QUARTERLY STATEMENT

OF THE

C.M. Life Insurance Company

TO THE

Insurance Department

OF THE

STATE OF

FOR THE QUARTER ENDED SEPTEMBER 30, 2016

LIFE AND ACCIDENT AND HEALTH

2016



LIFE AND ACCIDENT AND HEALTH COMPANIES - ASSOCIATION EDITION

QUARTERLY STATEMENT

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

NAIC Group Code 0435 0435 NAIC Company Code 93432 Employer's ID Number 06-1041383

Organized under the Laws o		(Prior) ecticut ,	State of Domicile or Port of E	Entry Connecticut
Country of Domicile		United States o	f America	
Incorporated/Organized	04/25/1980		Commenced Business	05/12/1981
Statutory Home Office	100 Bright Meadov	v Boulevard ,		Enfield , CT, US 06082
	(Street and N	umber)	(City or	Town, State, Country and Zip Code)
Main Administrative Office		1295 State		
	Springfield , MA, US 01111	(Street and N	,	413-788-8411
(City o	or Town, State, Country and Zip (Code)		rea Code) (Telephone Number)
Mail Address	1295 State Stree	•		Springfield , MA, US 01111
Iviali Address	(Street and Number or P		(City or	Town, State, Country and Zip Code)
Drimany Lagation of Backs a	nd Dogarda	1205 State	Stroot	
Primary Location of Books a	na Records	1295 State (Street and N		
	Springfield , MA, US 01111		,	413-788-8411
(City o	or Town, State, Country and Zip (Code)	(A	rea Code) (Telephone Number)
Internet Website Address		www.massmu	itual.com	
Statutory Statement Contact	Tommy	A. Peatman		412 744 6227
Statutory Statement Contact	ranning	(Name)	,	413-744-6327 (Area Code) (Telephone Number)
	tpeatman@massmutual.com			413-226-4086
	(E-mail Address)			(FAX Number)
		OFFICE	RS	
President and Chief				
Executive Officer	Roger William Pia Denise I		Treasurer Appointed Actuary	Todd Garett Picken Douglas Wright Taylor
,		OTHE		
F" " W 1011	" 01: 75: 110"	Mark Douglas Roellig, Exec	utive Vice President and	
	es #, Chief Financial Officer t, Executive Vice President	General C	ounsel	Michael Robert Fanning, Executive Vice President
	, =		_	
Roger William (Crandall - Chairman	DIRECTORS OR Michael Robe		Elizabeth Ward Chicares #
	uglas Roellig		g	Z.I.Zabotii Vi did Oillodioo II
State of	Massachusetts	SS:		
County of	Hampden			
all of the herein described a statement, together with rela condition and affairs of the s in accordance with the NAIC rules or regulations require respectively. Furthermore, t	issets were the absolute properted exhibits, schedules and explaid reporting entity as of the report. Annual Statement Instructions differences in reporting not rehe scope of this attestation by the	y of the said reporting entity, fanations therein contained, and triting period stated above, and and Accounting Practices and lated to accounting practices are described officers also include	ree and clear from any liens exed or referred to, is a full a of its income and deductions Procedures manual except to and procedures, according des the related correspondin	orting entity, and that on the reporting period stated above, or claims thereon, except as herein stated, and that this nd true statement of all the assets and liabilities and of the therefrom for the period ended, and have been completed to the extent that: (1) state law may differ; or, (2) that state to the best of their information, knowledge and belief, g electronic filing with the NAIC, when required, that is an be requested by various regulators in lieu of or in addition
Roger William President and Chief E		Pia Denise F Secreta	_	Todd Garett Picken Treasurer
Subscribed and sworn to bef			a. Is this an original filing b. If no, 1. State the amendm 2. Date filed	ent number

ASSETS

			4		
		1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	December 31 Prior Year Net Admitted Assets
1.	Bonds	4,370,728,711		4,370,728,711	4,200,759,587
2.	Stocks:				
	2.1 Preferred stocks	30,346,390		30,346,390	29,785,890
	2.2 Common stocks	267,658,960		267,658,960	240,271,380
3.	Mortgage loans on real estate:				
	3.1 First liens	1,001,559,421		1,001,559,421	985,850,414
	3.2 Other than first liens				
4.	Real estate:				
	4.1 Properties occupied by the company (less \$encumbrances)				
	4.2 Properties held for the production of income (less sense necumbrances)				
	4.3 Properties held for sale (less \$				
	encumbrances)				
-	Cash (\$25,945,748), cash equivalents				
5.					
	(\$239,465,289) and short-term	000 000 055		000 000 055	040 000 040
	investments (\$			280,382,855	
6.	Contract loans (including \$ premium notes)		6,831		153,507,054
7.	Derivatives			1,033,527,519	
8.	Other invested assets			206,458,645	
9.	Receivables for securities			303,616,284	
10.	Securities lending reinvested collateral assets				
11.	Aggregate write-ins for invested assets			7.045.007.004	
12.	Subtotals, cash and invested assets (Lines 1 to 11)		1,530,620	/,645,987,981	6,902,520,3/1
13.	Title plants less \$ charged off (for Title insurers				
	only)				
14.	Investment income due and accrued	92,939,158	172,455	92,766,703	100,365,325
15.					
	15.1 Uncollected premiums and agents' balances in the course of collection	131 , 122	4,548	126,574	362,655
	15.2 Deferred premiums, agents' balances and installments booked but				
	deferred and not yet due (including \$				
	earned but unbilled premiums)	(16,729,916)		(16,729,916)	(24,603,077)
	15.3 Accrued retrospective premiums (\$				
	contracts subject to redetermination (\$)				
16.	Reinsurance:				
	16.1 Amounts recoverable from reinsurers			28,259,483	34,440,633
	16.2 Funds held by or deposited with reinsured companies				
	16.3 Other amounts receivable under reinsurance contracts	5, 140, 266		5,140,266	5,890,811
17.	Amounts receivable relating to uninsured plans				
	Current federal and foreign income tax recoverable and interest thereon				
18.2	Net deferred tax asset	81,544,172	38,082,879	43,461,293	38,660,258
19.	Guaranty funds receivable or on deposit	1,003,325		1,003,325	1,091,153
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	281,027		281,027	580 , 168
24.	Health care (\$) and other amounts receivable				
25.	Aggregate write-ins for other than invested assets			497,653	65,960
26.	Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	7,841,633,072	39,811,261	7,801,821,811	7,059,374,257
27.	From Separate Accounts, Segregated Accounts and Protected Cell	1 700 045 007		1,729,815,927	1 740 770 004
00	Accounts				
28.	Total (Lines 26 and 27)	9,571,448,999	39,811,261	9,531,637,738	8,803,148,061
	DETAILS OF WRITE-INS				
1101.					
1102.					
1103.					
1198.	Summary of remaining write-ins for Line 11 from overflow page				
1199.	Totals (Lines 1101 through 1103 plus 1198)(Line 11 above)				
2501.	Miscellaneous	500,597		497,653	65,960
2502.	· · · · · · · · · · · · · · · · · · ·				
	Cash advanced to agents	17,815	17,815		
2503.		17,815	17,815		
2503. 2598.					

LIABILITIES, SURPLUS AND OTHER FUNDS

		1	2
		Current	December 31
		Statement Date	Prior Year
1.	Aggregate reserve for life contracts \$4,413,600,945 less \$		
	(including \$ Modco Reserve)		
	Aggregate reserve for accident and health contracts (including \$		
	Liability for deposit-type contracts (including \$ Modco Reserve)	72,354,657	66,349,658
4.	Contract claims:	7 047 000	00 740 474
	4.1 Life		
_	4.2 Accident and health		
	Policyholders' dividends \$		
6.	Provision for policyholders' dividends and coupons payable in following calendar year - estimated amounts:		
	6.1 Dividends apportioned for payment (including \$ Modco)		
	6.2 Dividends not yet apportioned (including \$ Modco)		
	6.3 Coupons and similar benefits (including \$ Modco)		
7.	Amount provisionally held for deferred dividend policies not included in Line 6		
8.	Premiums and annuity considerations for life and accident and health contracts received in advance less		
	\$ discount; including \$ accident and health premiums	28,237	9,542
9.	Contract liabilities not included elsewhere:		
	9.1 Surrender values on canceled contracts		
	9.2 Provision for experience rating refunds, including the liability of \$ accident and health		
	experience rating refunds of which \$ is for medical loss ratio rebate per the Public Health		
	Service Act		
	9.3 Other amounts payable on reinsurance, including \$ assumed and \$		
	ceded		
	9.4 Interest Maintenance Reserve	124,947,924	60,631,226
10.	Commissions to agents due or accrued-life and annuity contracts \$, accident and health		
	\$ and deposit-type contract funds \$		
11.	Commissions and expense allowances payable on reinsurance assumed		
12.	General expenses due or accrued	(21,551)	99
13.	Transfers to Separate Accounts due or accrued (net) (including \$(6, 165, 739) accrued for expense		
	allowances recognized in reserves, net of reinsured allowances)	(6, 183, 141)	(6,378,270)
14.	Taxes, licenses and fees due or accrued, excluding federal income taxes	999,606	1,666,603
15.1	Current federal and foreign income taxes, including \$ on realized capital gains (losses)		1,680,003
15.2	Net deferred tax liability		
16.	Unearned investment income		
17.	Amounts withheld or retained by company as agent or trustee	308,500	465,759
18.	Amounts held for agents' account, including \$ agents' credit balances		
19.	Remittances and items not allocated	25,356,503	16,789,216
20.	Net adjustment in assets and liabilities due to foreign exchange rates	9	677
21.	Liability for benefits for employees and agents if not included above		
22.	Borrowed money \$ and interest thereon \$		
23.	Dividends to stockholders declared and unpaid		
24.	Miscellaneous liabilities:		
	24.01 Asset valuation reserve	80,307,667	76,695,723
	24.02 Reinsurance in unauthorized and certified (\$		
	24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
	24.04 Payable to parent, subsidiaries and affiliates	21,197,050	12,964,316
	24.05 Drafts outstanding		
	24.06 Liability for amounts held under uninsured plans		
	24.07 Funds held under coinsurance		
	24.08 Derivatives	920,925,570	513,806,513
	24.09 Payable for securities		
	24.10 Payable for securities lending		
	24.11 Capital notes \$ and interest thereon \$		
25.	Aggregate write-ins for liabilities	599,348,925	456,076,187
26.	Total liabilities excluding Separate Accounts business (Lines 1 to 25)	6,261,118,763	5,663,382,361
27.	From Separate Accounts Statement	1.729.815.927	1,743,773,804
28.	Total liabilities (Lines 26 and 27)	7,990,934,690	7,407,156,165
29.	Common capital stock		2,500,000
30.	Preferred capital stock		
31.	Aggregate write-ins for other than special surplus funds		
32.	Surplus notes		
33.	Gross paid in and contributed surplus		
34.	Aggregate write-ins for special surplus funds		
35.	Unassigned funds (surplus)		
I	Less treasury stock, at cost:	,,,,,,,,	
33.	36.1shares common (value included in Line 29 \$		
	36.2 shares preferred (value included in Line 30 \$		
37.	Surplus (Total Lines 31+32+33+34+35-36) (including \$		1,393,491,896
38.	Totals of Lines 29, 30 and 37	1,540,703,048	1,395,991,896
39.	Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	9,531,637,738	8,803,148,061
00.	DETAILS OF WRITE-INS	3,001,001,100	5,500,170,001
2501.	Derivative collateral	25/ 501 521	123,407,731
2501.	Repurchase agreements		240,061,261
	Derivatives		90,476,218
2503.			2,130,977
2598.	Summary of remaining write-ins for Line 25 from overflow page	599,348,925	
2599.	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	· · · · · · · · · · · · · · · · · · ·	456,076,187
I			
3102.			
3103.			
3198.	Summary of remaining write-ins for Line 31 from overflow page		
3199.	Totals (Lines 3101 through 3103 plus 3198)(Line 31 above)		
3401.			
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
	Premiums and annuity considerations for life and accident and health contracts		228,895,107	295,074,858
2. 3.	Considerations for supplementary contracts with life contingencies		769,622 228,907,781	963,210 319,424,215
	Net investment income			16.889.854
5.	Separate Accounts net gain from operations excluding unrealized gains or losses		10,020,020	10,000,001
	Commissions and expense allowances on reinsurance ceded	14,345,863	14,560,566	19,219,798
7.	Reserve adjustments on reinsurance ceded	,,,,,,		
8.	Miscellaneous Income:			
	8.1 Income from fees associated with investment management, administration and contract			
	guarantees from Separate Accounts.		30,826,911	40,646,903
	8.2 Charges and fees for deposit-type contracts			
	8.3 Aggregate write-ins for miscellaneous income		1,796,051	2,255,559
	Totals (Lines 1 to 8.3)	510,716,216	518,784,561	694,474,397
	Death benefits		90, 167, 559	125 , 126 , 832
11.	Matured endowments (excluding guaranteed annual pure endowments)			150,071
12.	Annuity benefits		81, 154, 189	105,113,608
13.	Disability benefits and benefits under accident and health contracts		351,890	472,645
14. 15.	Coupons, guaranteed annual pure endowments and similar benefits			432,793,229
16.	Group conversions			,
17.	Interest and adjustments on contract or deposit-type contract funds			3.817.967
18.	Payments on supplementary contracts with life contingencies	725 012	701,537	997,900
	Increase in aggregate reserves for life and accident and health contracts		(65, 107, 416)	(98,895,610)
20.	Totals (Lines 10 to 19)		437,789,360	569,576,642
21.	Commissions on premiums, annuity considerations, and deposit-type contract funds (direct	, ,,	, ,	,000,010,042
	business only)	51,680,525	16,247,237	22,170,398
22.	Commissions and expense allowances on reinsurance assumed			
23.	General insurance expenses	30,999,487	18,998,188	26,027,407
24.	Insurance taxes, licenses and fees, excluding federal income taxes	6,803,087	7,481,893	9,374,106
25.	Increase in loading on deferred and uncollected premiums	5,200,444	232,820	3,274,342
26.	Net transfers to or (from) Separate Accounts net of reinsurance	(72,956,334)	(77, 245, 355)	(98,962,978)
27.	Aggregate write-ins for deductions	302,497	2,650,013	2,720,006
28.	Totals (Lines 20 to 27)	428,211,631	406, 154, 156	534,179,923
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus			
	Line 28)	82,504,585	112,630,405	160,294,474
30.	Dividends to policyholders			
31.	Net gain from operations after dividends to policyholders and before federal income taxes (Line 29	00 504 505	110 000 105	100 004 474
00	minus Line 30)	82,504,585 19,311,388	112,630,405 29,092,499	160,294,474
32.	Federal and foreign income taxes incurred (excluding tax on capital gains)	19,311,300	29,092,499	37,987,077
33.	Net gain from operations after dividends to policyholders and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	63 193 197	83,537,906	122,307,397
34.	Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital		90,001,000	122,001,001
0	gains tax of \$			
	transferred to the IMR)	(6,092,544)	(243,456)	(4,760,985)
35.	Net income (Line 33 plus Line 34)	57,100,653	83,294,450	117.546.412
	CAPITAL AND SURPLUS ACCOUNT	, , , , , , ,	-, -, -	, ,
36.	Capital and surplus, December 31, prior year	1,395,991,896	1,304,753,908	1,304,753,908
37.	Net income (Line 35)	57,100,653	83,294,450	117.546.412
	· · · · · · · · · · · · · · · · · · ·	68,076,417		6,693,361
39.	Change in net unrealized foreign exchange capital gain (loss)			
40.	Change in net deferred income tax	(26,323,597)	15,801,404	17,976,348
41.	Change in nonadmitted assets	63,226,484	(10,357,475)	(35,045,239)
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	(3,611,944)	(4,000,586)	2,280,661
45.	Change in treasury stock			
46.	Surplus (contributed to) withdrawn from Separate Accounts during period			
47.	Other changes in surplus in Separate Accounts Statement			
48.	Change in surplus notes			
49.	Cumulative effect of changes in accounting principles			
50.	Capital changes:			
1	50.1 Paid in			
1				
	50.3 Transferred to surplus	 		
51.	Surplus adjustment:			
	51.1 Paid in			
1	51.2 Transferred to capital (Stock Dividend)			
	51.3 Transferred from capital			
52.	51.4 Change in surplus as a result of reinsurance			
	Dividends to stockholders		(2,292,235)	(5,110,562)
	Net change in capital and surplus for the year (Lines 37 through 53)	144,711,152	97,528,890	91,237,988
55.	Capital and surplus, as of statement date (Lines 36 + 54)	1,540,703,048	1,402,282,798	1,395,991,896
55.	DETAILS OF WRITE-INS	1,070,100,040	1,702,202,130	1,000,001,000
08 301	Administrative fee and other income	1 648 432	1 796 051	2,255,559
	Administrative ree and other income	· · · · · · · · · · · · · · · · · · ·	1,790,001	
	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)	1,648,432	1,796,051	2,255,559
		, ,	2,650,013	2,720,006
	milooot unload sharges to operations			
	Summary of remaining write-ins for Line 27 from overflow page			
	Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	302,497	2,650,013	2,720,006
	Other changes in surplus	(4,035,604)	(2,292,235)	(5,110,562)
5302.	· · · · · · · · · · · · · · · · · · ·			
	Summary of remaining write-ins for Line 53 from overflow page			
5399.	Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	(4,035,604)	(2,292,235)	(5,110,562)

