0101 100				Barings Investment Advisors (Hong Kong)			Baring Asset Management (Asia) Holdings	owner on p				
0000							Limited	HKG	NI A	Limited	Ownership	100.000	MMLIC		J
0000			80-0875475				Barings Finance LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							BCF Europe Funding Limited	IRL	NI A	Barings Finance LLC	Ownership	100.000	MMLIC		
0000							BCF Senior Funding LLC	DE	NI A	Barings Finance LLC	Ownership	100.000	MMLIC		
							BCF Senior Funding I Designated Activity								
0000							Company	IRL	NI A	Barings Finance LLC	Ownership	100.000	- MMLIC		
0000			04-3238351 98-0437588		0000930012		Barings Securities LLC Barings Guernsey Limited	DE	NIA NIA	Barings LLC	Ownership	100.000	MMLIC		·
0000			98-0437588				Barings (U.K.) Limited	GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
0000			30-0402100				Barings Europe Limited	GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
0000							Barings GPC GP S.à. r.l .	LUX	NIA	Barings (U.K.) Limited	Ownership	100.000	MMLIC		
0000							Barings Investment Fund (LUX) GP S.à. r.l	_LUX	NI A	Barings (U.K.) Limitied	Ownership.	100.000	MMLIC		
0000							Almack Mezzanine GP III Limited	GBR	NI A	Barings (U.K.) Limitied	Ownership	100.000	MMLIC		ļ
0000							Almack Holding Partnership GP Limited	GBR	NI A	Barings (U.K.) Limitied	Ownership	100.000	MMLIC		ļl
0000							Almack Mezzanine Fund Limited	GBR	NI A	Barings (U.K.) Limitied	Ownership	100.000	MMLIC		l
0000							Almack Mezzanine Fund II Limited	GBR	NI A	Barings (U.K.) Limitied	Ownership	100.000	MMLIC		ļ
0000			98-1012393				Barings Global Advisors Limited	GBR	NI A	Barings (U.K.) Limitied	. Ownership	100.000	- MMLIC		
0000							BCGSS 2 GP LLP	GBR	NI A	Barings (U.K.) Limitied	Ownership	100.000	MMLIC		
0000							Babson European Direct Lending 1 GP LLP Barings Advisers (Japan) KK	GBR	NI A NI A	Barings (U.K.) Limitied Barings LLC	Ownership	100.000	MMLIC		·
0000							Barings Multifamily Capital Holdings LLC	JPN DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Multifamily Capital LLC	MI	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Multifamily Capital Corporation	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		[
0000			04-3238351	3456895	0001011148		Barings Real Estate Advisers Inc.	CA	NIA	Barings Real Estate Advisers LLC	Ownership.	100.000	MMLIC		
0000							Barings Real Estate Advisers Japan KK	JPN	NI A	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC		
0000							Barings Real Estate UK Holdings Limited	DE	NI A	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC		ļl
0000							BREAE AIFM LLP	GBR	NI A	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC		l
l		1					Barings Real Estate Advisers (Continental				I				
0000			98-0654401				Europe) Limited	GBR	NI A	Barings Real Estate UK Holdings Limited	Ownership	100.000	- MMLIC		·
0000			98-0654388				Barings Real Estate Advisers Europe LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		.

SCHEDULE Y

				PA	MI I	A - DE I AI	L OF INSURANC	,C [JOLL	ING COMPANT	3131EW				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	If			_
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Craun Nama			RSSD	CIIZ	International)	Or Affiliates			(Name of Entity/Person)	Other)		Entity(ies)/Person(s)	(Y/N)	*
Code	Group Name	Code	Number	KSSD	CIK	international)	Barings Real Estate Advisers Europe Finance	tion	Entity	(Name of Entity/Ferson)	Other)	tage	Entity(les)/Person(s)	(1/14)	
0000			98-0654412				LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
0000			98-1194368				Barings Real Estate Advisers GmbH	DEU	NIA	Barings Real Estate UK Holdings Limited	Owner Ship	100.000	MMLIC		
0000			04-1590850				MassMutual Baring Holding LLC	DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
0000			98-0241935	2363071	0000932463		Baring North America LLC	MA	NIA	MassMutual Baring Holding LLC	Ownership	100.000	MMLIC		
0000			30 0241303				MassMutual Holdings (Bermuda) Limited	BMU	NIA	MassMutual Baring Holding LLC	Ownership	100.000	MMLIC		
0000			98-0241935				Baring Asset Management Limited	GBR	NIA	MassMutual Holdings (Bermuda) Limited	Ownership	100.000	MMLIC		
0000			98-0457328		0001568131		Baring International Investment Limited	GBR	NI A	Baring Asset Management Limited	Ownership.	100.000	MMLIC		
							Baring International Investment Management								
0000			98-0457587				Holdings	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
							, and the second			Baring International Investment Management	· ·				
0000			98-0457576				Baring Asset Management UK Holdings Limited.	GBR	NI A	Holdings	Ownership	100.000	MMLIC		
										Baring Asset Management UK Holdings Limited	l i				
0000			98-0465031				Baring Asset Management GmbH	DEU	NI A		Ownership	100.000	MMLIC		
							Baring International Fund Managers (Ireland)			Baring Asset Management UK Holdings Limited					
0000			98-0524272				Limited	IRL	NI A		Ownership	100.000	MMLIC		
										Baring Asset Management UK Holdings Limited					
0000							Baring Asset Management Switzerland Sàrl	CHE	NI A		Ownership	100.000	MMLIC		
										Baring Asset Management UK Holdings Limited	1				
0000			98-0497550				Baring France SAS	FRA	NIA		Ownership	100.000	MMLIC		
0000			98-0457586				Baring Fund Managers Limited	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	- MMLIC		
0000			98-0457574				Baring Pension Trustees Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	- MMLIC		
0000			98-0457578				Baring Investment Services Limited	GBR	NI A NI A	Baring Asset Management Limited Barings LLC	Ownership	100.000	MMLIC		
0000			98-0457456				Barings Australia Holding Company Pty Ltd	AUS	NIA NIA		* · · · · · · · · · · · · · · · · · · ·	100.000	MMLIC		
			47-2642354				Barings Australia Pty Ltd	DE	NIA	Baring Australia Holding Company Pty Ltd MassMutual Holding LLC	Ownership Ownership/Influence	5.300	MMLIC		
0000			47-2042334				Archemy copyrights, LLC.	UE	NI A	Massachusetts Mutual Life Insurance	Owner SITTP/ TITT tueffice	3.300	MMLIG		
0000			47-2642354				Alchemy Copyrights, LLC.	DE	NIA	Company	Ownership	0.000	MMLIC		
0000			47-2642354				Alchemy Copyrights, LLC.	DE	NIA	Barings LLC	Influence		MMLIC		
			17 2012001				Tronomy oppyrights, EEs.			Massachusetts Mutual Life Insurance	TITT GOING		initial in the second s		
0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Company	Ownership/Influence	30.000	MMLIC		
0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC		
							,			Massachusetts Mutual Life Insurance					
0000			81-4258759				CRA Aircraft Holding LLC	DE	NI A	Company	Ownership/Influence	40.000	MMLIC		
0000			81-4258759				CRA Aircraft Holding LLC	DE	NI A	Barings LLC	Influence		MMLIC		
0000			47-3055009				Milestone Acquisition Holding, LLC.	DE	NI A	MassMutual Holding LLC	Ownership/Influence	18.300	MMLIC		
			1		I					Massachusetts Mutual Life Insurance	1				
0000		.	47-3055009				Milestone Acquisition Holding, LLC	DE	NI A	Company	Ownership	0.000	MMLIC		
0000			47-3055009				Milestone Acquisition Holding, LLC	DE	NI A	Barings LLC	Influence	 -	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-5460309				Red Lake Ventures, LLC	DE	NI A	Company	Ownership/Influence	15.800	. MMLIC		
0000		-	46-5460309	-			Red Lake Ventures, LLC	DE	NI A	Barings LLC	Influence		MMLIC		
0000			04 4005070		1		Desirate L 0 Willeldin LLO	07	AU. A	Massachusetts Mutual Life Insurance	0	00 000	MMLIC		
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Company	Ownership/Influence	66.300			
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Barings LLC	Influence		MMLIC		
0000			46-3123110				Connect Trans Haldings 1 110	DE	NI A		Ownership/Influence	16,100	MMLIC		
0000			46-3123110				Sweet Tree Holdings 1, LLC	DE	NIA NIA	Company	Influence	10.100	MMLIC		
0000		-	40-3123110	-			Ower free Holdings I, LLC	UE	NI M	Massachusetts Mutual Life Insurance	initiudice		. mmL10		
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	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance			*		
0000					l		U.S. Buyer Broadcasting, LLC	DE	NI A	Company	Ownership/Influence	12.700	MMLIC		