	CASH FLOW	1	2	3
		Current Year To Date	Prior Year To Date	Prior Year Ended December 31
	Cash from Operations			
1. Pro	remiums collected net of reinsurance	216,793,173	219,867,469	288,474,76
2. Ne	et investment income	237,263,910	235,846,261	318,233,64
3. Mi	iscellaneous income	40,119,567	45,825,440	60,044,19
4. To	otal (Lines 1 to 3)	494,176,650	501,539,170	666,752,59
5. Be	enefit and loss related payments	437,067,854	488,577,131	670,578,75
6. Ne	et transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(73, 151, 463)	(78,092,650)	(100,382,26
7. Cc	ommissions, expenses paid and aggregate write-ins for deductions	66,419,305	53,586,690	57,849,18
8. Div	vidends paid to policyholders			
9. Fe	ederal and foreign income taxes paid (recovered) net of \$			
g	gains (losses)	25,919,274	57,191,533	63,857,80
10. To	otal (Lines 5 through 9)	456,254,970	521,262,704	691,903,4
11. Ne	et cash from operations (Line 4 minus Line 10)	37,921,680	(19,723,534)	(25, 150, 8
	Cash from Investments			
	roceeds from investments sold, matured or repaid:			
12	2.1 Bonds		557,069,956	
12		, ,	1,709,134	
12	2.3 Mortgage loans	85,747,545	99,802,017	163,526,7
			25,454,652	25 , 454 , 6
	2.5 Other invested assets		23, 194, 696	52,247,0
12	2.6 Net gains or (losses) on cash, cash equivalents and short-term investments		196,204	228,9
	2.7 Miscellaneous proceeds	(11,799,761)	(57,923,599)	(9,445,5
12	2.8 Total investment proceeds (Lines 12.1 to 12.7)	636,019,364	649,503,060	945 , 142 , 5
13. Co	ost of investments acquired (long-term only):			
13	3.1 Bonds	699,875,291	510,152,368	611,171,7
13	3.2 Stocks	9,081,108	3,111,526	3,107,9
13	3.3 Mortgage loans	107,595,067	140,085,110	210,039,0
13	3.4 Real estate			
13	3.5 Other invested assets	27,005,423	47,318,506	67,297,2
13	3.6 Miscellaneous applications	2,785,452	3,647,221	3,222,4
13	3.7 Total investments acquired (Lines 13.1 to 13.6)	846,342,341	704,314,731	894,838,42
14. Ne	et increase (or decrease) in contract loans and premium notes	(1,797,859)	6,796,857	6,653,29
15. Ne	et cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(208,525,118)	(61,608,528)	43,650,8
	Cash from Financing and Miscellaneous Sources			
16. Ca	ash provided (applied):			
16	5.1 Surplus notes, capital notes			
16	6.2 Capital and paid in surplus, less treasury stock			
	5.3 Borrowed funds			
16	6.4 Net deposits on deposit-type contracts and other insurance liabilities	5,230,020	6,823,338	8,817,6
16	6.5 Dividends to stockholders			
16	6.6 Other cash provided (applied)	131,863,655	117,738,217	81,453,6
	et cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 clus Line 16.6)	137,093,675	124,561,555	90,271,2
	RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS			
18. Ne	et change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(33,509,763)	43,229,493	108,771,2
19. Ca	ash, cash equivalents and short-term investments:			
	0.1 Beginning of year	313,892,618	205, 121,412	205, 121,4
19	9.2 End of period (Line 18 plus Line 19.1)	280,382,855	248,350,905	313,892,6
	lemental disclosures of cash flow information for non-cash transactions:	10.007.700		
			1,926,012	12,318,8
0.0003.	Mortgage loans to partnerships	1,357,792		
	Other invested assets to bonds	340,353	4,067	3,6
0.0006.	Net investment income payment in-kind bonds	320,607	162 , 114 275 , 249	225,8
	Dividend reinvestment	134,636 99,332	213,249	

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

-	Note: Supplemental disclosures of cash now information for non-cash transactions.			
1	20.0010. Stock conversions	22.500	465,562	465.562
		, .	, ,	

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

	DIRECT PREMIUMS AND DEPOSIT-TYPE CO	INTRACTS	2	3
		Current Year To Date	Prior Year To Date	Prior Year Ended December 31
1.	Industrial life			
2.	Ordinary life insurance	170,041,486	162,602,944	225,377,938
3.	Ordinary individual annuities	171,333,366	181,734,563	232,445,182
4.	Credit life (group and individual)			
5.	Group life insurance	12,778	(19,723)	658,951
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	341,387,630	344,317,784	458,482,071
12.	Deposit-type contracts			
13.	Total	341,387,630	344,317,784	458,482,071
	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

a. 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:

	State of			
	Domicile	2016		2015
NET INCOME				·
(1) State basis (Page 4, Line 35, Columns 1 & 3)	CT	\$ 57,100,653	\$	117,546,412
(2) State prescribed practices that increase (decrease) NAIC SAP	-	-		=
(3) State permitted practices that increase (decrease) NAIC SAP	-	-		-
(4) NAIC SAP (1-2-3=4)	CT	\$ 57,100,653	\$	117,546,412
SURPLUS				
(5) State basis (Page 3, Line 38, Columns 1 & 2)	CT	\$ 1,540,703,048	\$	1,395,991,896
(6) State prescribed practices that increase (decrease) NAIC SAP	-	-		-
(7) State permitted practices that increase (decrease) NAIC SAP	-	 -		<u>-</u>
(8) NAIC SAP (5-6-7=8)	CT	\$ 1,540,703,048	\$	1,395,991,896
			_	

- Use of estimates in the preparation of the financial statements No change
- c. Accounting policy:
 - (1-5) No change
 - (6) For fixed income securities that do not have a fixed schedule of payments, such as asset-backed securities, mortgage-backed securities, including residential mortgage-backed securities and commercial mortgage-backed securities, and structured securities, including collateralized debt obligations, amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies for each type of security.

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

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

(7-14) No change

d. Going concern - No change

Note 2 – Accounting Changes and Corrections of Errors

a. For the nine months ended September 30, 2016, corrections of prior year errors were recorded in shareholders' equity, net of tax:

	Increase (Decrease) to:				Correction			
	Prior			Current		of Asset		
Years			Year	or Liability				
	Net Income			Surplus		Balances		
	\$	(1,862,209)	\$	(1,862,209)	\$	1,862,209		

Federal income tax receivable

For the nine months ended September 30, 2015, the Company did not record any corrections of prior year errors.

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

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

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

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

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

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

Note 3 - Business Combinations and Goodwill - 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:

			(1)		(2)			(3)
			Amortized	OTTI Recognized				
			Cost Basis	K	in Los			
		ł	Before	(2a)		2b)		Fair Value
			OTTI	Interest	,	on-interest		1-(2a+2b)
		L	OTT	interest	INC	ni-interest		1-(2a12b)
ОТТ	T 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		6,298,495	-		205,853		6,092,642
C.	Total first quarter	\$	6,298,495	\$ -	\$	205,853	\$	6,092,642
		_			-			
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	_	5,054,395			98,515		4,955,880
f.	Total second quarter	\$	5,054,395	\$ -	\$	98,515	\$	4,955,880
0.77								
	Trecognized in the third quarter	•		Φ.	•		•	
g.	Intent to sell	\$	-	\$ -	\$	-	\$	-
h.	Inability or lack of intent to retain the investment in the security for a period of time sufficient to							
	recover the amortized cost basis		4,994,934			264,738		4,730,196
i.	Total third quarter	2	4,994,934	\$ -	\$	264,738	\$	4,730,196
١.	rotal tilla qualter	Ψ	7,007,007	Ψ	Ψ	204,730	Ψ	4,700,100
ОТТ	T recognized in the fourth quarter							
j.	Intent to sell	\$	_	\$ -	\$	_	\$	_
k.	Inability or lack of intent to retain the investment	·						
	in the security for a period of time sufficient to							
	recover the amortized cost basis		-	-		-		-
l.	Total fourth quarter	\$		\$ -	\$	-	\$	-
					_		_	
m.	Annual aggregate total			\$ -	\$	569,106		

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
17307GKZ0	\$ 17,903.02	\$ 17,705.13	\$ (197.89)	\$ 17,705.13	\$ 17,515.05	March 31, 2016
466247BC6	11,073.23	10,764.75	(308.48)	10,764.75	11,021.10	March 31, 2016
57643QAE5	1,132,020.12	1,126,990.80	(5,029.32)	1,126,990.80	1,113,396.93	March 31, 2016
589929N38	87,839.88	86,926.62	(913.26)	86,926.62	84,991.61	March 31, 2016
77277LAF4	2,827,410.80	2,713,282.44	(114,128.36)	2,713,282.44	3,779,630.10	March 31, 2016
77277LAH0	142,013.05	136,445.82	(5,567.23)	136,445.82	364,192.00	March 31, 2016
77277LAJ6	2,010,905.24	1,932,085.89	(78,819.35)	1,932,085.89	2,378,401.38	March 31, 2016
9292276K7	69,330.02	68,440.97	(889.05)	68,440.97	68,312.96	March 31, 2016
07384MWF5	123,355.52	122,704.49	(651.03)	122,704.49	118,305.84	June 30, 2016
589929N38	83,760.49	82,691.01	(1,069.48)	82,691.01	81,619.07	June 30, 2016
77277LAF4	2,713,282.43	2,660,794.70	(52,487.73)	2,660,794.70	3,768,141.90	June 30, 2016
77277LAH0	136,445.83	133,885.45	(2,560.38)	133,885.45	363,194.40	June 30, 2016
77277LAJ6	1,932,085.89	1,895,836.81	(36,249.08)	1,895,836.81	2,371,172.22	June 30, 2016
79549ASM2	65,465.04	59,967.80	(5,497.24)	59,967.80	61,784.84	June 30, 2016
77277LAF4	2,660,794.71	2,509,843.19	(150,951.52)	2,509,843.19	3,820,888.40	September 30, 2016
77277LAH0	133,885.45	126,521.95	(7,363.50)	126,521.95	368,278.40	September 30, 2016
77277LAJ6	1,895,836.81	1,791,586.65	(104,250.16)	1,791,586.65	2,404,363.92	September 30, 2016
86358RA23	304,417.14	302,244.33	(2,172.81)	302,244.33	289,983.01	September 30, 2016
Totals	\$ 16,347,824.67	\$ 15,778,718.80	\$ (569,105.87)	\$ 15,778,718.80	\$ 21,465,193.13	

- (4) As of September 30, 2016, the gross unrealized losses and fair values for investments in structured and loan-backed securities for which an OTTI has not been recognized in earnings follow:
 - a. The aggregate amount of unrealized losses:

 1. Less than 12 months
 \$ (3,378,927)

 2. 12 months or longer
 \$ (5,900,055)

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

 1. Less than 12 months
 \$ 70,716,782

 2. 12 months or longer
 \$ 319,346,318

- (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.
- a) Offsetting and netting of assets and liabilities The Company reports derivative and repurchase agreement assets and liabilities as gross in the financial statements without offsetting.
- k. Structured notes No change

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

Note 7 - Investment Income - No change

Note 8 - Derivative Instruments - No change

Note 9 - Income Taxes - No change

Note 10 - Information Concerning Parent, Subsidiaries and Affiliates

a-I. 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

- 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 2016 or 2015.
 - (3) No change
 - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2016 or 2015.
 - (5-7) No change
- c. Wash sales:
 - (1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days to enhance the Company's yield on its investment portfolio.
 - (2) The Company did not sell any securities with the NAIC Designation 3 or below through the third quarter ended September 30, 2016 that were reacquired within 30 days of the sale date.

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

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

Note 20 - Fair Value Measurements

- a. Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The authoritative guidance around fair value establishes a measurement framework that includes a hierarchy used to classify the inputs used in measuring fair value. The hierarchy prioritizes the inputs to valuation techniques into three levels. Each level reflects a unique description of the inputs that are significant to the fair value measurements. The levels of the fair value hierarchy are as follows:
 - Level 1 Observable inputs in the form of quoted prices for identical instruments in active markets.
 - Level 2 Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be derived from observable market data for substantially the full term of the assets or liabilities.
 - Level 3 One or more unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using internal models, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

When available, the Company generally uses unadjusted quoted market prices from independent sources to determine the fair value of investments, and classifies such items within Level 1 of the fair value hierarchy. If quoted prices are not available, prices are derived from observable market data for similar assets in an active market or obtained directly from brokers for identical assets traded

in inactive markets. Investments that are priced using these inputs are classified within Level 2 of the fair value hierarchy. When some of the necessary observable inputs are unavailable, fair value is based upon internally developed models. These models use inputs not directly observable or correlated with observable market data. Typical inputs, which are integrated in the Company's internal discounted cash flow models and discounted earnings models include, but are not limited to, issuer spreads derived from internal credit ratings and benchmark yields such as the London Interbank Offered Rate (LIBOR), cash flow estimates and earnings before interest, taxes, depreciation and amortization estimates. Investments that are priced with such unobservable inputs are classified within Level 3 of the fair value hierarchy.

The Company has established and maintains policies and guidelines that govern its valuation methodologies and their consistent application. These policies and guidelines address the use of inputs, price source hierarchies and provide controls around the valuation processes. These controls include appropriate review and analysis of prices against market activity or indicators for 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, 2016				
	Level 1	Level 2	Level 3	Total	
Financial assets:					
Bonds:					
Industrial and miscellaneous	\$ -	\$ 1,146,065	\$ 755,123	\$ 1,901,188	
Parent, subsidiaries and affiliates	-	6,194,993	5,291,085	11,486,078	
Preferred stocks	-	-	315,389	315,389	
Common stock - subsidiary and affiliate	21,431,234	-	-	21,431,234	
Common stock - unaffiliated	451,069	-	2,265,928	2,716,997	
Derivatives:					
Interest rate swaps	-	945,069,242	-	945,069,242	
Options	-	41,785,555	-	41,785,555	
Currency swaps	-	45,723,018	-	45,723,018	
Forward contracts	=	949,704	=	949,704	
Separate account assets	1,729,815,886	41	-	1,729,815,927	
Total financial assets carried					
at fair value	\$ 1,751,698,189	\$ 1,040,868,618	\$ 8,627,525	\$ 2,801,194,332	
Financial liabilities:					
Repurchase agreements					
Derivatives:					
Interest rate swaps	\$ -	\$ 917,215,470	\$ -	\$ 917,215,470	
Currency swaps	-	3,416,354	-	3,416,354	
Forward contracts	-	217,849	-	217,849	
Credit default swaps		75,897	-	75,897	
Total financial liabilities carried	•			A 000 005 570	
at fair value	\$ -	\$ 920,925,570	\$ -	\$ 920,925,570	

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

	December 31, 2015								
	Leve	el 1		Level 2		Level 3		Total	
Financial assets:									
Bonds:									
Industrial and miscellaneous	\$	-	\$	314,988	\$	173,966	\$	488,954	
Parent, subsidiaries and affiliates		-		3,227,889		4,998,577		8,226,466	
Preferred stocks	(557,200		-		270,437		927,637	
Common stock - subsidiary and affiliate	6,7	6,724,098 -			-		6,724,098		
Common stock - unaffiliated		36,723	-			2,209,554		2,246,277	
Derivatives:									
Interest rate swaps		-	4	473,619,823		-		473,619,823	
Options		-		47,485,448		-		47,485,448	
Currency swaps		-		31,504,627		-		31,504,627	
Forward contracts		-		1,679,595		-		1,679,595	
Separate account assets	1,743,7	773,762		42		-		1,743,773,804	
Total financial assets carried									
at fair value	\$ 1,751,	191,783	\$:	557,832,412	\$	7,652,534	\$	2,316,676,729	
Financial liabilities:									
Derivatives:									
Interest rate swaps	\$	-	\$!	512,772,306	\$	-	\$	512,772,306	
Currency swaps		-		244,236		-		244,236	
Forward contracts		-		663,662		-		663,662	
Credit default swaps		-		126,309	-			126,309	
Total financial liabilities carried									
at fair value	\$	-	\$:	513,806,513	\$	_	\$	513,806,513	

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

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

	Balance					(Losses)	(Losses)							Balance
	as of	Tran	sfers	(1)		Gains in	Gains in							as of
	01/01/2016	In		Out	1	Net Income	Surplus	F	urchases	Issuances	Sales	S	ettlements	09/30/2016
Financial assets:														
Bonds:														
Industrial and miscellaneous	\$ 173,966	\$ 1,069,764	\$	-	\$	-	\$ (495,618)	\$	-	\$ 6,979	\$ -	\$	32	\$ 755,123
Parent, subsidiaries and affiliates	4,998,577	14,012		-		(86,805)	278,496		217,005	7,314,203	-		(7,444,403)	5,291,085
Preferred stocks	270,437	-		(209,697)		-	(2,799)		257,448	-	-		-	315,389
Common stocks - unaffiliated	2,209,554	-				(69,722)	46,039		251,971	-	(171,914)			2,265,928
Total financial assets	\$ 7,652,534	\$ 1,083,776	\$	(209,697)	\$	(156,527)	\$ (173,882)	\$	726,424	\$ 7,321,182	\$ (171,914)	\$	(7,444,371)	\$ 8,627,525

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

	Balance as of 01/01/2015	In	Transf	ers ⁽¹⁾ Out	Gains (Losses) in Net Income	(Losses) Gains in Surplus	Purchase	·s	Issuances	Sales	Settlements	Balance as of 12/31/2015
Financial assets:												
Bonds:												
Industrial and miscellaneous	\$ 2,529,139	\$	-	\$ (652,868)	\$ (1,704,449)	\$ -	\$	-	\$ 2,145	\$ (1)	\$ -	\$ 173,966
Parent, subsidiaries and affiliates	9,092,047		-	(3,163,816)	-	(567,665)		-	-	-	(361,989)	4,998,577
Preferred stock	388,490		-	(131,575)	-	13,522		-	-	-	-	270,437
Common stock - unaffiliated	2,277,509		-	-	1,241,704	(637,429)	602,	156	-	(1,273,687)	(699)	2,209,554
Total financial assets	\$ 14,287,185	\$	-	\$ (3,948,259)	\$ (462,745)	\$ (1,191,572)	\$ 602,	156	\$ 2,145	\$ (1,273,688)	\$ (362,688)	\$ 7,652,534

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

3. The Company reviews the fair value hierarchy classifications at each reporting period. Overall, reclassifications between levels occur when there are changes in the observability of inputs and market activity used in the valuation of a financial asset or liability. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. Given the types of assets classified as Level 1 (primarily equity securities and mutual fund investments), transfers between Level 1 and Level 2 measurement categories are expected to be infrequent. Transfers into and out of Level 3 are summarized in the schedule of changes in Level 3 assets and liabilities. There are no financial assets or liabilities classified as Level 3 in 2016 and 2015.

4. Valuation Techniques and Inputs

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

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

Derivative assets and liabilities - These financial instruments are primarily valued using the market approach. The estimated fair value of derivatives is based primarily upon 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.

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

September 30, 2016 Not Practicable Admitted (Carrying Aggregate Fair Value Assets Level 1 Level 2 Level 3 Value) Financial assets: 291.130.770 \$ 271.740.105 \$ 291.130.770 \$ \$ U. S. government and agencies 1,481,668 1,432,116 1,481,668 All other governments 37.976.383 32.875.455 37,976,383 States, territories and possessions 17.522.531 15.248.459 17.522.531 Political subdivisions 147,239,829 127,158,097 2,620,210 144,619,619 Special revenue 3,667,617,958 2,163,370,014 1,757,776,835 3,921,146,849 Industrial and miscellaneous 270 430 232 254 656 521 36 738 368 233 691 864 Parent, subsidiaries and affiliates 31,333,978 30,346,390 17,608,777 13,725,201 Preferred stocks 18,923,123 21,431,234 21,431,234 Common stock - subsidiary and affiliate⁽¹⁾ 2.716.997 2.716.997 451.069 2 265 928 Common stock - unaffiliated 839,055,822 885,187,650 885,187,650 Mortgage loans - commercial 162,503,599 161,282,047 161.282.047 Mortgage loans - residential Cash, cash equivalents and 280,382,855 280,382,855 25,945,748 254,437,107 short-term investments Derivatives: 945.069.242 945.069.242 945,069,242 Interest rate swaps 41,785,555 41,785,555 41,785,555 Options 45.723.018 45.723.018 45.723.018 Currency swaps 949.704 949,704 949,704 Forward contracts 1,729,815,927 1,729,815,927 1,729,815,886 Separate account assets Financial liabilities: 239,481,250 239,481,250 239,481,250 Repurchase agreements 4.079.915.570 3.120.744.222 4.079.915.570 Individual annuity contracts 59.000.238 59.590.240 59.590.240 Supplementary contracts Derivatives: 917,215,470 917.215.470 917,215,470 Interest rate swaps 3 416 354 3 416 354 3 416 354 Currency swaps 217,849 217,849 217,849 Forward contracts 75,897 75,897 75,897 Credit default swaps

⁽¹⁾ Common stocks - affiliates do not include Bay State Life Insurance Company (Bay State), which had a statutory carrying value of \$246,018,844.

			December 3	31, 2015		
	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Not Practicable (Carrying Value)
Financial assets:						
Bonds:						
U. S. government and agencies	\$ 290,270,392	\$ 271,721,796	\$ -	\$ 290,270,392	\$ _	\$ -
All other governments	1,420,408	1,454,610	-	1,420,408	-	-
States, territories and possessions	37,266,027	34,063,501	-	37,266,027	-	-
Political subdivisions	16,310,060	15,077,200	-	16,310,060	-	-
Special revenue	143,989,183	130,701,271	-	143,684,953	304,230	-
Industrial and miscellaneous	3,459,331,502	3,417,093,434	-	1,905,329,960	1,554,001,542	-
Parent, subsidiaries and affiliates	342,999,811	330,647,775	-	48,114,734	294,885,077	-
Preferred stocks	30,136,092	29,785,890	16,095,768	-	14,040,324	-
Common stock - subsidiary and affiliate ⁻¹	6,724,098	6,724,098	6,724,098	-	-	-
Common stock - unaffiliated	2,246,277	2,246,277	36,723	-	2,209,554	-
Mortgage loans - commercial	829,154,329	804,172,567	-	-	829,154,329	-
Mortgage loans - residential	177,946,297	181,677,847	-	-	177,946,297	-
Cash, cash equivalents and						
short-term investments	313,892,618	313,892,618	23,604,457	290,288,161	-	-
Derivatives:						
Interest rate swaps	473,619,823	473,619,823	-	473,619,823	-	-
Options	47,485,448	47,485,448	-	47,485,448	-	-
Currency swaps	31,504,627	31,504,627	-	31,504,627	-	-
Forward contracts	1,679,595	1,679,595	-	1,679,595	-	-
Separate account assets	1,743,773,804	1,743,773,804	1,743,773,762	42	-	-
Financial liabilities:						
Repurchase agreements	239,843,750	239,843,750	-	239,843,750	-	-
Individual annuity contracts	3,646,488,219	3,145,004,421	-	-	3,646,488,219	-
Supplementary contracts	54,823,610	54,280,802	-	-	54,823,610	-
Derivatives:						
Interest rate swaps	512,772,306	512,772,306	-	512,772,306	-	-
Currency swaps	244,236	244,236	-	244,236	-	-
Forward contracts	663,662	663,662	-	663,662	-	-
Credit default swaps	126,309	126,309	-	126,309	-	-

⁽¹⁾ Common stocks - affiliates do not include Bay State, which had a statutory carrying value of \$231,301,005.