SCHEDULE Y

						A - DE I AI	L OF INSURANC	JL I	IOLL	TING COMEAN I	O I O I LIVI				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
			-		,	•	_				Type	If			'
											of Control	Control			'
											(Ownership,	is		Is an	'
						Name of Securities			Relation-		Board,	Owner-		SCA	'
						Exchange		Domi-	ship		Management,	ship		Filing	'
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	'
Group		Company	ID	Federal		(U.S. or	Parent. Subsidiaries	Loca-		Directly Controlled by	Influence.	Percen-	Ultimate Controlling	auired?	'
Code	Craun Nama			RSSD	CIK		Or Affiliates		Reporting	(Name of Entity/Person)	Other)		Entity(ies)/Person(s)		
	Group Name	Code	Number	KSSD	CIK	International)		tion	Entity NIA	Barings LLC	/	tage		(Y/N)	<u> </u>
0000			46-1500495				U.S. Buyer Broadcasting, LLC	DE	NIA		InfluenceOwnership/Influence	44 700	MMLIC		
0000			46-1500495				U.S. WIG Holdings, LP	DE	NIA	MassMutual Holding LLC	Influence	11.700	MMLIC		
0000			46-0687392				US Pharmaceutical Holdings I, LLC	DE	NI A	Wood Creek Capital Management LLC	Management		MMI IC		
0000			40-000/392				05 Filatiliaceutical Horumigs 1, LLC	UE	NI A	Massachusetts Mutual Life Insurance	management		MMLIC		
0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Company	Ownership/Influence	32.600	MMLIC		'
0000		-	20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Barings LLC	Influence		MMLIC		
			20,0,00				oo mamadaa maa maa maa maa maa maa maa maa			Massachusetts Mutual Life Insurance					
0000							Solar Acquisition Holding, LLC	DE	NI A	Company	Ownership/Influence	39.200	MMLIC		'
0000							Solar Acquisition Holding, LLC	DE	NI A	Barings LLC	Management		MMLIC		
0000							VGS Acquisition Holding, LLC	DE	NI A	MassMutual Holding LLC	Ownership/Influence	33.300	MMLIC		!
0000							VGS Acquisition Holding, LLC	DE	NI A	Barings LLC	Management		MMLIC		
		I							1	Massachusetts Mutual Life Insurance			1		1
0000							Wood Creek Aircraft Holding I, LP	CYM	NI A	Company	Ownership	12.100	MMLIC		
0000							Wood Creek Aircraft Holding I, LP	CYM	NI A	Wood Creek Capital Management LLC	Management		MMLIC		. !
0000							Baring Asset-Based Income Fund (US) GP, LLC .	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		- [!]
							Babson Capital Floating Rate Income Fund								'
0000			04-1590850		0001501011		Management, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		- [!]
0000							Babson Global Loan Feeder Management, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		.
0000							Barings CLO Investment Partners GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Global Energy Infrastructure	DE	NII A	D i 110	0	100,000	INH 10		'
0000							Advisors, LLCBarings North American Private Loan Fund	UE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Management, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		'
0000							Barings TERO Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			98-0536233				Benton Street Advisors. Inc.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Great Lakes III GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000		-	01 1000000				Lake Jackson LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Loan Strategies Management LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		
0000			04-1590850				Mezzco LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			02-0767001				Mezzco II LLC	DE	NI A	Barings LLC	Ownership	98.400	MMLIC		
0000			41-2280126				Mezzco III LLC	DE	NI A	Barings LLC	Ownership	99.300	MMLIC		. '
0000			80-0920285				Mezzco IV LLC	DE	NI A	Barings LLC	Ownership	99.300	MMLIC		
0000			90-0666326				Mezzco Australia LLC	DE	NI A	Barings LLC	Ownership	72.000	MMLIC		. '
0000							Mezzco Australia II LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
		1					Somerset Special Opportunities Management LLO			L	1		l		'
0000		-	. 04-1590850					DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000		-	84-1149206	2897101			Oppenheimer Acquisition Corp.	DE	NI A	MassMutual Asset Management Holding LLC	Ownership	97.000	MMLIC		- [!]
0000			13-2527171	2679183	0000820031		OppenheimerFunds, Inc.	00	NIA	Oppenheimer Acquisition Corp.	Ownership	100.000	MMLIC		
0000		-	. 13-2953455 84-1106295		0000276541		OppenheimerFunds Distributor, Inc.	NY DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
0000			. 13-4160541	3458125	0001179479		Oppenheimer Real Asset Management, Inc OFI Global Institutional, Inc	NY	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
0000			22-2697140	. 3436 123	00011/94/9		HarbourView Asset Management Corporation	NY	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		-
0000		-	13-3459790	2914875			OFI Global Trust Company	NY	NIA	OFI Institutional Asset Management, Inc	Ownership	100.000	MMLIC		
0000			10-0403130				OFI International, Ltd.	GBR	NIA	OFI Institutional Asset Management, Inc	Ownership	100.000	MMLIC		
0000							SNW Asset Management Corporation	DE	NIA	OFI Institutional Asset Management, Inc	Ownership	100.000	MMLIC		1
0000		1	60-2233720				Seattle Northwest Asset Management LLC	WA	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		1
0000			25-1951632		0000099782		Trinity Investment Management Corporation	PA	NIA	OFI Institutional Asset Management, Inc.	Ownership	100.000	MMLIC		
0000			84-1128397		0000857468		OFI SteelPath, Inc.	DE	NI A	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
0000			84-1066811		0000276398		Shareholder Services, Inc.	CO	NI A	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
0000							VTL Associates , LLC	PA	NIA	OppenheimerFunds, Inc.	Ownership.	100.000	MMLIC		
0000		.					Index Management Solutions, LLC	PA	NI A	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
0000		.	84-0765063		0001041674		OFI Global Asset Management, Inc.	DE	NI A	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		!
0000			91-2036414		0001179480		OFI Private Investments Inc.	NY	NI A	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		. '

SCHEDULE Y

				FA		A - DE I AI	L OF INSURAINC	/L I	IOLL	TING COMEAN I	SISILIVI				
1	2	3	4	5	6	7	8	a	10	11	12	13	14	15	16
'	2	9	7			l '	· ·	3	10	'''	Type	If	14	10	10
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.Ś. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000			62-1210532			,	Tremont Group Holdings, LLC	NY	NIA	Oppenheimer Acquisition Corp.	Ownership	100,000	MMLIC		
0000			06-1121864		0000764139		Tremont Partners, LLC	CT	NI A	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC		
0000			20-8215352				Tremont GP. LLC	DE	NI A	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC		
0000			90-0874510				Settlement Agent, LLC	DE	NI A	Tremont GP	Ownership.	100.000	MMLIC		
0000							Tremont (Bermuda) Limited	BMU	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-3313782				MassMutual International LLC	DE	NIA	Company	Ownership	100,000	MMLIC	Y	
0000							MassMutual Asia Limited	HKG	IA	MassMutual International LLC	Ownership.	100.000	MMLIC		
0000							MassMutual Asia Investors Ltd.	HKG	NIA	MassMutual Asia Limited	Ownership	_100.000	MMLIC		
0000							MassMutual Guardian Limited	HKG	NI A	MassMutual Asia Limited	Ownership	100.000	MMLIC		
0000							MassMutual Insurance Consultants Limited	HKG	NIA	MassMutual Asia Limited	Ownership	100,000	MMLIC		
0000							MassMutual Services Limited	HKG	NI A	MassMutual Asia Limited	Ownership	100.000	MMLIC		
0000							MassMutual Trustees Limited	HKG	NI A	MassMutual Asia Limited	Ownership	80.000	MMLIC		
0000			98-0610331				Protective Capital (International) Limited	HKG	NI A	MassMutual Asia Limited	Ownership	100.000	MMLIC		
0000			98-1033127			l	MassMutual Internacional (Chile) SpA	CH L	NI A	MassMutual International LLC	Ownership	100.000	MMLIC		
0000							MassMutual Life Insurance Company	JPN	IA	MassMutual International LLC	Ownership	100.000	MMLIC		
							. ,			Massachusetts Mutual Life Insurance					
0000			04-2443240				MML Management Corporation	MA	NI A	Company	Ownership	100.000	MMLIC	Y	
0000			04-3548444				MassMutual International Holding MSC, Inc	MA	NI A	MML Management Corporation	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Mezzanine Investor II, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Mezzanine Investor III, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-3576835				MassMutual External Benefits Group LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-8730751				Cornerstone Global REIT Corporation	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				100 w. 3rd Street LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-2432216				300 South Tryon Hotel LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				300 South Tryon LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3887968				54 West Capital LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance		44.000			
0000							Almack Mezzanine Fund I LP	GBR	NI A	Company	Ownership/Influence	41.300	MMLIC		
0000		-					Almack Mezzanine Fund I LP	GBR	NI A	C.M. Life Insurance Company	. Ownership	4.600	MMLIC		
0000							Almack Mezzanine Fund I LP	GBR	NI A	Barings (U.K.) Limitied Massachusetts Mutual Life Insurance	Management		MMLIC		
0000							Almosk Massanina Fund II Ibdayaragad ID	GBR	NI A		Ownership/Influence	72.600	MMLIC		
0000							Almack Mezzanine Fund II Unleveraged LP		NIA	Company		/2.000	MMLIC		
0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NI A	Barings (U.K.) Limitied Massachusetts Mutual Life Insurance	Management		MMLIC		
0000							Almack Mezzanine Fund III LP	GBR	NIA	Company	Ownership/Influence	34.000	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.) Limitied	Management	000.لو	MMLIC		
0000							Barings Emerging Markets Corporate Bond Fund	nun		Massachusetts Mutual Life Insurance	mandyanian t		INIME I V		
0000							Darringo Emergring markets our porate bolid i dild	IRL	NI A	Company	Ownership/Influence	96.800	MMLIC		
0000							Barings Emerging Markets Corporate Bond Fund			ompany	omoranip/ minuence				
0000							Sago Eorgring marriero corporato bona rana	IRL	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance	- managonori t				
0000			Ì				Barings Emerging Markets Local Debt Fund	IRL	NIA	Company	Ownership/Influence	18, 100	MMLIC		
0000							Barings Emerging Markets Local Debt Fund	IRL	NI A	Barings LLC	Management		MMLIC		
							1g ggaoto 2004. 2001 I dild		·		-		····-·		