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

- Note 21 Other Items

 a. Unusual or infrequent items No change
 - Troubled debt restructuring No change b.
 - 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	tember 30, 201	6		 Months E eptember 2016	
	Actual		Carrying		Fair		
Alt-A:	Cost		Value		Value	OTTI	
a. Residential mortgage-backed securities \$	34,879,297	\$	24,755,378	\$	29,563,328	\$	(651)
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	2,097,222		1,368,387		1,794,316		-
f. Other assets	-		-		-		
g. Total \$	36,976,519	\$	26,123,765	\$	31,357,644	\$	(651)

Nine Months Ended September 30, September 30, 2016 2016 Fair Actual Carrying Value Subprime: OTTI Cost Value 19,089,249 \$ (5,497)a. Residential mortgage-backed securities \$ 15,262,488 16,229,772 b. Commercial mortgage-backed securities c. Collateralized debt obligations d. Structured securities 3.269.225 1.836.093 2.261.959 (6,452)e. Equity investments in SCAs * f. Other assets <u>22,358,</u>474 (11,949) g. Total 17,098,581 18,491,731

^{*} The Company's SCA, MML Bay State Life Insurance Company ("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	5		Dec	ember 31, 2015
	Actual		Carrying		Fair		
Alt-A:	 Cost		Value		Value		OTTI
a. Residential mortgage-backed securities	\$ 40,982,848	\$	28,780,898	\$	34,595,206	\$	(6,257)
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	2,337,013		1,542,651		1,965,258		-
f. Other assets	-		-		-		<u>-</u>
g. Total	\$ 43,319,861	\$	30,323,549	\$	36,560,464	\$	(6,257)

		Doo	ombor 21, 2011	-		•	ear Ended
			ember 31, 201)		Dece	ember 31, 2015
	Actual		Carrying		Fair		
Subprime:	Cost		Value		Value		OTTI
a. Residential mortgage-backed securities \$	23,061,042	\$	18,814,560	\$	19,927,273	\$	(2,597)
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	3,612,086		1,934,794		2,412,225		(2,337)
f. Other assets	-		=		=		<u> </u>
g. Total <u>\$</u>	26,673,128	\$	20,749,354	\$	22,339,498	\$	(4,934)

^{*} 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 11, 2016, 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

Ceded Reinsurance Report:

Section 1 - General Interrogatories – No change

Section 2 - Ceded Reinsurance Report - Part A - No change

Section 3 - Ceded Reinsurance Report - Part B – No change

b-q. No change

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

Note 25 - Change in Incurred Losses and Loss Adjustment Expenses

There was no increase to reserves in 2016 for incurred losses and loss adjustment expenses attributable to insured events of prior years, which were considered corrections of prior year errors.

Note 26 - Intercompany Pooling Arrangements - No change

Note 27 - Structured Settlements - No change

Note 28 - Health Care Receivables - No change

Note 29 - Participating Policies - No change

Note 30 - Premium Deficiency Reserves - No change

⁽⁴⁾ The Company has no underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty insurance coverage.

 $\underline{\textbf{Note 31 - Reserves for Life Contracts and Annuity Contracts}} \text{ - No change}$

Note 32 - Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics - No change

Note 33 – Premium and Annuity Considerations Deferred and Uncollected - No change

Note 34 - Separate Accounts - No change

Note 35 - Loss/Claim Adjustment Expenses - No change

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

1.1	Did the reporting entity experience any material transactions requiring Domicile, as required by the Model Act?						Yes []	No [X]
1.2	If yes, has the report been filed with the domiciliary state?						Yes []	No []
2.1	Has any change been made during the year of this statement in the 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 is an insurer?						Yes [X]	No []
3.2	Have there been any substantial changes in the organizational char	rt since the prior q	uarter end?				Yes [X]	No []
3.3	If the response to 3.2 is yes, provide a brief description of those cha As of September 12, 2016, Babson Capital Management LLC, its st Capital Management, LLC, and Baring Asset Management Limited	ubsidiaries Corner						
4.1	Has the reporting entity been a party to a merger or consolidation of	during the period o	overed by this statemen	t?			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.	ate of domicile (us	e two letter state abbrev	riation) for any entity	that has	\$		
	1 Name of Entity		2 NAIC Company Code	3 State of Domicile)			
5.	If the reporting entity is subject to a management agreement, includin-fact, or similar agreement, have there been any significant chan If yes, attach an explanation.	ding third-party adr nges regarding the	ministrator(s), managing terms of the agreement	general agent(s), a or principals involve	torney-	Yes [] No [)	(] N/A []
6.1	State as of what date the latest financial examination of the reporting	ng entity was made	e or is being made				12/3	1/2014
6.2	State the as of date that the latest financial examination report becadate should be the date of the examined balance sheet and not the						12/3	1/2014
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 date).	the examination re	eport and not the date of	the examination (ba	alance sh	heet	05/3	1/2016
6.4 6.5	By what department or departments? State of Connecticut Insurance Department Have all financial statement adjustments within the latest financial statement filed with Departments?	examination report	been accounted for in a	a subsequent financi	al	Yes [] No [] N/A [X]
6.6	Have all of the recommendations within the latest financial examina	ation report been o	omplied with?			Yes [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?	or registrations (inc	cluding corporate registr	ation, if applicable)	suspende	ed 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	by the Federal Res	erve Board?				Yes []	No [X]
8.2	If response to 8.1 is yes, please identify the name of the bank holding	ng company.						
8.3	Is the company affiliated with one or more banks, thrifts or securities	s firms?					Yes [X]	No []
8.4	If response to 8.3 is yes, please provide below the names and locat regulatory services agency [i.e. the Federal Reserve Board (FRB), Insurance Corporation (FDIC) and the Securities Exchange Communications of the Securities (FDIC) and the Securities (FDIC) are the Securities (FDIC) and the Securities (FDIC) and the Securities (FDIC) are the Securities (FDIC) and the Securities (FDIC) are the Securities (FDIC) and the Securities (FDIC) are the Securities (FDIC) are the Securities (FDIC) and the Securities (FDIC) are the Securities (F	, the Office of the	Comptroller of the Curre	ncy (OCC), the Fed	eral Dep			
	1	Τ .	2	3	4	5	6	
	Affiliate Name Baring International Investment Limited	London IIK	ocation (City, State)	FRB	OCC	FDIC	SEC	
	Barings Securities, LLC	Boston, MA					YES	
	MML Distributors, LLC	Enfield, CT					YES	
	MML Investment Advisers, LLC						YES	
	MM Investors Services IIC	Springfield M	Δ	[1	VES	

1	2	3	4	5	6
Affiliate Name	Location (City, State)	FRB	OCC	FDIC	SEC
Baring International Investment Limited	London, UK				YES
Barings Securities, LLC	Boston, MA			ļ	YES
MML Distributors, LLC	Enfield, CT			ļ .	YES
MML Investment Advisers, LLC	Enfield, CT				YES
MML Investors Services, LLC	Springfield, MA				YES
MML Strategic Distributors, LLC	Springfield, MA			ļ .	YES
MMLISI Financial Alliances, LLC	Springfield, MA				YES
MSI Financial Services, Inc.	Springfield, MA			ļ .	YES
OppenheimerFunds Distributor, Inc.	New York, NY			ļ	YES
Society of Grownups, LLC	Springfield, MA				YES
The MassMutual Trust Company, FSB	Enfield, CT		YES	ļ .	
				ı	

GENERAL INTERROGATORIES

9.1	Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards? (a) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; (b) Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity; (c) Compliance with applicable governmental laws, rules and regulations; (d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and (e) Accountability for adherence to the code.	Yes [X] No []
9.11	If the response to 9.1 is No, please explain:	
9.2 9.21	Has the code of ethics for senior managers been amended?	Yes [] No [X]
9.3 9.31	Have any provisions of the code of ethics been waived for any of the specified officers? If the response to 9.3 is Yes, provide the nature of any waiver(s).	Yes [] 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?	
	INVESTMENT	
	Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or otherwise made available for use by another person? (Exclude securities under securities lending agreements.) If yes, give full and complete information relating thereto: Repurchase agreements, Letter stock or securities restricted as to sale - excluding FHLB Capital Stock, On deposit with states and Pledged	Yes [X] No []
12.	as collateral - excluding collateral pledged to an FHLB. Amount of real estate and mortgages held in other invested assets in Schedule BA:	79,823,554
13.	Amount of real estate and mortgages held in short-term investments:	
14.1	Does the reporting entity have any investments in parent, subsidiaries and affiliates?	Yes [X] No []
14.2	If yes, please complete the following:	2
	Prior Year-End Book/Adjusted	Current Quarter Book/Adjusted Carrying Value
	Bonds	\$254,651,130
	Preferred Stock\$	\$
	Common Stock \$231,301,005	\$243,510,733
	Short-Term Investments\$	\$
	Mortgage Loans on Real Estate	\$
	All Other\$134,084,774	\$105,575,992
	Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26)\$	\$603,737,855 \$
15.1 15.2	Has the reporting entity entered into any hedging transactions reported on Schedule DB?	

GENERAL INTERROGATORIES

16.	For the reporting entity's security le	ending program, state the amount of the	e following :	as of the current s	statement date:		
	16.1 Total fair valu	ue of reinvested collateral assets repor	ed on Sche	edule DL, Parts 1	and 2	\$	
	16.2 Total book ac	djusted/carrying value of reinvested col	lateral asse	ts reported on So	chedule DL, Parts 1 and 2	.\$	
17. 17.1	Excluding items in Schedule E - Pa offices, vaults or safety deposit bc custodial agreement with a qualificutsourcing of Critical Functions,	art 3 - Special Deposits, real estate, moxes, were all stocks, bonds and other ed bank or trust company in accordan	ortgage loar securities, on the securities of the NAI	ns and investment owned throughout tion 1, III - Genera O Financial Condi	ts held physically in the reporting entity's the current year held pursuant to a all Examination Considerations, F. ition Examiners Handbook?		[X] No []
		1			2		
		Custodian(s)			Custodian Address		
					York, NY 10001		
					19th Floor, New York, NY 10005		
	State Street Global Services		801 Penns	ylvania Avenue, I	Kansas City, MO 64105		
17.2	For all agreements that do not com location and a complete explanati	ply with the requirements of the NAIC on:	Financial C	ondition Examine	ers Handbook, provide the name,	<u>'</u>	
	1 2				3		
	Name(s)	Location(s)		(Complete Explanation(s)		
17.3 17.4	Have there been any changes, incl If yes, give full information relating	9 .	(s) identified	d in 17.1 during th	ne current quarter?	Yes	[] No [X]
	1	2		3	4		
	Old Custodian	New Custodian	D	ate of Change	Reason		
17.5		okers/dealers or individuals acting on b city to make investments on behalf of the			nave access to the investment accounts,		
	1	2			3		
	Central Registration Depository	Name(s)			Address		
	106006	Barings LLC		550 South Try	on Street, Suite 3300, Charlotte, NC 2	8202 .	
	162754	IFM Investors Pty Ltd			onsdale Street, Melbourne		
10.1	Lleve all the filing requires	he Duraness and Dressedures Married	of the NIATO	Investment Arest	vsis Office been followed?	V	r 1 M- r v 1
10.1	i lave all the lilling reguliernerits of t	HE FUIDOSES AND FIOCEDUIES MAINAN	JI LIIE IVAIC	IIIVESIIIEIII Allai	vaia Ullice deeli iuliuweu (res	

18.1 Have all the litting requirements of the rurposes and inocederos mandal of the rurposes an

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	\$
	1.12 Residential Mortgages	\$162,503,599
	1.13 Commercial Mortgages	\$
	1.14 Total Mortgages in Good Standing	\$ 1,001,559,421
	1.2 Long-Term Mortgages In Good Standing with Restructured Terms	
	1.21 Total Mortgages in Good Standing with Restructured Terms	\$
	1.3 Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months	
	1.31 Farm Mortgages	\$
	1.32 Residential Mortgages	\$
	1.33 Commercial Mortgages	\$
	1.34 Total Mortgages with Interest Overdue more than Three Months	\$
	1.4 Long-Term Mortgage Loans in Process of Foreclosure	
	1.41 Farm Mortgages	\$
	1.42 Residential Mortgages	\$
	1.43 Commercial Mortgages	\$
	1.44 Total Mortgages in Process of Foreclosure	\$
1.5	Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2)	\$1,001,559,421
1.6	Long-Term Mortgages Foreclosed, Properties Transferred to Real Estate in Current Quarter	
	1.61 Farm Mortgages	\$
	1.62 Residential Mortgages	\$
	1.63 Commercial Mortgages	\$
	1.64 Total Mortgages Foreclosed and Transferred to Real Estate	\$
2.	Operating Percentages:	
	2.1 A&H loss percent	%
	2.2 A&H cost containment percent	%
	2.3 A&H expense percent excluding cost containment expenses	%
3.1	Do you act as a custodian for health savings accounts?	Yes [] No [X]
3.2	If yes, please provide the amount of custodial funds held as of the reporting date	\$
3.3	Do you act as an administrator for health savings accounts?	Yes [] No [X]

3.4 If yes, please provide the balance of the funds administered as of the reporting date ______\$

SCHEDULE S - CEDED REINSURANCE

Showing All New Reinsurance Treaties - Current Year to Date

1	2	3	4	5	6	7	8	9
								Effective
							Certified	Date of
NAIC					Type of		Reinsurer	Certified
Company	ID	Effective		Domiciliary	Reinsurance		Rating	Reinsurer
Code	Number	Date	Name of Reinsurer	Jurisdiction	Ceded	Type of Reinsurer	(1 through 6)	Rating
00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (PH55)	KY	YRT/I	Unauthor i zed.		
			Scottish Annuity & Life Ins Co. (Cayman) LTD (PH58)	KY	YRT/I	Unauthor i zed.		
00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (PHB1)	KY	YRT/I	Unauthor i zed.		
00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB1)	KY	YRT/I	Unauthorized		
00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STB2)	KY	YRT/I	Unauthorized		
00000	AA-3770192	06/01/2016	Scottish Annuity & Life Ins Co. (Cayman) LTD (STD1)	KY	YRT/I	Unauthorized		ļ