SCHEDULE Y

						A - DEIAI	L OF INSURANC	/L I	IOLL	III G COMPAIN	ISISILIVI				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
•		_	•					-			Type	If			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Constition			Deletion						
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Barings Global Special Situations Credit Fund			Massachusetts Mutual Life Insurance					
0000							1	IRL	NI A	Company	Ownership/Influence	100.000			
							Barings Global Special Situations Credit Fund								
0000							1	IRL	NI A	Barings LLC	Management		MMLIC		
							Babson Capital Global Special Situation			Massachusetts Mutual Life Insurance					
0000			98-1206017				Credit Fund 2	DE	NI A	Company	Ownership/Influence	23.500	MMLIC		
							Babson Capital Global Special Situation								
0000			98-1206017				Credit Fund 2	DE	NI A	C.M. Life Insurance Company	Ownership	1.500			
							Babson Capital Global Special Situation								
0000			98-1206017				Credit Fund 2	DE	NI A	Barings LLC	Management		MMLIC		
		I	Ì	1						Massachusetts Mutual Life Insurance					1
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NI A	Company	Ownership/Influence	79.200	MMLIC		
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NI A	C.M. Life Insurance Company	Ownership	3.800	MMLIC		
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NI A	Barings LLC	Management		. MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Barings US High Yield Bond Fund	IRL	NI A	Company	Ownership/Influence	46.300	MMLIC		
0000							Barings US High Yield Bond Fund	IRL	NI A	C.M. Life Insurance Company	Ownership	6. 100	MMLIC		
0000							Barings US High Yield Bond Fund	IRL	NI A	Barings LLC	Management		. MMLIC		
0000							Babson CLO Ltd. 2012-II	CYML	NI A	Barings LLC	Influence		MMLIC		
0000							Babson CLO Ltd. 2013-I	CYM	NI A	Barings LLC	Influence		. MMLIC		4
0000			98-1128827				Babson CLO Ltd. 2013-II	CYM	NI A	Barings LLC	Influence		MMLIC		5
0000							Babson CLO Ltd. 2014-I	CYM	NI A	Barings LLC	Influence	·····	MMLIC		2
0000							Babson CLO Ltd. 2014-II	CYML	NI A	Barings LLC	Influence	·	- MMLIC		6
0000							Babson CLO Ltd. 2014-III	CYM	NIA	Barings LLC	Influence	·	MMLIC		
0000							Babson CLO Ltd. 2015-I	CYML	NI A	Barings LLC	Influence	· -	- MMLIC		
0000							Babson CLO Ltd. 2015-II	CYM		Barings LLC	Influence		MMLIC		ø
0000							Babson CLO Ltd. 2016-I	CYML	NIA	Barings LLC	Influence	·····	MMLIC		
							Babson CLO Ltd. 2016-II	CYM			Influence	·	MMLIC		
0000							Babson CLO Ltd. 2017-I	CYM	NI A	Barings LLC	Influence	·····	MMLIC		
0000							Babson Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence	·····	MMLIC		
0000							Babson Euro CLO 2014-11 BV	NLD		Barings LLC	Influence	·····	MMLIC		
0000							Babson Euro CLO 2016-1 BV	NLD	NIA	Barings LLC	Influence.		MMLIC		
0000							Dadson Euro CLO 2016-1 BV	JVLD	NI A	Massachusetts Mutual Life Insurance	Initiuence	·····	. NIMLIC		
0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Company	Ownership/Influence	99.300	MMLIC		
0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management	99.300	MMLIC		
			01-0041004				Barings Real Estate European Value Add I SCSp		NI #	Massachusetts Mutual Life Insurance	manayanent		mmLTO		1
0000		1		1			Dailings hear Estate European value Aud 1 505p	GBR	NIA	Company	Ownership/Influence	90.000	MMLIC		
000لا							Barings Real Estate European Value Add I SCSp	חמט	NI #	Ounpairy		000.00			1
0000		I	Ì	1			Dai ingo near Lotate Luropean varue Aud 1 505p	GBR	NIA	C.M. Life Insurance Company	. Ownership.	10.000	MMLIC		1
0000							Barings Real Estate European Value Add SCSp	nun	NI A	C.W. Life insurance company	Owner Sirrp				
0000							Dai ings near Estate European varue Aud 1 000p	GBR	NIA	Barings LLC	Management		MMLIC		
0000										Massachusetts Mutual Life Insurance	managanant		IIIIIL I V		1
0000		1	11-3789446	1 1			Baring Focused EAFE Equity Fund	DE	NIA	Company	Ownership/Influence	43.200	MMLIC		1
			11-3789446				Baring Focused EAFE Equity Fund	DE	NIA	Baring Asset Management Limited	Management		MMLIC		1
0000			30-0607379		0001497049		Baring Global Dynamic Asset Allocation Fund	DE	NIA	Baring Asset Management Limited	Management		MMLIC		1
0000					540 1541 000		Barings Global Energy Infrastructure Fund I	UL	NI /	Massachusetts Mutual Life Insurance	managanant		IIIIIL V		1
0000		1	98-1332384	1			IP	CYML	NI A	Company	Ownership/Influence	97.900	MMLIC		
			00 1002004				Barings Global Energy Infrastructure Fund I			- Company					1
0000		I	98-1332384	1			IP	CYML	NIA	Baring Asset Management Limited	Management		- MMLIC		1
			00 1002004					J I W		Massachusetts Mutual Life Insurance	managomori t		I IIIILI V		1
0000		1		1 1			Barings Global Private Loan Fund	LUX	NIA	Company	Ownership/Influence	16.200	MMLIC		1
0000							Barings Global Private Loan Fund	_LUX	NI A	Barings LLC	Management		MMLIC		1
							Dago a. obal il itato Louii i alia								