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS

Current Year To Date - Allocated by States and Territories

		urrent Year	To Date - Alloca	ated by States a	Direct Bus	iness Only		
		1	Life Co	ontracts	4	iness Only 5	6	7
			2	3	Accident and	_		-
					Health Insurance Premiums,			
					Including Policy.		Total	
		Active	Life Insurance	Annuity	Membership	Other	Columns	Deposit-Type Contracts
	States, Etc.	Status	Premiums	Considerations	and Other Fees	Considerations	2 Through 5	Contracts
1. 2.	Alaska AK	L	1,455,655 42,218	833,600 6,300			2,289,255 48,518	
3.	Arizona		2.487.807	730.779			3,218,586	
3. 4.	Arkansas	L		903,853			1,272,764	
5.	California CA	L	19,745,451	9.712.142			29,457,593	
6.	Colorado CO	I	2.148.374	2,703,642			4,852,016	
7.	Connecticut	L	5,578,926	3,916,565			9,495,491	
8.	Delaware DE	L	298,900	362,438			661,338	
9.	District of Columbia	Ĺ	1,350,057	53,421			1,403,478	
10.	FloridaFL	L	19,505,988	13,703,889			33,209,877	
11.	GeorgiaGA	L	4,088,201	1,684,330			5,772,531	
12.	Hawaii HI	L	1,663,028	1,586,450			3,249,478	
13.	IdahoID	L	361, 167	107,238			468,405	
14.	IllinoisIL	L	5, 131, 637	5,468,299			10,599,936	
15.	Indiana IN	L	1,788,734	2,634,985			4,423,719	
16.	lowa IA	L	1, 171, 240	752,582			1,923,822	
17.	Kansas KS	L	1,089,468	2,267,230			3,356,698	
18.	Kentucky KY	L	1,043,958	314, 110			1,358,068	
19.	Louisiana LA	L	1, 183, 890	5,450,869			6,634,759	
20.	Maine ME	L	461,642	471,837			933,479	ļ
21.	Maryland MD	L	5,954,195	1,927,144			7,881,339	
22.	Massachusetts MA	L	4,315,028	15,605,877			19,920,905	
23.	Michigan MI		3,749,318	11,461,406			15,210,724	
24.	Minnesota	ļ	2,543,815	4,900,990			7,444,805	<u> </u>
25.	Mississippi	L	1,941,529	898,768			2,840,297	
26.	Missouri MO		2, 167, 315	8,931,337			11,098,652	
27.	Montana		233,342	336,635			569,977	
28.	Nebraska NE	L	1,773,374	393,696			2,167,070	
29. 30.	New Hampshire NH	L	1,038,397 1,017,722	462,834 2,888,383			1,501,231 3,906,105	
30.	New JerseyNJ	L						
32.	New Mexico	L					592,785	
33.	New York	N	4,449,849	746,775			5, 196, 624	
34.	North Carolina	N	6,255,449	2,728,903			8,984,352	
35.	North Dakota	L	20,165	2,726,903			265,579	
36.	Ohio OH	I	4,405,801	7,270,688			11,676,489	
37.	Oklahoma OK	L	1,631,843	1, 151, 445			2,783,288	
38.	Oregon OR	L	859,378	1,936,362			2,795,740	
39.	Pennsylvania PA	L	7,323,459	15,016,796			22,340,255	
40.	Rhode IslandRI	L	798 , 156	2,960,523			3,758,679	
41.	South Carolina SC	Ĺ	3,099,450	769,565			3,869,015	
42.	South Dakota SD	L	70,404	350,798			421,202	
43.	Tennessee TN	Ĺ	3,672,082	4,558,548			8,230,630	
44.	TexasTX	L	10,058,096	11,596,283			21,654,379	
45.	Utah UT	L	1,644,102	1,846,963			3,491,065	
46.	VermontVT	L	314,713	465,326			780,039	
47.	VirginiaVA	L	5,963,581	3,785,803			9,749,384	
48.	WashingtonWA	L	2,258,937	1,051,858			3,310,795	
49.	West Virginia WV	L	550,782	313,626			864,408	
50.	Wisconsin WI	L	1,364,317	4,870,243			6,234,560	
51.	WyomingWY	L	144,752	246,652			391,404	
52.	American Samoa AS	N	347				347	
53.	Guam GU	N	180				180	
54.	Puerto Rico	ļ <u>Ļ</u>	3,421,380	556,057			3,977,437	
55.	U.S. Virgin Islands	N	3, 102				3, 102	<u> </u>
56.	Northern Mariana IslandsMP	N						<u> </u>
57.	Canada	N	13,671	44.000			13,671	<u> </u>
58.	Aggregate Other Aliens	XXX	219,420	171 222 266			234,408	
59. 90.	Subtotal Reporting entity contributions for employee benefits	(a)51	163,489,792	171,333,366			334 , 823 , 158	
30.	plansplans.	XXX						
91.	Dividends or refunds applied to purchase paid-up							
•	additions and annuities	xxx						
92.	Dividends or refunds applied to shorten endowmen							
	or premium paying period	XXX						
93.	Premium or annuity considerations waived under							
	disability or other contract provisions	XXX	933,573				933,573	
94.	Aggregate or other amounts not allocable by State				 			
95.	Totals (Direct Business)	XXX	164,423,365	171,333,366	 		335,756,731	
96.	Plus Reinsurance Assumed	XXX	404 400 005	474 000 000			005 750 704	
97	Totals (All Business)	XXX	164,423,365	171,333,366			335,756,731	}
98.	Less Reinsurance Ceded	XXX	118,963,558	474 000 000			118,963,558	
99.	Totals (All Business) less Reinsurance Ceded	XXX	45,459,807	171,333,366			216,793,173	
F000 1	DETAILS OF WRITE-INS ZZZ Other Alien	VAA.	040 400	44.000			004 400	
		XXX	219,420	14,988			234,408	
		XXX						
	Summary of remaining write-ins for Line 58 from			<u> </u>			<u> </u>	
56998.	overflow page	XXX						
58900	Totals (Lines 58001 through 58003 plus							
20000.	58998)(Line 58 above)	XXX	219,420	14,988			234,408	
9401.		XXX	3, .20	.,,000				
		XXX						
9403.		XXX						
	Summary of remaining write-ins for Line 94 from							
	overflow page	XXX						
9499.	Totals (Lines 9401 through 9403 plus 9498)(Line							
<u></u>	94 above)	XXX		<u> </u>	<u> </u>		<u> </u>	
(L) Licen:	sed or Chartered - Licensed Insurance Carrier or Do	miciled RRG; (F	R) Registered - Non-	-domiciled RRGs; (Q) Qualified - Quali	tied or Accredited I	Reinsurer; (E) Eligib	ole - Reportina

⁽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.

(a) Insert the number of L responses except for Canada and Other Alien.

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 Re Finance LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
MML Mezzanine Investor L, LLC	04-1590850		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timber Sales, Inc.	20-5305426		New York
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
WP-SC, LLC*	26-4441097		Delaware
MSP-SC, LLC	04-1590850		Delaware
MSI Financial Services, Inc.	13-3175978		Delaware
Country Club Office Plaza LLC*	27-1435692		Delaware
MassMutual Retirement Services, LLC	04-1590850		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Mezzanine Investor, LLC	04-1590850		Delaware
MML Strategic Distributors, LLC	46-3238013		Delaware
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MMC Equipment Finance LLC	04-1590850		Delaware
MassMutual Asset Finance LLC*	26-0073611		Delaware
MMAF Equipment Finance LLC 2009-A	27-1379258		Delaware
MMAF Equipment Finance LLC 2011-A	45-2589019		Delaware
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MSC Holding Company, LLC	45-4376777		Delaware
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MassMutual Holding LLC	04-2854319		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware

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

	Federal Tax ID	NAIC Co Code	State of Domicile
MassMutual Ventures LLC	47-1296410		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Asia Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Asia Investors Ltd.	None		Hong Kong, Special Administrative Region of China
MassMutual Guardian Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Insurance Consultants Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Services Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Trustees Limited	None		Hong Kong, Special Administrative Region of China
Protective Capital (International) Limited	98-0610331		Hong Kong, Special Administrative Region of China
MassMutual Life Insurance Company	None		Japan
MassMutual Internacional (Chile) SpA	98-1033127		Chile
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
BCF Senior Funding I Designated Activity Company Barings Securities LLC	None 04-3238351		Ireland Delaware
Barings Guernsey Limited	98-0437588		
Barings Guernsey Limited Barings (UK) Limited	98-0437588 98-0432153		Guernsey United Kingdom
Babson GPC GP S.à.r.l.	98-0432133 None		Luxembourg
Almack Mezzanine GP III Limited	None		United Kingdom
Almack Mezzannie GF in Limited Almack Holding Partnership GP Limited	None		United Kingdom
Almack Holding Partnership OF Limited Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund II Limited	None		United Kingdom
Barings Global Advisors Limited	98-1012393		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Babson European Direct Lending 1 GP LLP	None		United Kingdom
Barings Advisers (Japan) KK	None		Japan
Barings Real Estate Advisers LLC	55-0878489		Delaware
ACRE Capital Holdings LLC	None		Delaware
ACRE Capital LLC	None		Michigan
ACRE Capital Corporation	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
Barings Real Estate Advisers Japan KK	None		Japan
Barings Real Estate UK Holdings Limited	None		Delaware
BREAE AIFM LLP	None		United Kingdom
	-		5

^{*}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 Real Estate Advisers (Continental Europe) Limited	98-0654401		United Kingdom
Barings Real Estate Advisers Europe LLP	98-0654388		United Kingdom
Barings Real Estate Advisers Europe Finance LLP	98-0654412		United Kingdom
Barings Real Estate Advisers GmbH	98-1194368		Germany
MassMutual Baring Holding LLC	04-1590850		Delaware
Baring North America LLC	98-0241935		Massachusetts
MassMutual Holdings (Bermuda) Limited	None		Bermuda
Baring Asset Management Limited	98-0241935		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings Limited	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Asset Management GmbH	98-0465031		Germany
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None		Korea
Baring Asset Management (Japan) Limited	98-0236449		Japan
Baring Asset Management (Australia) Pty Limited	98-0457456		Australia
Baring International Fund Managers (Ireland) Limited	98-0524272		Ireland
Baring Asset Management Switzerland Sàrl	None		Switzerland
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Baring France SAS	98-0497550		France
Baring Fund Managers Limited	98-0457586		United Kingdom
Baring Pension Trustees Limited	98-0457574		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	98-0457456		Australia
Barings Investment Advisers (Hong Kong) Limited	None		Hong Kong, Special Administrative Region of China
Wood Creek Index Company LLC	26-3115362		Delaware
Alchemy Copyrights, LLC.	47-2642354		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Red Lake Ventures, LLC	46-5460309		Delaware
Solar Acquisition Holding, LLC	None		Delaware
Sweet Tree Holdings 1, LLC	46-3123110		Delaware
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
U.S. Buyer Broadcasting, LLC	47-1855920		Delaware
U.S. WIG Holdings, LP	46-1500495		Delaware
U.S. Pharmaceuticals Holdings II, LLC	47-5436800		Delaware

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

VGS Acquisition Holdings, LLC None Deluvare WC Averal Holdings, LP None Cayman Islands Babson Captal Holdings, LP None Cayman Islands Babson CLO Investment Partners GP, LLC None Delavare Babson GLO Lane Feeder Management, LLC None Delavare Babson GLO Lane Feeder Management, LLC None Delavare Barings, TERO Management LLC None Delavare Barings, TERO Management LLC None Delavare Benton Streat Advisors, Inc. 98-0536233 Cayman Islands Great Lakes III GP, LLC 04-1590850 Delavare Loan Strategies Management LLC 04-1590850 Delavare Mezzo LLC 04-1590850 Delavare Mezzo LLLC 04-1590850 Delavare Mezzo LLC 04-1590850 Delavare Mezzo LLLC 04-1590850 Delavare Mezzo SULLC 04-1590850 Delavare Mezzo LL LL None Delavare Mezzo DV LLC 04-1590850 Delavare Mezzo DV LLC		Federal Tax ID	NAIC Co Code	State of Domicile
WC Aircint Holdings US II, LLC None Cayman Islands	VGS Acquisition Holding, LLC	None		Delaware
Wood Creek Aircraft Holding I, LP Babson Capital Floating Rate Income Fund Management, LLC Babson CLO Investment Partners GP, LLC None Delaware Babson CLO Investment Partners GP, LLC None Delaware Babson Clobal Lona Feeder Management, LLC None Delaware Babson Elobal Lona Feeder Management, LLC None Delaware Barings TERO Management LLC None Delaware Babson Investment Grade CLO Debt Management LLC 044-1590850 Delaware Benton Street Advisors, Inc. 044-1590850 Delaware		46-3378584		Delaware
Babson CIO Investment Partners OF, LLC None Delaware Babson Global Lona Feeder Management LLC None Delaware Barings TERO Management LLC None Delaware Babson Investment Grade CLO Debt Management LLC None Delaware Benton Street Advisors, Inc. 98-0556233 Cayman Islands Great Lakes III GP, LLC 041-590850 Delaware Loan Strategies Management LLC 041-590850 Delaware Mezzo II LLC 041-590850 Delaware Mezzo II LLC 041-590850 Delaware Mezzo II LLC 41-2280126 Delaware Mezzo Australia II LC 41-2280126 Delaware Mezzo Australia II LC 90-0666326 Delaware Mezzo Australia II LC None Delaware Mezzo Australia II LC None Delaware SOmerset Special Opportunities Management LLC 041-590850 Delaware Oppenheimer Acquisition Corp. 481-110206 Delaware Oppenheimer Funds, Inc. 13-252771 Colorado Oppenheimer Funds, Inc. 13-40054				Cayman Islands
Babson Global Loan Feeder Management, LLC None Delaware Barings TERO Management LLC None Delaware Babson Investment Grade CLO Debt Management LLC 98-0536233 Cayman Islands Great Lakes III GP, LLC 94-1590850 Delaware Caract Lakes III GP, LLC 04-1590850 Delaware Mezzeo LLC 04-1590850 Delaware Mezzeo II LLC 02-0767001 Delaware Mezzeo II LLC 02-0767001 Delaware Mezzeo III LLC 80-0920285 Delaware Mezzeo Australia LLC 80-0920285 Delaware Mezzeo Australia II LLC None Delaware SDCOS Management LLC 04-1590850 Delaware Openheimer Acquistion Corp. 04-1590850 Delaware Oppenheimer Acquistion Corp. 34-119206 Delaware Oppenheimer Acquistion Corp. 13-2527171 Colorado Oppenheimer Real Asset Management, Inc. 13-2527171 Colorado Oppenheimer Real Asset Management Corporation 13-3450941 Now York OFI Global Institutional, Inc. <td< td=""><td>Babson Capital Floating Rate Income Fund Management, LLC</td><td>04-1590850</td><td></td><td>Delaware</td></td<>	Babson Capital Floating Rate Income Fund Management, LLC	04-1590850		Delaware
Barings TERO Management LLC None Delaware Babson Investment Grade CLO Debt Management LLC None Delaware Benton Stroet Advisors, Inc. 98.0536233 Cayman Islands Great Lakes III GP, LLC 04.1590850 Delaware Loan Strategies Management LLC 04.1590850 Delaware Mezzo II LLC 02-0767001 Delaware Mezzo III LLC 41.2280126 Delaware Mezzo V LLC 80-0902085 Delaware Mezzo Australia ILC 90-0666326 Delaware Mezzo Australia ILC None Delaware Mezzo Australia ILC 04.1590850 Delaware SDCOS Management LLC 04.1590850 Delaware SDCOS Management LLC 04.1590850 Delaware Oppenheimer Acquisition Corp. 84.1149206 Delaware Oppenheimer Funds, Inc. 13.25257171 Colorado Oppenheimer Funds Spitributor, Inc. 13.25257171 Colorado Oppenheimer Real Asset Management, Inc. 84.1106295 Delaware OFI Global Institutional, Inc. 13.3459790	Babson CLO Investment Partners GP, LLC	None		Delaware
Babson Investment Grade CLO Debt Management LLC 98-0336233 Cayman Islands	Babson Global Loan Feeder Management, LLC	None		Delaware
Benton Street Advisors, Inc.		None		Delaware
Great Lakes III GP, LLC 04-1590850 Defaware Loan Strategies Management LLC 04-1590850 Delaware Mezzco LLC 04-1590850 Delaware Mezzco II LLC 02-0767001 Delaware Mezzco II LLC 41-2280126 Delaware Mezzco IV LLC 80-0920285 Delaware Mezzco Australia IL LC None Delaware Mezzco Australia II LLC None Delaware SDCOS Management LLC 04-1590850 Delaware SOMERST Special Opportunities Management LLC 04-1590850 Delaware Oppenheimer Acquisition Corp. 48-1149206 Delaware Oppenheimer Junds, Inc. 13-2527171 Colorado Oppenheimer Beal Asset Management, Inc. 13-2527171 Colorado OFI Global Institutional, Inc. 13-4160541 New York OFI Global Trust Company 13-3459790 New York OFI International, Ltd. None United Kingdom All Tool Trust Company 13-3459790 New York OFI International, Ltd. None New York	Babson Investment Grade CLO Debt Management LLC	None		Delaware
Loan Strategies Management LLC	Benton Street Advisors, Inc.	98-0536233		Cayman Islands
Mezzco ILC 04-1590850 Delaware Mezzco II LLC 02-0767001 Delaware Mezzco IV LLC 80-0920285 Delaware Mezzco Australia ILC 80-0920285 Delaware Mezzco Australia II LLC None Delaware SDCOS Management LLC None Delaware SOWERS Special Opportunities Management LLC 04-1590850 Delaware Oppenheimer Acquisition Corp. 44-1690850 Delaware Oppenheimer Funds, Inc. 04-1590850 Delaware Oppenheimer Inc. 13-2527171 Colorado Oppenheimer Luds Distributor, Inc. 13-2527171 Colorado Oppenheimer Real Asset Management, Inc. 13-2953455 New York Oppenheimer Real Asset Management, Inc. 13-3460541 New York OFI Global Institutional, Inc. 13-3459790 New York OFI Illertantional, Ltd. None United Kingdom All Total Provinces Inc. 84-1106341 New York OFI SteelPath, Inc. 84-1066811 Colorado VTL Associates, LLC None Pennsylvan	Great Lakes III GP, LLC	04-1590850		Delaware
Mezzco II LLC 02-0767001 Delaware Mezzco III LLC 41-2280126 Delaware Mezzco VI LLC 80-0920285 Delaware Mezzco Australia LLC 90-0666326 Delaware Mezzco Australia II LLC None Delaware SDCOS Management LLC 04-1590850 Delaware SOmerset Special Opportunities Management LLC 04-1590850 Delaware Oppenheimer Acquisition Corp. 04-1590850 Delaware Oppenheimer Funds, Inc. 13-257171 Colorado Oppenheimer Funds Distributor, Inc. 13-2593455 New York Oppenheimer Real Asset Management, Inc. 84-1106295 Delaware OFI Global Institutional, Inc. 13-345970 New York OFI Global Institutional, Inc. 13-345970 New York OFI Global Institutional, Ltd. None United Kingdom HarbourView Asset Management Corporation 22-2697140 New York Trinity Investment Management Corporation 25-1951632 Pennsylvania OFI SteelPath, Inc. None Pennsylvania Index Management, I	Loan Strategies Management LLC	04-1590850		Delaware
Mezzco IV LLC 41-2280126 Delaware Mezzco Australia LLC 80-0920285 Delaware Mezzco Australia IL LC 90-0666326 Delaware Mezzco Australia II LLC None Delaware SDCOS Management LLC None Delaware SDCOS Management LLC 04-1590850 Delaware Oppenheimer Acquisition Corp. 04-1590850 Delaware Oppenheimer Funds, Inc. 13-2527171 Colorado Oppenheimer Funds Distributor, Inc. 13-2953455 New York Oppenheimer Real Asset Management, Inc. 84-1106295 Delaware OFI Global Institutional, Inc. 34-4106341 New York OFI Global Institutional, Inc. 13-3459790 New York OFI Global Institutional, Inc. None United Kingdom OFI Global Trust Company 13-3459790 New York OFI Global Trust Company 13-3459790 New York OFI SteelPath, Inc. 84-1102397 Delaware Assample of the Virus Asset Management Corporation 25-1951632 Pennsylvania OFI SteelPath, Inc.	Mezzco LLC	04-1590850		Delaware
Mezzo IV LLC 80-0920285 Delaware Mezzo Australia IL LLC 90-0666326 Delaware Mezzo Australia II LLC None Delaware SDCOS Management LLC 04-1590850 Delaware Somerset Special Opportunities Management LLC 04-1590850 Delaware Oppenheimer Acquisition Corp. 84-1149206 Delaware Oppenheimer Funds, Inc. 13-257317 Colorado Oppenheimer Real Asset Management, Inc. 84-1106295 Delaware Oppenheimer Real Asset Management, Inc. 84-1106295 Delaware OFI Global Institutional, Inc. 13-4160541 New York OFI Global Trust Company 13-3459790 New York OFI International, Ltd. None United Kingdom Harbour View Asset Management Corporation 22-2697140 New York Trinity Investment Management Corporation 25-1951632 Pennsylvania OFI Global Asset Management Solutions, LLC None Pennsylvania Mex Abrabolder Services, Inc. None Pennsylvania OFI Global Asset Management, Inc. 84-1066811 None	Mezzco II LLC	02-0767001		Delaware
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Tremont Group Holdings, Inc. 62-1210532 New York Tremont Partners, LLC 06-1121864 Connecticut				
Tremont Partners, LLC 06-1121864 Connecticut				
Tremont GP, LLC 20-8215352 Delaware				
Settlement Agent LLC 90-0874510 Delaware				
Tremont (Bermuda) Limited None Bermuda 27 1732012				
	Fern Street LLC			
First Mercantile Trust Company 62-0951563 Tennessee	First Mercantile Trust Company	02-0931303		rennessee

^{*}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
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
Society of Grownups, LLC	47-1466022		Massachusetts
MML Mezzanine Investor II, LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
MML Re Finance LLC	04-1590850		Delaware
Other Affiliates & Funds:			
Invicta Advisors LLC	56-2574604		Delaware
Jefferies Finance LLC*	27-0105644		Delaware
Apex Credit Partners LLC	None		Delaware
JÉIN Fund III LLC	None		Delaware
JFIN Asset Management LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO Holdings LLC	None		Delaware
JFIN CLO 2007 Ltd.	None		Cayman Islands
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.*	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN MM CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.*	None		Cayman Islands
JFIN CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO Ltd.	None		Cayman Islands
JFIN Revolver CLO 2014 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2015 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	04-1590850		Delaware
300 South Tryon LLC	04-1590850		Delaware
54 West Capital LLC	20-3887968		Delaware

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

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Alexandria Towers Investors LLC	16-1720387		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Almack Mezzanine Fund III LP*	None		United Kingdom
Babson Capital Emerging Markets Corporate Bond Fund	None		Ireland
Babson Capital Emerging Markets Local Debt Fund	None		Ireland
Babson Capital Global Special Situations Credit Fund 1	None		Ireland
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Babson Capital US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2007-I	None		Cayman Islands
Babson CLO Ltd. 2012-I	None		Cayman Islands
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2013-II	98-1128827		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2014-II	None		Cayman Islands
Babson CLO Ltd. 2014-III	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Babson Euro CLO 2016-1 BV	None		Netherlands
Babson Capital Global Credit Fund (Lux) SCSp, SIACV-SIF	None		Luxembourg
Babson Investment Grade CLO Debt Fund LP	47-3971963		Delaware
Baring Emerging Market Corp Debt Fund	None		Ireland
Baring Focused EAFE Equity Fund	11-3789446		Delaware
Baring Global Dynamic Asset Allocation Fund	30-0607379		Delaware
Baring International Small Cap Equity Fund	26-4142796		Delaware
Benton Street Partners I, L.P.*	98-0536233		Cayman Islands
Benton Street Partners II, L.P.*	98-0536199		Cayman Islands
Braemar Energy Ventures I, L.P. *	None		Delaware
Connecticut Valley Structured Credit CDO II, Ltd.	None		Cayman Islands
Connecticut Valley Structured Credit CDO III, Ltd.	None		Cayman Islands
Cambridge Hotel, LLC	06-1614196		Delaware
Cheyenne Mountain Resort LLC	04-1590850		Delaware

None

Luxembourg

Barings European Core Property Fund SCSp

^{*}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
Cornerstone Core Mortgage Venture I LP	27-1701622		Delaware
Cornerstone Enhanced Mortgage Fund I LP	45-3751572		Delaware
Cornerstone Global Real Estate LP*	20-8730751		Delaware
Cornerstone High Yield Venture LP	36-4770946		Delaware
Cornerstone Hotel Income and Equity Fund II LP	26-1828760		Delaware
Barings/LAZ Parking Fund LP	46-5437441		Delaware
Barings Core Property Fund LP	20-5578089		Delaware
Cornerstone Real Estate Fund VIII LP	27-0547156		Delaware
Cornerstone Real Estate Fund X LP	46-5432619		Delaware
Duchess VI CLO B.V.	None		United Kingdom
Duchess VII CLO B.V.	None		United Kingdom
E-Wise Land Venture LLC	20-3887968		Delaware
Gateway Mezzanine Partners I, L.P.*	80-0691253		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
Kazwell Realty Partners LLC	20-3887968		Delaware
King Alexander LLC	45-3754085		Delaware
Marco Hotel LLC	46-4255307		Delaware
MM Debt Participations LLC*	81-3000420		Delaware
MML O'Hare Hotel LLC	26-3799762		Delaware
Oakley Grove Development LLC	20-3887968		Delaware
Old Pasco Properties LLC	20-3887968		Delaware
Reston Arboretum LLC	75-2901061		Delaware
Riva Portland LLC	30-0713071		Delaware
Rockall CLO B.V.	None		United Kingdom
Rockville Town Center LLC	54-2055778		Virginia
Sapphire Valley CDO I, Ltd.	None		Cayman Islands
SDCOS L.P.	74-3182902		Delaware
Seattle 1415 Hotel Owner LLC	46-5491311		Delaware
Sedona TFMP Land LLC	04-1590850		Delaware
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
South Myrtle Monrovia MM LLC	04-1590850		Delaware
South Pasco Properties LLC	20-3887968		Delaware
Tower Square Capital Partners, L.P.*	04-3722906		Delaware
Tower Square Capital Partners II, L.P.*	30-0336246		Delaware
Tower Square Capital Partners II-A, L.P.*	32-0160190		Delaware
Tower Square Capital Partners III, L.P.*	41-2280127		Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129		Delaware
Tower Square Capital Partners IV-A, L.P.	80-0920367		Delaware
West 46 th Street Hotel LLC	05-1590850		Delaware
Whately CDO, Ltd.	None		Cayman Islands