SCHEDULE Y

				T P		A - DE I AI	L OF INSURANC	,C I	JOLU	ING COMPAIN I	SISIEIVI				
1	2	3	4	5	6	7	8	9	10	11	12 Type of Control	13 If Control	14	15	16
											(Ownership,	is		ls an	1
						Name of Securities			Relation-		Board.	Owner-		SCA	1 1
						Exchange		Domi-	ship		Management,	ship		Filina	1
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	1
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence.	Percen-	Ultimate Controlling	quired?	1 1
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
	,									Massachusetts Mutual Life Insurance	,		1 3 (1 1)		
0000			38-4010344				Barings North American Private Loan Fund LP.	DE	NI A	Company	Ownership/Influence	78.400	MMLIC		
0000			38-4010344				Barings North American Private Loan Fund LP .	DE	NIA	Baring Asset Management Limited	Management		MMLIC		
							Barings Real Estate Credit Strategies VII LP			Massachusetts Mutual Life Insurance					1
0000			98-1332384					DE	NI A	Company	Ownership/Influence	42.600	MMLIC		
0000			98-1332384				Barings Real Estate Credit Strategies VII LP	DE	NIA	Baring Asset Management Limited	Management		MMLIC		1 1
0000			90-1332304					UE	NIA	Massachusetts Mutual Life Insurance	management	· 	MMLIC		·····
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NIA	Company	Ownership/Influence	64.300	MMLIC		1
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NI A	Baring Asset Management Limited	Management		MMLIC		
0000			98-0536233				Benton Street Partners I, L.P.	CYM	NI A	MassMutual Capital Partners LLC	Ownership/Influence	99.100	MMLIC		
0000			98-0536233				Benton Street Partners I, L.P.	CYM	NI A	Barings LLC	Management		MMLIC		
0000			98-0536233				Benton Street Partners I, L.P.	CYM	NI A	C.M. Life Insurance Company	Ownership	0.100	MMLIC		
										Massachusetts Mutual Life Insurance					1
0000			98-0536233	-			Benton Street Partners I, L.P.	CYM	NI A	Company	Ownership	0.400	MMLIC		
0000			98-0536199				Donton Otanost Dontonas III I D	OVAL	NIA	Massachusetts Mutual Life Insurance	Ownership/Influence	00.000	MML1C		,
0000			98-0536199	-			Benton Street Partners II, L.P.	CYM	NIA	Company	Ownership	28.600	MMLIC		3
0000			98-0536199				Benton Street Partners II. L.P.	CYM	NIA	Barings LLC	Management	10.400	MMLIC		
0000			. 30-0300133				Denton Street raithers 11, L.I.	JIWL	NI /	Massachusetts Mutual Life Insurance	management		MMLIO		
0000		l		.			Braemar Energy Ventures I, L.P.	DE	NI A	Company	Ownership/Influence	89.300	MMLIC		l
0000							Braemar Energy Ventures I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MMLIC		
0000							Braemar Energy Ventures I, L.P.	DE	NI A	Barings LLC	Management		MMLIC		
0000							Barings European Core Property Fund SCSp	LUX	NI A	MassMutual Holding LLC	Ownership/Influence	39.400	MMLIC		
0000							Barings European Core Property Fund SCSp	LUX	NI A	C.M. Life Insurance Company	Ownership	2.500	MMLIC		
0000			07 4704000		0004404750		Barings European Core Property Fund SCSp	LUX	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
0000			27-1701622 27-1701622		0001481752		Cornerstone Core Mortgage Venture LP Cornerstone Core Mortgage Venture LP	DE	NI A NI A	MassMutual Holding LLCBarings Real Estate Advisers LLC	Ownership/Influence	50.000	MMLIC		
0000			27-1701022		000 146 1732		CornerStone Core mortgage venture i Er	UE	NIA	Massachusetts Mutual Life Insurance	_ management		MMLIC		
0000			45-3751572		0001534877		Cornerstone Enhanced Mortgage Fund LP	DE	NIA	Company	Ownership/Influence	15.500	MMLIC		1
0000			45-3751572		0001534877		Cornerstone Enhanced Mortgage Fund I LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					1 1
0000			20-8730751				Cornerstone Global Real Estate LP	DE	NI A	Company	Ownership/Influence	92.300	MMLIC		
0000		-	20-8730751				Cornerstone Global Real Estate LP	DE	NI A	C.M. Life Insurance Company	Ownership	7.600	MMLIC		
0000			20-8730751				Cornerstone Global Real Estate LP	DE	NI A	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		1
0000			36-4770946		0001590049		Cornerstone High Yield Venture LP	DE	NIA NIA	Barings Real Estate Advisers LLC	Management	000.00	MMLIC		
0000			20-5578089		0001030043		Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	10.800	MMLIC		
0000			20-5578089				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-0547156				Cornerstone Real Estate Fund VIII LP	DE	NI A	Company	Ownership/Influence	7.100	MMLIC		1
0000			27-0547156				Cornerstone Real Estate Fund VIII LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
1			l		1					Massachusetts Mutual Life Insurance		_,			1
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NI A	Company	Ownership/Influence	24.700	MMLIC		
0000		-	46-5432619 46-5432619				Cornerstone Real Estate Fund X LP	DE	NI A	C.M. Life Insurance Company	Ownership	2.800	MMLIC		
0000			40-0432619				Cornerstone Real Estate Fund X LP	UE	NI A	Barings Real Estate Advisers LLC Massachusetts Mutual Life Insurance	Management	· 	MMLIU	·	
0000			46-5437441		1		Barings/LAZ Parking Fund LP	DE	NI A	Company	Ownership/Influence	99.300	MMLIC		1 1
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	NI A	Barings LLC	Influence		MMLIC		
					1					Massachusetts Mutual Life Insurance					1 1
0000			20-3887968	.	l		E-Wise Land Venture LLC	DE	NI A	Company	Ownership	100.000	MMLIC		1

SCHEDULE Y

							L OF INSURANC								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	If			
											of Control	Control			
														١.	
											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIG					Name of								
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Oloup Hamo	0000		1.002	- U.I.	terriationaly	017.11.11.00			Massachusetts Mutual Life Insurance	G	- iago	2(0)	(1,11)	+
0000			80-0691253		0001517196		Gateway Mezzanine Partners I. L.P.	DE	NIA	Company	Ownership/Influence	71.200	MMLIC		
0000			80-0691253		0001517196		Gateway Mezzanine Partners I, L.P.	DE	NI A	C.M. Life Insurance Company	Ownership	7.700	MMLIC		
0000			80-0691253		0001517196		Gateway Mezzanine Partners I, L.P.	DE	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DF	NI A	Company	Ownership/Influence	42.600	MMLIC		
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	MMLIC		
0000								. DE				0.000	MMLIC		
			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NI A	Barings LLC	Management		MMLIU		
					1					Massachusetts Mutual Life Insurance	1				1
0000			37-1708623		0001565779		Great Lakes III, L.P.	DE	NI A	Company	Ownership/Influence	35.400	. MMLIC		
0000			37-1708623	.	0001565779		Great Lakes III, L.P.	DE	NI A	Barings LLC	Management		MMLIC	[1
					1					Massachusetts Mutual Life Insurance	"				
0000			04-1590850		1		Gillem GA Industrial LLC	DE	NI A	Company	Ownership	100.000	MMLIC		1
			04-1030000				IDMOC Commercial Marter - Committee T	UE	INI A	oulipaity	Owner 2111 h	100.000	- mmL IV		İ
					1		JPMCC Commercial Mortgage Securities Trust				I			- 1	
0000			38-4041011				2017-JP7	NY	NI A	Barings LLC	Management		MMLIC		
							JPMDB Commercial Mortgage Securities Trust								
0000			38-4032059				2017-C5	NY	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3887968				Vermell Dealty Destroye LLC	DE	NI A		O-mayah i -	100.000	MMLIC		
			20-388/968				Kazwell Realty Partners LLC	. VE	NI A	Company	Ownership	100.000	- MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-1512591				KKR-MM Vector LP	DE	NI A	Company	Ownership/Influence	90.000	. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-4255307				Marco Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			10 1200001				mar oo notor LLo			Massachusetts Mutual Life Insurance	owner on p		- IIIILIO		
0000			04 0000400				MILD 1 1 D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DE	ALL A		0 1: (1.1)	400 000	188 10		
0000			81-3000420				MM Debt Participations LLC	DE	NI A	Company	Ownership/Influence	100.000	MMLIC		
0000			81-3000420				MM Debt Participations LLC	DE	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			26-3799762				MML O'Hare Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3887968				0-1-1 0	DE	NIA		0	100.000	MMLIC		
			20-388/968				Oakley Grove Development LLC	. VE	NI A	Company	Ownership	100.000	- MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3887968				Old Pasco Properties LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
					1					Massachusetts Mutual Life Insurance				- 1	
0000			75-2901061		1		Reston Arboretum LLC	DE	NIA	Company	Ownership	100.000	MMLIC	- 1	
										Massachusetts Mutual Life Insurance				[
0000			30-0713071		1		Divo Portland II C	DE	NI A		Ownership	100.000	MMLIC	- 1	
			30-07 1307 1				Riva Portland LLC	UE		Company					·
0000							Rockall CLO B.V.	GBR	NI A	Barings LLC	Influence	-	MMLIC		
					1					Massachusetts Mutual Life Insurance					1
0000			54-2055778		1		Rockville Town Center LLC	VA	NI A	Company	Ownership	100.000	MMLIC		1
										Massachusetts Mutual Life Insurance					
0000			04-1590850		1		Sedona TFMP Land LLC	DE	NI A	Company	Ownership	100.000	MMLIC	- 1	
			1030000				OCCUONA II IIII LANG LLO	JE	NI //		- Omici sitip		. mmL10		
										Massachusetts Mutual Life Insurance				- 1	
0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P	DE	NI A	Company	Ownership/Influence	63.600	MMLIC		
0000			20-8856877	.	0001409910		Somerset Special Opportunities Fund L.P	DE	NI A	C.M. Life Insurance Company	Ownership	2.900	MMLIC	[1
0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P.	DE	NI A	Barings LLC	Management		MMLIC		
					1					Massachusetts Mutual Life Insurance					
0000			20-3887968		1		South Pasco Properties LLC	DE	NI A	Company	Ownership	100.000	MMLIC	- 1	
			20-300/900				Journ rasco Froperties LLC	UE	NIA		owiter 2111 h	100.000	_ mmL10		
					1					Massachusetts Mutual Life Insurance	[1
			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	DE	NI A	Company	Ownership/Influence	28.600	. MMLIC		
0000			30-0336246	.	0001345379		Tower Square Capital Partners II, L.P.	DE	NI A	C.M. Life Insurance Company	Ownership	4.000		[1
0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	DE	NI A.	Barings LLC	Management	,,,,,,	MMLIC		
					1		vaprial la tiolo ii, Eil i			Massachusetts Mutual Life Insurance					
0000			22 0460400		1		Tamar Cause Carital Bartners II A D	DE	NIA		Ownership /Influence	05 000	1011 10		1
			32-0160190				Tower Square Capital Partners II-A, L.P.	DE		Company	Ownership/Influence	85.000	. MMLIC		
0000			32-0160190				Tower Square Capital Partners II-A, L.P	DE	NI A	C.M. Life Insurance Company	Ownership	15.000			

SCHEDULE Y

						A - DL I AI	L OF INSURANC	, L I	IOLL	TING COMPAIN	SISILIVI				
1	2	3	4	5	6	7	8	9	10	11	12 Type of Control	13 If Control	14	15	16
											(Ownership,	is		Is an	'
						Name of Securities			Relation-		Board,	Owner-		SCA	'
						Exchange		Domi-	ship		Management,	ship		Filing	'
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	'
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	'
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Group Name	Code	32-0160190	NOOD	CIR	international)	Tower Square Capital Partners II-A, L.P	DE	NIA	Barings LLC	Management	lage	MMLIC	(1/14)	+'
0000			41-2280127		0001447547		Tower Square Capital Partners III. L.P.	DE	NIA	Barings LLC	Management		MMLIC		
0000			41-2200127		0001447547		Tower Square Capital Partners III, L.P	VE	NI A	Massachusetts Mutual Life Insurance	management		NIMILIO		
0000			41-2280127		0001447547		Tower Square Capital Partners III, L.P	DE	NIA	Company	Ownership/Influence	4.800	MMLIC		'
0000			41-2280127		0001447547		Tower Square Capital Partners III, L.P.	DE	NIA.	MassMutual Holding LLC	Ownership/Influence	14.900	MMLIC		
			11 2200127				Tonor oquaro oupritar rarthoro irri, E.i.			Massachusetts Mutual Life Insurance	- Carrer Girip, Illi Tuolico				
0000			41-2280129		0001447548		Tower Square Capital Partners IIIA, L.P.	DE	NIA	Company	Ownership/Influence	94.900	MMLIC		'
0000			41-2280129		0001447548		Tower Square Capital Partners IIIA, L.P.	DE	NI A.	Barings LLC	Management		MMLIC		
							Tonor oquate oup turn turnor o trini, 2111 11111			Massachusetts Mutual Life Insurance					
0000			80-0920367		0001598727		Tower Square Capital Partners IV-A, L.P	DE	NI A	Company	Ownership/Influence	20.800	MMLIC		. '
0000			80-0920367		0001598727		Tower Square Capital Partners IV-A, L.P.	DE	NI A	Barings LLC	Management		MMLIC		'
										Massachusetts Mutual Life Insurance	, and the second				'
0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	DE	NI A	Company	Ownership/Influence	36.600	MMLIC		. '
0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	DE	NI A	C.M. Life Insurance Company	Ownership	0.500	MMLIC		
0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	DE	NI A	Barings LLC	Management		MMLIC		. '
										Massachusetts Mutual Life Insurance					'
0000			04-1590850				West 46th Street Hotel LLC	DE	NI A	Company	Ownership	100.000	MMLIC		. '
							Barings Emerging Markets Debt Blended Total								'
0000							Return Fund	IRL	NI A	Barings LLC	Management		MMLIC		- [!]
							Barings Emerging Markets Debt Short Duration								'
0000							Fund	IRL	NI A	Barings LLC	Management		MMLIC		. '
							Barings Emerging Markets Sovereign Debt Fund								'
0000								IRL	NI A	Barings LLC	Management		MMLIC		- '
							Babson Capital Floating Rate Income Fund,								'
0000			27-3330830		0001521404		L.P	DE	NI A	MassMutual Holding LLC	Ownership	0.000	MMLIC		-
0000							Babson Capital Loan Strategies Master Fund LP	0)///	NII 4	D : 110	l., .		MMLIC		'
0000							Barings Global Investment Grade Corporate	CYM	NI A	Barings LLC	Management		MMLIC		
0000							Plus Fund	IRL	NI A	Barings LLC	Managament		MMLIC		'
0000							Barings Emerging Markets Debt Blended Total	InL	NI A	barings LLC	Management		NIMILIO		
0000			47-3758432				Return Fund	MA	NIA	Barings LLC	Management		MMLIC		'
0000			41-3130432				Barings Emerging Markets Local Currency Debt	MA	NIA	Dai mys LLC	management		MMLIG		
0000			47-3774453				Fund	MA	NIA	Barings LLC	Management		MMLIC		'
0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
0000			11 0100102				Baring Greater China Equity Fund	HKG	NI A	Baring Asset Management Limited	Management		MMLIC		
0000			47-3734770				Barings Total Return Bond Fund	MA	NI A	Barings LLC	Management		MMLIC		
0000			47-3801860				Barings U.S. High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
							J. 2.2 g			Massachusetts Mutual Life Insurance					
0000			71-1018134				Great Lakes II LLC	DE	NI A	Company	Ownership	11.200	MMLIC		
0000			71–1018134				Great Lakes II LLC	DE	NI A	C.M. Life Insurance Company	Ownership	1.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			56-2505390				Great Lakes LLC	DE	NI A	Company	Ownership	4.400	MMLIC		<u> </u>
0000			56-2505390				Great Lakes LLC	DE	NI A	C.M. Life Insurance Company	Ownership	0.500	MMLIC		
0000			46-2344300				Intermodal Holdings II LLC	DE	NI A	Barings LLC	Influence		MMLIC		. '
							Somerset Special Opportunities Master Fund								
0000							LP	CYM	NI A	Barings LLC	Management		MMLIC		!
										Massachusetts Mutual Life Insurance					'
0000			. 04-1590850				Wood Creek Venture Fund LLC	DE	NI A	Company	Ownership	40.000	_ MMLIC		!
1										Massachusetts Mutual Life Insurance					
0000			20-2548283				12-18 West 55th Street Predevelopment, LLC	DE	NI A	Company	Ownership	89.200	- MMLIC		- [!]
0000			20-2548283				12-18 West 55th Street Predevelopment, LLC	DE	NI A	C.M. Life Insurance Company	Ownership	7.800	MMLIC		-
										Massachusetts Mutual Life Insurance	I	50 405			'
0000			36-4823011				50 Liberty LLC	DE	NI A	Company	Ownership	59.100	MMLIC		- [!]
0000			36-4823011				50 Liberty LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.800	MMLIC		<u>.l</u>