^{*}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

81-0890084

Delaware

	Federal Tax ID	NAIC Co Code	State of Domicile
Wood Creek Multi Asset Fund, L.P.	20-4981369		Delaware
Baring Affiliates & Funds:			
Babson Capital Emerging Markets Debt Blended Total Return Fund	None		Ireland
Babson Capital Emerging Markets Debt Short Duration Fund	None		Ireland
Babson Capital Emerging Markets Sovereign Debt Fund	None		Ireland
Babson Capital Floating Rate Income Fund, L.P.	27-3330830		Delaware
Babson Capital Global Investment Grade Corporate Plus Fund	None		Ireland
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings Emerging Markets Debt Blended Total Return Fund	47-3758432		Massachusetts
Barings Emerging Markets Local Currency Debt Fund	47-3774453		Massachusetts
Barings Global High Yield Fund	47-3790192		Massachusetts
Baring Greater China Equity Fund	None		Hong Kong
Barings Total Return Bond Fund	47-3734770		Massachusetts
Barings U.S. High Yield Fund	47-3801860		Massachusetts
Gateway Mezzanine Partners I Trust	None		Australia
Great Lakes II LLC*	71-1018134		Delaware
Great Lakes LLC*	56-2505390		Delaware
Intermodal Holding II LLC	46-2344300		Delaware
Somerset Special Opportunities Master Fund LP	None		Cayman Islands
Wood Creek Venture Fund LLC	04-1590850		Delaware
Cornerstone Affiliates & Funds:			
12-18 West 55th Street Predevelopment, LLC*	20-2548283		Delaware
50 Liberty LLC*	36-4823011		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
2 Harbor Shore Member LLC*	46-4803557		Delaware
21 West 86 LLC*	45-5257904		Delaware
AT Mid-Atlantic Office Portfolio LLC*	45-2779931		Delaware
Budapester Strasse LLC	04-1590850		Delaware
CHC/RFP VI Core LLC	04-1590850		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Delaware
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
CREA 330 Third LLC*	46-5001122		Delaware
CREA FMF Nashville LLC	46-4367364		Delaware
CREA/LYON West Gateway, LLC*	26-2399532		Delaware

CREA Madison Member LLC

^{*}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
CREA/PPC Venture LLC*		20-0348173		Delaware
Fallon Cornerstone One MPD LLC*		26-1611591		Delaware
Fan Pier Development LLC*		20-3347091		Delaware
Farringdon London Holdings LLC*		46-3880526		Delaware
Infinity SCD Ltd.		None		United Kingdom
Johnston Groves LLC		20-4819358		Delaware
MM Chatham Office LLC*		81-2871333		Delaware
MMI/Hines Harrison LLC*		46-5347643		Delaware
Salomon Brothers Commercial Mort	gage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center L		27-2977720		Delaware
Ten Fan Pier Boulevard LLC*		None		Delaware
Twenty Two Liberty LLC*		35-2484550		Massachusetts
UK LIW Manager LLC		45-4606547		Delaware
UK LIW Member LLC		45-4606547		Delaware
Washington Gateway Apartments Ve	enture LLC*	45-5401109		Delaware
Waterford Development Associates		20-2970495		Delaware
Waterloo London Holdings LLC		47-1993493		Delaware
WeHo Domain LLC*		46-3122029		Delaware
Willowwod Lakeside Master LLC		81-1552222		Delaware
Ygnatio Valley Funding		20-5481477		Delaware
MassMutual Premier Funds:				
MassMutual Barings Dynamic Alloc		45-3168892		Massachusetts
MassMutual Premier Focused Interna	ntional Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fun		51-0529328		Massachusetts
MassMutual Premier Strategic Emerg	ging Markets Fund	26-3229251		Massachusetts
MassMutual Premier Value Fund		04-3277550		Massachusetts
MassMutual Select Funds:				
MassMutual Select Diversified Intern		14-1980900		Massachusetts
MassMutual Select Diversified Value		01-0821120		Massachusetts
MassMutual Select Fundamental Gro		04-3512593		Massachusetts
MassMutual Select Large Cap Value		04-3513019		Massachusetts
MassMutual Select Mid-Cap Value F		42-1710935		Massachusetts
MassMutual Select Small Capital Va		02-0769954		Massachusetts
MassMutual Select Small Company	Value Fund	04-3584140		Massachusetts
MML Series Investment Funds:		16.1055056		
MML Series International Equity Fu	nd	46-4257056		Massachusetts
MML Series Investment Funds II:		47. 2517222		N. 1
MML Series II Asset Momentum Fun	na	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 Fu	iiu	47-3559064		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.

	Federal Tax ID NAIC Co Code	State of Domicile
MassMutual RetireSMART Funds:		
MassMutual RetireSMART 2055 Fund	46-3289207	Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235	Massachusetts
MassMutual RetireSMART Conservative Fund	45-1618155	Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222	Massachusetts
MassMutual RetireSMART Moderate Fund	45-1618262	Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046	Massachusetts
Oppenheimer Funds:		
Oppenheimer Global High Yield Fund	45-3417590	Delaware
Oppenheimer Global Multi-Asset Growth Fund	47-3676235	Delaware
Oppenheimer Global Multi-Asset Income Fund	47-1714929	Delaware
Oppenheimer Global Real Estate Fund*	46-1604428	Delaware
Oppenheimer Macquarie Global Infrastructure Fund	81-1080638	Delaware
Oppenheimer SteelPath Panoramic Fund	47-3987967	Delaware

^{*}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

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						Exchange		Domi-	ship		Management,	ship		ļ
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		ļ
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
							Massachusetts Mutual Life Insurance			Massachusetts Mutual Life Insurance				ļ
0435	Massachusetts Mut Life Ins Co	65935	. 04-1590850 .	3848388	. 0000225602		Company (MMLIC)	MA	UDP	Company	Ownership	100.000	MMLIC	-
										Massachusetts Mutual Life Insurance				ļ
0435	. CM Life Ins Co	93432	. 06-1041383 . 43-0581430		0000924777		C.M. Life Insurance Company	CT	RE NIA	Company	Ownership	100.000	MMLICMMLIC	-
0435	MML Baystate Life Ins Co	70416	. 43-0581430		0000924777		MML Bay State Life Insurance Company CML Mezzanine Investor. LLC	CT DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC	
0000			. 06-1041383				CML Mezzanine Investor, LLC	DE		C.M. Life Insurance Company	Ownership	100.000	MMLIC	
0000			06-1041383				CML Mezzanine Investor L, LLC	DE		C.M. Life Insurance Company	Ownership	100.000	MMLIC	-
0000	-		. 06-1041383				CML Re Finance LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	_100.000	MMLIC	
0000	-		100 1041000				CML Special Situations Investor LLC	DE		C.M. Life Insurance Company	Ownership	100.000	MMLIC	-
5000	-		1	1			OWE OPECIAL CITAGETORS THEOSET LEC			Massachusetts Mutual Life Insurance	omici sirip		MILIO	-
0000			04-1590850				MML Mezzanine Investor L, LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000							MML Special Situations Investor LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	Company	Ownership	95.000	MMLIC	
0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.000	MMLIC	
0000			47-5322979				Timberland Forest Holding LLC	DE	NI A	Wood Creek Capital Management LLC	Management		MMLIC	
0000							Lyme Adirondack Forest Company, LLC	DE	NI A	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000			. 20-5305426 .				Lyme Adirondack Timber Sales, Inc	NY	NI A	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000							Lyme Adirondack Timberlands I, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
0000							Lyme Adirondack Timberlands II, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			. 04-1590850 .				Berkshire Way LLC	DE	NI A	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			26-4441097				WP-SC, LLC	DE	NIA	Company	Ownership	81.400	MMLIC	-
0000			26-4441097				WP-SC, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	18.600		-
0000			04 4500050				HOD 00 110	DE		Massachusetts Mutual Life Insurance		100 000	188 10	
0000			. 04-1590850 .				MSP-SC, LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000			13-3175978				MSI Financial Services, Inc.	DE	NIA	Company Company	Ownership.	100.000	MMLIC	
0000			_ 13-31/59/8				MSI Financial Services, Inc.	UE	NIA	Massachusetts Mutual Life Insurance	Ownership		MMLIC	
0000			27-1435692				Country Club Office Plaza LLC	DE	NIA	Company	Ownership	88.100	MMLIC	
0000	-		27-1435692				Country Club Office Plaza LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	11.900	MMLIC	
0000							Country Club Office Fraza LLO		INI /\	Massachusetts Mutual Life Insurance	Owner Sirry			
0000			. 04-1590850 .				MassMutual Retirement Services, LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000			104 1050000 .				massmatual nethement services, LES			Massachusetts Mutual Life Insurance	Office Strip.		WILL TO	
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	
							310111041010 220			Massachusetts Mutual Life Insurance				
0000							MML Investment Advisers, LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			04-1590850				MML Mezzanine Investor, LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
							, , , , , , , , , , , , , , , , , , , ,			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	
										Massachusetts Mutual Life Insurance				
0000			. 04-1590850 .				MMC Equipment Finance LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000			26-0073611	.			MassMutual Asset Finance LLC	DE	NIA	MMC Equipment Finance LLC	Ownership	99.600	MMLIC	
0000]		26-0073611	.			MassMutual Asset Finance LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.400	MMLIC	

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Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
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	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC	-
							MML Private Placement Investment Company I,			Massachusetts Mutual Life Insurance				
0000			. 04-1590850 .				LLC	DE	NIA	Company	Ownership	100.000	MMLIC	-
0000			45-2738137				Pioneers Gate LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership.	100.000	MMLIC	
0000			43-2/38/3/				Proneers date LLC	VE	NIA	Massachusetts Mutual Life Insurance	Ownership			
0000			45-4376777				MSC Holding Company, LLC	DE	NIA	Company	Ownership	_100.000	MMLIC	
0000			04-3341767				MassMutual Holding MSC, Inc.	MA MA	NIA	MSC Holding Company, LLC	Ownership.	_100.000	MMLIC	
5000			104 004 1707				masswatuar norumg woo, mc.			Massachusetts Mutual Life Insurance	owner strip		I WILL TO	-
0000			04-2854319	2392316			MassMutual Holding LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000			06-1597528	2002010			MassMutual Assignment Company	NC	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			04-1590850		0001399869		MassMutual Capital Partners LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			47-1296410				MassMutual Ventures LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			04-1590850				MM Rothesay Holdco US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			04-1590850		0000701059		MML Investors Services, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			04-1590850				MML Insurance Agency, LLC	MA	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC	
0000			41-2011634		0001456663		MMLISI Financial Alliances, LLC	DE	NIA	MML Investors Services, LLC	Ownership	51.000	MMLIC	
0000			. 04-3313782				MassMutual International LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000							MassMutual Asia Limited	HKG	I A	MassMutual International LLC	Ownership	100.000	MMLIC	
0000							MassMutual Asia Investors Ltd	HKG	NI A	MassMutual Asia Limited	Ownership	100.000	MMLIC	
0000			-				MassMutual Guardian Limited	HKG	NIA	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	NIA	MassMutual Asia Limited	Ownership	100.000	MMLIC	-
0000							MassMutual Trustees Limited	HKG	NIA	MassMutual Asia Limited	Ownership	80.000	MMLIC	-
0000			00 0010001				Protective Capital (International) Limited	HKG	NIA	Maria Maria I. Anto I. Sastand	Ownership	100.000	MMLIC	
0000			. 98-0610331 .				MassMutual Life Insurance Company	nr.u JPN	IA	MassMutual Asia Limited	Ownership	100.000	MMLIC	-
0000			98-1033127				MassMutual Internacional (Chile) SpA		NIA	MassMutual International LLC	Ownership	100.000	MMLIC	-
0000			. 45-4000072				MM Asset Management Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership.	100.000	MMLIC	-
0000			51-0504477		0000009015		Barings LLC	DE	NIA	MassMutual Asset Management Holding LLC		100.000	MMLIC	
0000			80-0875475		0000000010		Barings Finance LLC	DE		Barings LLC	Ownership	100.000	MMLIC	
0000							BCF Europe Funding Limited	IRL		Barings Finance LLC	Ownership	100.000	MMLIC	
0000							BCF Senior Funding LLC	DE		Barings Finance LLC	Ownership	100.000	MMLIC	.
							BCF Senior Funding I Designated Activity				,			
0000							Company	JRL		Barings Finance LLC	Ownership	100.000	MMLIC	
0000			. 04-3238351 .		0000930012		Barings Securities LLC	DE		Barings LLC	Ownership	100.000	MMLIC	
0000			. 98-0437588 .				Barings Guernsey Limited	GGY		Barings LLC	Ownership	100.000	MMLIC	
0000			98-0432153				Barings (UK) Limited	GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC	
0000							Babson GPC GP S.à.r.I	LUX		Barings (U.K.) Limitied	Ownership	100.000	MMLIC	
0000							Almack Mezzanine GP III Limited	GBR		Barings (U.K.) Limitied	Ownership	100.000	MMLIC	
0000							Almack Holding Partnership GP Limited	GBR		Barings (U.K.) Limitied	Ownership	100.000	MMLIC	-
0000							Almack Mezzanine Fund Limited	GBR		Barings (U.K.) Limitied	Ownership	100.000	MMLIC	-
0000		·	00 4040000				Almack Mezzanine Fund II Limited	GBR		Barings (U.K.) Limitied	Ownership	100.000	MMLIC	-
0000		·	. 98-1012393	-			Barings Global Advisors Limited	GBR		Barings (U.K.) Limitied	Ownership	100.000	MMLIC	-
0000		·					BCGSS 2 GP LLP	GBR GBR		Barings (U.K.) Limitied	Ownership	100.000	MMLICMMLIC	-
0000							Barings Advisers (Japan) KK	JPN		Barings (U.K.) Limitied Barings LLC	Ownership.	100.000	MMLIC	
0000		l	55-0878489	3456895	0001379495		Barings Real Estate Advisers LLC	DE		Barings LLC	Ownership	100.000	MMLIC	-
0000			. 55-0010409		. 0001313433		ACRE Captial Holdings LLC	DE		Barings LLC	Ownership	100.000	MMLIC	-
0000			1				ACRE Capital LLC	MI		Barings LLC	Ownership	100.000	MMLIC	-
VVVV							Inviil vapitai LLV	IIII f		Dai 11195 LLU	Owner 2111b	. 100.000	- WWIL-1∨	-