SCHEDULE Y

				1 /		A-DEIA	IL OF INSURANC	<i>,</i>	IOLL	THE COMME AND	O I O I E IVI				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	_		•			·	-				Type	If			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Deletion					SCA	
									Relation-		Board,	Owner-			
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	'
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
	·					·				Massachusetts Mutual Life Insurance	·				
0000			80-0948028				One Harbor Shore LLC	DE	NI A	Company	Ownership	49.900	MMLIC		
0000			80-0948028				One Harbor Shore LLC	DE	NI A	C.M. Life Insurance Company	Ownership	4.900	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			16-1720387				Alexandria Towers Investors LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			81-4382111				Budapester Strasse LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-2285211				Calgary Railway Holding LLC	DE	NI A	Company	Ownership	90.000	MMLIC		
0000			82-2285211				Calgary Railway Holding LLC	DE	NI A	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
							, , , , , , , , , , , , , , , , , ,			Massachusetts Mutual Life İnsurance				1	
0000			04-1590850				Cambridge Hotel LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
							-			Massachusetts Mutual Life Insurance				1	
0000			04-1590850				CHC/RFP VI Core LLC	DE	NI A	Company	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance	· ·				
0000			95-4207717				Cornerstone California Mortgage Fund LLC	CA	NI A	Company	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance	· ·				
0000			95-4207717				Cornerstone California Mortgage Fund II LLC .	CA	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance	·				
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NI A	Company	Ownership	84.400	MMLIC		
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.600	MMLIC		
							•			Massachusetts Mutual Life Insurance					
0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			35-2531693				Cornerstone Permanent Mortgage Fund III	MA	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			61-1793735				Cornerstone Permanent Mortgage Fund IV		NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-5001122				CREA 330 Third LLC	DE	NI A	Company	Ownership	92.000	MMLIC		
0000			46-5001122				CREA 330 Third LLC	DE	NI A	C.M. Life Insurance Company	Ownership	8.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-4367364				CREA FMF Nashville LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
			I							Massachusetts Mutual Life Insurance	1				
0000			26-2399532	.			CREA/LYON West Gateway, LLC	DE	NI A	Company	Ownership	54.000	MMLIC		
0000			26-2399532				CREA/LYON West Gateway, LLC	DE	NI A	C.M. Life Insurance Company	Ownership	6.000	MMLIC		
0000			81-0890084	.			CREA Madison Member LLC	DE	NI A	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
			I							Massachusetts Mutual Life Insurance	1				
0000			20-0348173	.			CREA/PPC Venture LLC	DE	NI A	Company	Ownership	93.400	MMLIC		
0000			20-0348173				CREA/PPC Venture LLC	DE	NI A	C.M. Life Insurance Company	Ownership	6.600	MMLIC		
			1							Massachusetts Mutual Life Insurance				1	
0000			82-1563809				CCB Montford Park LLC	DE	NI A	Company	Ownership	75.200	MMLIC		
0000			82-1563809	-[CCB Montford Park LLC	DE	NI A	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
				1						Massachusetts Mutual Life Insurance				1	
0000			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NI A	Company	Ownership	87.700	MMLIC		
0000			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NI A	C.M. Life Insurance Company	Ownership	8.700	MMLIC		
1										Massachusetts Mutual Life Insurance	1			1	
0000			20-3347091				Fan Pier Development LLC	DE	NI A	Company	Ownership	59.300			
0000			20-3347091	-			Fan Pier Development LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
1										Massachusetts Mutual Life İnsurance	1				
0000			46-3880526				Farringdon London Holdings LLC	DE	NI A	Company	Ownership	94.500	MMLIC		
0000			46-3880526				Farringdon London Holdings LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.500			

SCHEDULE Y

				1 /\		A PEIA	L OF INSURAIN	<i>-</i>		III OOMI AII					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	_	Ŭ			Ü	· '		"	10	'''	Type	If			
											of Control				
												Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.Ś. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Croup Hamo	0000	Hambon	TROOP	Oliv	international)	OI 7 tilliated	11011	Linky	Massachusetts Mutual Life Insurance	Guioi)	lago	Zmity(100)/1 croom(c)	(1/14)	+
0000							Infinity SCD Ltd	GBR	NIA	Company	Ownership	4.200			
							IIIIIIIty 300 Ltd	Dn	NI A	Massachusetts Mutual Life Insurance	. Owner Strip	4.200			
0000			20-4819358				Johnston Groves LLC	DE	NIA	Company	Ownership	57.200	MMLIC		
			20-40 19330				Johnston Groves LLC	VE	NI A	Massachusetts Mutual Life Insurance	Ownership		MMLIC		
0000			81-5360103				Landmant Manchard on Haldings II O	DE	NIA		0	100.000	MMLIC		
0000			8 1-5360 103				Landmark Manchester Holdings LLC	UE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			04 0074000				MILOL II OCC. 110	DE			0 1:	00 400	188 10		
0000			81-2871333				MM Chatham Office LLC	DE	NI A	Company	Ownership	83.400	MMLIC		
										Massachusetts Mutual Life Insurance		40.000			
0000			81-2871333				MM Chatham Office LLC	DE	NI A	Company	Ownership	16.600	MMLIC		
0000		1		1			Salomon Brothers Commercial Mortgage Trust	D=		D . D . E			100		
0000							2001-MM	DE	NI A	Barings Real Estate Advisers LLC	Influence	 	MMLIC		
l		1		1						Massachusetts Mutual Life Insurance			l		
0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NI A	Company	Ownership	84.200	MMLIC		
0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NI A	C.M. Life Insurance Company	Ownership	15.800	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-5491311				Seattle 1415 Hotel Owner LLC	DE	NI A	Company	. Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Ten Fan Pier Boulevard LLC	DE	NI A	Company	. Ownership	90.000			
0000							Ten Fan Pier Boulevard LLC	DE	NI A	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			81-5273574				Three PW Office Holding LLC	DE	NI A	Company	Ownership	95.000	MMLIC		
							_			Massachusetts Mutual Life Insurance	•				
0000			35-2484550				Twenty Two Liberty LLC	MA	NI A	Company	Ownership	59.200	MMLIC		
0000			35-2484550				Twenty Two Liberty LLC	MA	NI A	C.M. Life Insurance Company	Ownership	5.900			
										Massachusetts Mutual Life İnsurance	·				
0000			45-4606547				UK LIW Manager LLC	DE	NI A	Company	Ownership	1.000			
							· · · · · · · · · · · · · · · · · · ·			Massachusetts Mutual Life Insurance					
0000			45-4606547				UK LIW Member LLC	DE	NIA	Company	Ownership	99.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NI A	Company	Ownership.	92.000			
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
		1								Massachusetts Mutual Life Insurance]		1
0000		1	20-2970495	1			Waterford Development Associates	DE	NIA	Company	Ownership	90.000	MMLIC		
		1								Massachusetts Mutual Life Insurance					1
0000		1	47-1993493	1			Waterloo London Holdings LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
		-	11 1000700				mater ree London Hordings LLO	VL		Massachusetts Mutual Life Insurance	- Common of trip	100.000			1
0000		1	46-3122029				WeHo Domain LLC	DE	NI A	Company	Ownership	77.400	MMLIC		
0000		1	46-3122029				WeHo Domain LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	12.600	MMLIC		1
		-	70-0122028				II O IO DOMATTI LLO	VE	INI M	Massachusetts Mutual Life Insurance	omici siri p	12.000			
0000		1	81-1552222	1			Willowwood Lakeside Master LLC	DE	NI A	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		
			0 1-1002222				WIITOWWOOD Lakeside Master LLC	VE	NI A		. Owner Strip	50.000	MMLIC		
		1	20-5481477	1			Venetie Velley Funding	DE	NIA	Massachusetts Mutual Life Insurance	Ownershi-	90.000	MMLIC		
			20-04814//				Ygnatio Valley Funding	VE	NI A	Company	Ownership	90.000			
0000		1	4E 0400000	1		00	Manakhitual Daviana Durania Allandia 5	114	MIA	Massachusetts Mutual Life Insurance	0	0.000	MA 10		
0000			45-3168892			UV	MassMutual Barings Dynamic Allocation Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		
0000		1	E4 0E0000C	1.	0000007070	00				Massachusetts Mutual Life Insurance		0.000	144 10		
0000			51-0529328	. (0000927972	UU	MassMutual Premier Main Street Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
		1		1			MassMutual Premier Strategic Emerging Markets	S		Massachusetts Mutual Life Insurance	<u></u>				
0000			26-3229251	. (0000927972	00	Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		
		1		1		Ĺ				Massachusetts Mutual Life Insurance					
0000			04-3277550	. (0000927972	00	MassMutual Premier Value Fund	MA	NIA	Company	Ownership	96.100	MMLIC		
		1		1			MassMutual Select Diversified International			Massachusetts Mutual Life Insurance					
0000			14-1980900	. (0000916053	0Q	Fund	MA	NI A	Company	Ownership	0.000			.1

SCHEDULE Y

				FA	ווחו	A - DE I AI	L OF INSURANC	, C I	IOLD	ING COMPAINT	SISIEIVI				
1	2	3	4	5	6	7	8	9	10	11	12 Type	13 If	14	15	16
											of Control	Control			1
											(Ownership,	is		ls an	1
						Name of Securities			Relation-		Board,	Owner-		SCA	1
						Exchange		Domi-	ship		Management,	ship		Filing	1
		NAIC				if Publicly Traded	Names of	ciliary	to	D O	Attorney-in-Fact,	Provide		Re-	1
Group	O N	Company	, ID	Federal	0114	(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	<u> </u>
0000			. 01-0821120		0000916053	00	MassMutual Select Diversified Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		1
0000			. 01-0621120			00	massmutual Select Diversified value Fulld	MA	NI A	Massachusetts Mutual Life Insurance	Owner Strip	J.000			(
0000			. 04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NI A	Company	Ownership	0.000	MMLIC		tl
										Massachusetts Mutual Life Insurance	·				1
0000			. 04-3513019		. 0000916053	00	MassMutual Select Large Cap Value Fund	MA	NI A	Company	Ownership	17.600	MMLIC		
			40 4740005							Massachusetts Mutual Life Insurance		70.100			1
0000			. 42-1710935		0000916053	0Q	MassMutual Select Mid-Cap Value Fund MassMutual Select Small Capital Value Equity	MA	NI A	Company Massachusetts Mutual Life Insurance	Ownership	79.400	MMLIC		·
0000			02-0769954		0000916053	00	Fund	MA	NI A	Company	Ownership.	0.000	MMLIC		1
			02 0700004			OQ	T ulu			Massachusetts Mutual Life Insurance	Owner Sirry.		I IIII LIO		i
0000			04-3584140		0000916053	0Q	MassMutual Select Small Company Value Fund	MA	NI A	Company	Ownership	17.700	. MMLIC		1
							, ,			Massachusetts Mutual Life Insurance	1				1
0000			46-4257056		0000067160		MML Series International Equity Fund	MA	NI A	Company	Ownership	0.000	MMLIC		l
			47 05 47000							Massachusetts Mutual Life Insurance		400 000			1
0000			47-3517233		0001317146		MML Series II Asset Momentum Fund	MA	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		·
0000			47-3529636		0001317146		MML Series II Dynamic Bond Fund	MA	NI A	Company	Ownership.	0.000	MMLIC		1
			- 47 0020000		0001017140		WINE OCTICS IT Dynamic Bona Fana			Massachusetts Mutual Life Insurance	Owner Sirip		I IIIIL 10		i
0000			47-3544629		0001317146		MML Series II Equity Rotation Fund	MA	NIA	Company	Ownership	96.400	MMLIC		L
							. ,			Massachusetts Mutual Life Insurance	·				1
0000			47-3559064		0001317146		MML Series II Special Situations Fund	MA	NI A	Company	Ownership	97.900	MMLIC		ļ
										Massachusetts Mutual Life Insurance					1
0000			46-3289207		0000916053		MassMutual RetireSMART 2055 Fund	MA	NI A	Company	Ownership	23.100	MMLIC		t
0000			47-5326235		0000916053		MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	91.500	MML1C		1
0000			. 47-3320233				wassmutuar netriesmani 2000 runu	MA		Massachusetts Mutual Life Insurance	Owner strip.	91.300	- MINICIO		1
0000			45-1618155		0000916053		MassMutual RetireSMART Conservative Fund	MA	NIA	Company	Ownership	0.000	MMLIC		tl
										Massachusetts Mutual Life Insurance	1				1
0000			45-1618222		. 0000916053		MassMutual RetireSMART Growth Fund	MA	NI A	Company	Ownership	0.000	MMLIC		·
0000			45 4040000		0000040050		W W			Massachusetts Mutual Life Insurance		0.000	IIII 10		1
0000			45-1618262		0000916053		MassMutual RetireSMART Moderate Fund	MA	NI A	Company Massachusetts Mutual Life Insurance	Ownership	0.000	MMLIC		t
0000			45-1618046		0000916053		MassMutual RetireSMART Moderate Growth Fund	MA	NIA	Company	Ownership	0.000	MMLIC		1
			10 10 100				massmataar netricomenii moderate di ontii i and .			Massachusetts Mutual Life Insurance	Owner Strip.	9.000	mile 10		í
0000			93-6305075				Oppenheimer Developing Markets Fund	DE	NIA	Company	Ownership	0.000	MMLIC		1
										Massachusetts Mutual Life Insurance					1
0000							Oppenheimer Developing Markets Equity UCITS .	IRL	NI A	Company	Ownership	32.800	MMLIC		t
0000							Oppenheimer Developing Markets Equity UCITS.	IRL	NI A	OppenheimerFunds, Inc.	Management		MMLIC		t
0000							Oppenheimer Emerging Markets Innovators UCITS	IRL	NIA	OppenheimerFunds. Inc.	Management		MMLIC		1
0000			46-2984739				Oppenheimer Emerging Markets Revenue ETF	IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		[
0000			81-3492794				Oppenheimer ESG Revenue ETF	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
0000							Oppenheimer Global Equity UCITS	IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
0000			81-3480754				Oppenheimer Global ESG Revenue ETF	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
0000			47-3676235				Oppenheimer Global Multi-Asset Growth Fund	DE	NI A	OppenheimerFunds, Inc.	Management		- MMLIC		·
0000			47-1714929				Oppenheimer Global Multi-Asset Income Fund	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
0000			81–5010075				Oppenheimer Global Revenue ETF	DE	NI A NI A	OppenheimerFunds, Inc	Management		MMLIC		
0000							Oppenheimer International Growth & Income	11111111111111111111111111111111111	INI PC	opportionien unus, mo.	manayonont		. mmL10		
0000			81-3136071				Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC		l
0000			81-4969331				Oppenheimer International Revenue ETF	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		l

SCHEDULE Y

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	If			
											of Control	Control			
											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Oppenheimer Macquarie Global Infrastructure								
0000			81-1080638				Fund	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		

Asterisk	Explanation Explanation
1 Massachusetts Mutual Life	Insurance Company owns .26% of the affiliated debt of Jefferies Finance LLC
2 Debt investors own 8.3% ar	nd 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 8.6% ar	nd includes only Babson Capital Loan Strategies Fund, L.P.
5 Debt investors own 6.9% ar	nd includes only Great Lakes III, L.P.
6 Debt investors own 8.9% ar	nd includes only Great Lakes III, L.P.
7 Debt investors own 6.9% ar	nd includes only Great Lakes III, L.P.
8 Debt investors own 3.6% ar	nd 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.

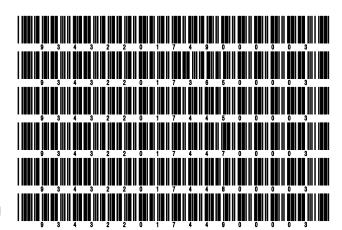
		Response
1.	Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO
2.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3.	Will the Reasonableness of Assumptions Certification required 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?	YES
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. This line of business is not written by the Company.
- 3. 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]
- Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]
- 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]
- 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 Liabilities Line 25

	at White the for Elabilities Eine Es		
		1	2
		Current	December 31
		Statement Date	Prior Year
2504.	Funds awaiting escheat and other miscellaneous	3,383,693	2,550,177
2597.	Summary of remaining write-ins for Line 25 from overflow page	3,383,693	2,550,177

SCHEDULE A - VERIFICATION

Real Estate

		1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book/adjusted carrying value, December 31 of prior year		
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition		
	2.2 Additional investment made after acquisition		
3.	Current year change in encumbrances		
4.	Total gain (loss) on disposals		
5.	Deduct amounts received on disposals		
6.	Total foreign exchange change in book/adjusted yilk ya		
7.	Deduct current year's other than temporary impair ent recommendation zed		
8.	Deduct current year's depreciation		
9.	Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)		
10.	Deduct total nonadmitted amounts		
11.	Statement value at end of current period (Line 9 minus Line 10)		

SCHEDULE B - VERIFICATION

Mortgage Loans

	Mortgage Loans	1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	966,906,414	985,850,414
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	80,679,050	113,485,456
	2.1 Actual cost at time of acquisition 2.2 Additional investment made after acquisition	4,683,132	9,840,626
3.	Capitalized deferred interest and other	_[949,938	943,848
4.	Accrual of discount	149,075	163,368
5.	Unrealized valuation increase (decrease)		
6.	Total gain (loss) on disposals	(825,820)	(333,041)
7.	Deduct amounts received on disposals	98,364,213	134,699,663
8.	Deduct amortization of premium and mortgage interest points and commitment fees	287,915	371,826
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest	6,449,651	(6,645,575)
10.	Deduct current year's other than temporary impairment recognized		1,327,193
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	960,339,312	966,906,414
12.	Total valuation allowance		(250,000)
13.	Subtotal (Line 11 plus Line 12)	960,339,312	966,656,414
14.	Deduct total nonadmitted amounts		
15.	Statement value at end of current period (Line 13 minus Line 14)	960,339,312	966,656,414

SCHEDULE BA - VERIFICATION

Other Long-Term Invested Assets

	· ·	1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book/adjusted carrying value, December 31 of prior year	201,480,523	234,145,696
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	7,544,344	4,827,054
	2.2 Additional investment made after acquisition	18,084,967	34,110,758
3.	Capitalized deferred interest and other		
4.	Accrual of discount		
5.	Unrealized valuation increase (decrease)	27,976,478	9,488,856
6.	Total gain (loss) on disposals	(1,087,062)	(520, 100)
7.	Deduct amounts received on disposals	73,839,741	80,096,623
8.	Deduct amortization of premium and depreciation	7,560	9,911
9.	Total foreign exchange change in book/adjusted carrying value	1,720,276	(465,207)
10.	Deduct current year's other than temporary impairment recognized	354,698	
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	181,517,527	201,480,523
12.	Deduct total nonadmitted amounts	159,803	1,092,438
13.	Statement value at end of current period (Line 11 minus Line 12)	181,357,724	

SCHEDULE D - VERIFICATION

Bonds and Stocks

		1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book/adjusted carrying value of bonds and stocks, December 31 of prior year	4,414,366,679	4,470,816,857
2.	Cost of bonds and stocks acquired	926,976,770	820,379,361
3.	Accrual of discount	6, 120, 109	11,719,920
4.	Unrealized valuation increase (decrease)		58,754,679
5.	Total gain (loss) on disposals		
6.	Deduct consideration for bonds and stocks disposed of		
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	1,304,991	6,693,817
10.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)		
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	4,571,566,991	4,414,366,679

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

During to	1	2	3	4	5	6	7	8
	Book/Adjusted	A	D: :::	N T P A P 1	Book/Adjusted	Book/Adjusted	Book/Adjusted	Book/Adjusted
	Carrying Value Beginning	Acquisitions During	Dispositions During	Non-Trading Activity During	Carrying Value End of	Carrying Value End of	Carrying Value End of	Carrying Value December 31
NAIC Designation	of Current Quarter	Current Quarter	Current Quarter	Current Quarter	First Quarter	Second Quarter	Third Quarter	Prior Year
BONDS								
BONDO								
	4 704 005 005	400 077 007	04 070 440	050 004 044	4 004 005 000	4 704 005 005	0 000 404 444	0 000 000 000
1. NAIC 1 (a)	1,721,995,005	102,277,237	81,672,142	350,894,314	1,984,685,293	1,721,995,005	2,093,494,414	2,089,666,290
2. NAIC 2 (a)	2,125,988,741	860,078,463	1,036,850,586	(328,525,849)	1,835,871,308	2,125,988,741	1,620,690,769	1,622,094,328
3. NAIC 3 (a)	228,242,917	11,831,499	13,146,357	258,892	224,750,194	228,242,917	227, 186, 951	224,266,261
4. NAIC 4 (a)	225,846,149	56,808,507	15,226,377	(19,288,132)	197,806,855	225,846,149	248, 140, 147	191, 196, 352
5. NAIC 5 (a)	76,522,557	3,918,643	10,097,555	1,538,962	75,049,843	76,522,557	71,882,607	75,932,484
6. NAIC 6 (a)	18,805,010	3,572,091	10,787,813	9,350,765	20,462,531	18,805,010	20,940,053	23,535,069
7. Total Bonds	4,397,400,379	1,038,486,440	1,167,780,830	14,228,952	4,338,626,024	4,397,400,379	4,282,334,941	4,226,690,784
PREFERRED STOCK								
PREFERRED STOCK								
8. NAIC 1	4,200,000				4,200,000	4,200,000	4,200,000	4,200,000
9. NAIC 2	8,682,584	587 , 169			8,682,584	8,682,584	9,269,753	8,513,029
10. NAIC 3	8,936,623	225,000	4,630	635,705	7,916,202	8,936,623	9,792,698	8,300,119
11. NAIC 4	1,373,921		500,000	(225,593)	2, 103,836	1,373,921	648,328	1,751,966
12. NAIC 5	2,640,265			(498, 166)	2,633,549	2,640,265	2,142,099	2,623,367
13. NAIC 6	56,975			3,777	57,075	56,975	60,752	60,565
14. Total Preferred Stock	25,890,368	812,169	504,630	(84,277)	25,593,246	25,890,368	26,113,630	25,449,046
15. Total Bonds and Preferred Stock	4,423,290,747	1,039,298,609	1,168,285,460	14,144,675	4,364,219,270	4,423,290,747	4,308,448,571	4,252,139,830

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

SCHEDULE DA - PART 1

	S	hort-Term Investments			
	1	2	3	4	5 Paid for
	Book/Adjus Canng Va	sted P alue	ost	Interest Collected Year-to-Date	Accrued Interest Year-to-Date
9199999 Totals		A			

SCHEDULE DA - VERIFICATION

Short-Term Investments

		1	2
		Year To Date	Prior Year Ended December 31
1.	Book/adjusted carrying value, December 31 of prior year	17,482,743	
2.	Cost of short-term investments acquired	17, 154,863	44,306,772
3.	Accrual of discount	109,828	172,324
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	344	1, 171
6.	Deduct consideration received on disposals	34,747,778	26,997,524
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)		17,482,743
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)		17,482,743

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)	7,742,517
2.	Cost Paid/(Consideration Received) on additions	69,139
3.	Unrealized Valuation increase/(decrease)	(44,943,726)
4.	Total gain (loss) on termination recognized	(6,771,428)
5.	Considerations received/(paid) on terminations	(3,435,576)
6.	Amortization	
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)	(40,467,922)
10.	Deduct nonadmitted assets	
11.	Statement value at end of current period (Line 9 minus Line 10)	(40,467,922)

	SCHEDULE DB - PAR Futures Co		RIFICATIO	N	
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 - C	Cumulative Cash Chan	ige 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	(10,223,865)			
	3.14 Section 1, Column 18, prior year	(5,999,031)	(4,224,834)	(4,224,834)	
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	(10,223,865)			
	3.24 Section 1, Column 19, prior year	(5,999,031)	(4,224,834)	(4,224,834)	
3.3	Subtotal (Line 3.1 minus Line 3.2)				
4.1	Cumulative variation margin on terminated contracts during the year		32,969,507		
4.2	Less:				
	4.21 Amount used to adjust basis of hedged item				
	4.22 Amount recognized	38,968,538	38,968,538		
4.3	Subtotal (Line 4.1 minus Line 4.2)				(5,999,031)
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				5,999,031
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)				

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open **NONE**

Schedule DB-Part C-Section 2-Reconciliation of Replication (Synthetic Asset) Transactions Open ${f N} \ {f O} \ {f N} \ {f E}$

SCHEDULE DB - VERIFICATION

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

		Book/Adjusted Carrying '	/alue Check
1.	Part A, Section 1, Column 14.	(40,467,922)	
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance		
3.	Total (Line 1 plus Line 2)		(40,467,922)
4.	Part D, Section 1, Column 5	459, 144,896	
5.	Part D, Section 1, Column 6	(499,612,818)	
6.	Total (Line 3 minus Line 4 minus Line 5)		
		Fair Value Che	ck
7.	Part A, Section 1, Column 16	(40,467,922)	
8.	Part B, Section 1, Column 13		
9.	Total (Line 7 plus Line 8)		(40,467,922)
10.	Part D, Section 1, Column 8	459,144,896	
11.	Part D, Section 1, Column 9	(499,612,818)	
12	Total (Line 9 minus Line 10 minus Line 11)		
		Potential Exposure	Check
13.	Part A, Section 1, Column 21	201,795,714	
14.	Part B, Section 1, Column 20	13,781,750	
15.	Part D, Section 1, Column 11	215,577,464	
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	131,990,044	290,288,161
2.	Cost of cash equivalents acquired	4,669,377,124	6,008,682,102
3.	Accrual of discount	2,006,306	1,828,052
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	2,305	5,352
6.	Deduct consideration received on disposals	4,752,539,573	6,168,813,623
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)	50,836,206	131,990,044
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	50,836,206	131,990,044