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						Exchange		Domi-	ship		Management,	ship		
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Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
0000							ACRE Capital Corporation	DE	NI A	Barings LLC	Ownership	100.000	- MMLIC	-
0000			04-3238351 .	3456895	0001011148		Barings Real Estate Advisers Inc.	CA		Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC	-
0000							Barings Real Estate Advisers Japan KK	JPN DE	NIA	Barings Real Estate Advisers LLC	Ownership	100.000		-
0000							Barings Real Estate UK Holdings Limited BREAE AIFM LLP	UE GBR		Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC	
0000							Barings Real Estate Advisers (Continental	חסט	NI A	Dailings hear Estate Advisers LLC	Owner Strip	100.000	MMLIC	-
0000			98-0654401				Europe) Limited	GBR	NIA	Barings Real Estate UK Holdings Limited .	Ownership	100.000	MMLIC	
0000			98-0654388				Barings Real Estate Advisers Europe LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC	
			00 000 1000 1				Barings Real Estate Advisers Europe			barrigo nour Estato on norumgo Emirtou	011101 0111 p			-
0000			98-0654412				Finance 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	Ownership	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	NI A	MassMutual Baring Holding LLC	Ownership	100.000	MMLIC	
0000							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	NIA	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	-
							Baring Asset Management UK Holdings			Baring International Investment				
0000			98-0457576 .				Limited	GBR	NIA	Management Holdings	Ownership	100.000	MMLIC	
0000			00 0405004				Danis and Assault Haman and Oakli	DELL	ALLA	Baring Asset Management UK Holdings	0	100 000	100	
0000			98-0465031 .				Baring Asset Management GmbH	DEU	NIA	Limited	Ownership	100.000	MMLIC	-
0000			98-0524271				Limited	HKG	NIA	Limited	Ownership	100.000	MMLIC	
0000			30-0324271				Baring International Fund Managers	INU	NI A	Baring Asset Management (Asia) Holdings	Owner Sirrp	100.000		-
0000			98-0457465				(Bermuda) Limited	BMU	NIA	Limited	Ownership	100.000	MMLIC	
			00 0407400				(Bormada) Ermited			Baring Asset Management (Asia) Holdings	0#161311p		WILLIO	-
0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Limited	Ownership	100.000		
0000							Baring Asset Management Korea Limited	KOR		Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC	
										Baring Asset Management (Asia) Holdings	·			
0000			98-0236449				Baring Asset Management (Japan) Limited	JPN	NIA	Limited	Ownership	100.000	MMLIC	
							Baring Asset Management (Australia) Pty			Baring Asset Management (Asia) Holdings				
0000			98-0457456				Limited	AUS	NIA	Limited	Ownership	100.000	. MMLIC	
							Baring International Fund Managers			Baring Asset Management UK Holdings				
0000			98-0524272				(Ireland) Limited	JRL	NI A	Limited	Ownership	100.000	MMLIC	-
										Baring Asset Management UK Holdings				
0000							Baring Asset Management Switzerland Sàrl	CHE	NIA	Limited	Ownership	100.000		-
0000			98-0457707				Baring SICE (Taiwan) Limited		NIA	Baring Asset Management UK Holdings Limited	O	100.000	MMLIC	
0000			. 98-043//0/ .				Baring Side (Taiwan) Limited	WIN	NIA	Baring Asset Management UK Holdings	Ownership	100.000	MMLIC	
0000			98-0497550				Baring France SAS	FRA	NIA	Limited	Ownership	100.000	MMLIC	
0000			98-0457586				Baring Fund Managers Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC	-
0000			98-0457574				Baring Pension Trustees Limited	GBR		Baring Asset Management Limited	Ownership	100.000	MMLIC	
0000			98-0457578				Baring Investment Services Limited	GBR		Baring Asset Management Limited	Ownership	100.000	MMLIC	
0000							Barings Australia Holding Company Pty Ltd .	AUS		Barings LLC	Ownership	100.000	MMLIC	
							5	-		Baring Australia Holding Company Pty	1			
0000			98-0457456 .				Barings Australia Pty Ltd	AUS	NIA	Ltd.	Ownership	100.000	MMLIC	
		1			1		Barings Investment Advisors (Hong Kong)							
0000							Limited	HKG	NIA	Barings LLC	Ownership	100.000		
0000			26-3115362				Wood Creek Index Company, LLC	DE		Wood Creek Capital Management LLC	Ownership	100.000	- MMLIC	.
0000			47-2642354				Alchemy Copyrights, LLC.	DE	NI A	MassMutual Holding LLC	Ownership/Influence	15.200	MMLIC	.

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						Exchange		Domi-	ship		Management,	ship	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide	
Group		Company	, ID	Federal	0114	(U.S. or	Parent, Subsidiaries	Loca-	Reporting		Influence,	Percen-	
Code	Group Name	Code	Number 47-2642354	RSSD	CIK	International)	Or Affiliates Alchemy Copyrights, LLC.	tion	Entity	(Name of Entity/Person) Wood Creek Capital Management LLC	Other)	tage	Entity(ies)/Person(s) *
0000			81-2244465 .				Chassis Acquisition Holding LLC	DE	NIA NIA	MassMutual Holding LLC	Influence	30.000	MMLIC
0000			81–2244465 .				Chassis Acquisition Holding LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC
0000			47-3055009				Milestone Acquisition Holding, LLC.	DE	NIA	MassMutual Holding LLC	Ownership/Influence	18.300	MMLIC
0000			47–3055009 .		-		Milestone Acquisition Holding, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC
0000			46-5460309 .				Red Lake Ventures, LLC	DE	NIA	Company	Ownership/Influence	31.500	MMLIC
0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC
0000			46-3123110				Sweet Tree Holdings 1, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	16.100	MMLIC
0000			46-3123110 .				Sweet Tree Holdings 1, LLC	DE	NIA NIA		Influence	10. 100	MMLIC
0000			40 0120110 .				Tamiami Citurus, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.700	MILIC
0000							Teaktree Acquisition, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	14.700	MMLIC
0000							Teaktree Acquisition, LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC
										Massachusetts Mutual Life Insurance			
0000							U.S. Buyer Broadcasting, LLC	DE	NIA	Company	Ownership/Influence	12.700	
0000							U.S. Buyer Broadcasting, LLC	DE	NI A	Wood Creek Capital Management LLC	Influence		MMLIC
0000			46-1500495 . 46-1500495 .				U.S. WIG Holdings, LP	DE	NI A	MassMutual Holding LLC	Ownership/Influence	11.700	MMLIC
0000			46-1500495 .				U.S. WIG HOTGINGS, LP	DE	NIA	Wood Creek Capital Management LLC Massachusetts Mutual Life Insurance	Influence		MML I C
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	Wood Creek Capital Management LLC	Influence		MMLIC
0000							Solar Acquisition Holding, LLC	DE	NIA	Company	Ownership/Influence	39.200	MMLIC
0000							Solar Acquisition Holding, LLC	DE	NI A	Wood Creek Capital Management LLC	Management		MMLIC
0000							VGS Acquisition Holding, LLC	DE	NI A	MassMutual Holding LLC	Ownership/Influence	42.600	MMLIC
0000			40.0070504				VGS Acquisition Holding, LLC	DE	NIA	Wood Creek Capital Management LLC	Management	47.000	MML1C
0000			46-3378584 . 46-3378584 .				WC Aircraft Holdings US II, LLC WC Aircraft Holdings US II, LLC	DE	NIA NIA	Company	Ownership/Influence	. 17.900	MMLIC
			40-33/0304 .				,			Massachusetts Mutual Life Insurance	management		
0000							Wood Creek Aircraft Holding I, LP	CYM	NIA	Company	Ownership	. 12.100	MMLIC
0000							Wood Creek Aircraft Holding I, LP	CYM	NI A	Wood Creek Capital Management LLC	Management		MMLIC
0000			04-1590850		0001501011		Babson Capital Floating Rate Income Fund Management. LLC	DE	NIA	Barings LLC	Ownership	100.000	MLIC
0000			04-1350030 .		. 0001301011		Babson CLO Investment Partners GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC
0000							Babson Global Loan Feeder Management, LLC	DE	NIA	Barings LLC	Ownership	.100.000	MMLIC
0000							Barings TERO Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC
0000							Babson Investment Grade CLO Debt Management	DE				100.000	
0000			98-0536233		-		Benton Street Advisors, Inc.	DE	NIA NIA	Barings LLC Barings LLC	Ownership	100.000	MMLIC
0000			04-1590850		-		SDCOS Management LLC	DE	NIA	Barings LLCBarings LLC	Ownership.		MMLIC
0000			04-1590850				Great Lakes III GP, LLC	DE	NIA	Barings LLC	Ownership		MMLIC
0000			04-1590850 .				Loan Strategies Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC
0000			04-1590850 .				Mezzco LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC
0000			02-0767001 .				Mezzco II LLC	DE	NIA	Barings LLC	Ownership	98.400	MMLIC
0000			41-2280126 .				Mezzco III LLC	DE	NIA	Barings LLC	Ownership	99.300	MMLIC
0000			80-0920285 .				Mezzco IV LLC	DE	NIA	Barings LLC	Ownership	99.300	MMLIC
0000			90-0666326 .		-		Mezzco Australia LLC	DE	NIA NIA	Barings LLC	Ownership	72.000	MMLIC
0000				.	.		Mezzco Australia II LLC	DE	NIA	Barings LLC	Uwnersnip	100.000	MML I U

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							_				Type	If		
											of Control	Control		
											(Ownership,	is		
						Name of Securities			Relation-		Board,	Owner-		
						Exchange		Domi-	ship		Management,	ship		
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
					_		Somerset Special Opportunities Management			(1 3 () (-)	
0000			04-1590850				LLC	DE	NIA	Barings LLC	Ownership	100.000		
0000			84-1149206	2897101			Oppenheimer Acquisition Corp.	DE	NIA	MassMutual Asset Management Holding LLC.	Ownership	97.100	MMLIC	
0000			13-2527171	2679183	0000820031		OppenheimerFunds, Inc.	CO	NIA	Oppenheimer Acquisition Corp	Ownership	100.000	MMLIC	
0000			13-2953455		0000276541		OppenheimerFunds Distributor, Inc.	NY	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC	
0000			84-1106295				Oppenheimer Real Asset Management, Inc	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC	
0000			13-4160541	3458125	0001179479		OFI Global Institutional, Inc.	NY	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC	
										OFI Institutional Asset Management, Inc.				
0000			13-3459790	2914875			OFI Global Trust Company	NY	NIA		Ownership	100.000	MMLIC	
										OFI Institutional Asset Management, Inc.				
0000							OFI International, Ltd.	GBR	NIA		Ownership	100.000	MMLIC	
					1					OFI Institutional Asset Management, Inc.				
0000			22-2697140 .				HarbourView Asset Management Corporation	NY	NIA		Ownership	100.000	MMLIC	
										OFI Institutional Asset Management, Inc.				
0000			25-1951632		0000099782		Trinity Investment Management Corporation .	PA	NIA		Ownership	100.000	MMLIC	
0000			84-1128397		0000857468		OFI SteelPath, Inc.	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC	
0000			84-1066811		0000276398		Shareholder Services, Inc.	CO	NIA	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	NIA	OppenheimerFunds, Inc	Ownership	100.000	MMLIC	
0000			62-1210532				Tremont Group Holdings, Inc.	NY	NIA	Oppenheimer Acquisition Corp	Ownership	100.000	MMLIC	
0000			. 06-1121864		0000764139		Tremont Partners, LLC	CT	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC	
0000			20-8215352				Tremont GP, LLC	DE	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MML IC	
0000			90-0874510				Settlement Agent LLC	DE	NIA	Tremont Group Holdings, Inc.	Ownership	100.000		
0000							Tremont (Bermuda) Limited	BMU	NIA	Tremont Group Holdings, Inc.	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			37-1732913	4400004			Fern Street LLC	DE	NIA	Company	Ownership	100.000		
0000			. 62-0951563 . 46-2252944	1160004	0001259664		First Mercantile Trust Company	TN DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			46-2252944				Haven Life Insurance Agency, LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
0000			04-2443240				NW Manager Conservation	MA	NIA	Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC	
0000			. 04-2443240 .				MML Management Corporation	MA	NIA	Company	Owner Sn Tp	100.000	MMLIC	
0000			04-3548444		1		MassMutual International Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MML1C	
0000			47-1466022				Society of Grownups, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	
			. 47-1400022 .				Society of Grownups, LLC	NA	IN I M	Massachusetts Mutual Life Insurance	Owner Sirip			
0000			04-1590850		1		MML Mezzanine Investor II. LLC	DE	NIA	Company	Ownership	100.000		
0000			. 0000001				minum mozzanine nivestol II, LLV		NIA	Massachusetts Mutual Life Insurance	omioi attip			
0000			04-1590850		1		MML Mezzanine Investor III, LLC	DE	NIA	Company	Ownership.	100.000	MMLIC	
0000			. 0. 1000000 .				mozzanino invostor iri, ELO			Massachusetts Mutual Life Insurance	σοι στρ			
0000			27-3576835		1		MassMutual External Benefits Group LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
							DOINGT TO GIVE LED			Massachusetts Mutual Life Insurance	5 Sirip			
0000			04-1590850		1		MML Re Finance LLC	DE	NIA	Company	Ownership	100.000	MML1C	
							THE TOTAL PROPERTY OF THE PROP			Massachusetts Mutual Life Insurance				
0000			56-2574604		1		Invicta Advisors LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			27-0105644		1		Jefferies Finance LLC	DE	NIA	Company	Ownership.	50.000	MMLIC	1
0000							Apex Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	'
0000							JFIN Fund III LLC	DE	NIA	Jefferies Finance LLC	Ownership.	100.000	MMLIC	
0000							JFIN Asset Management LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN Co-Issuer Corporation	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC	
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						Exchange		Domi-	ship		Management,	ship		
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
0000	Group Hame	0000	Hamboi	11005	Oiix	momational	JFIN Europe GP, S.a.r.I.	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							Jefferies Finance Europe, SCSp	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							Jefferies Finance Business Credit LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN Business Credit Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN High Yield Investments LLC	DE	NIA	Jefferies Finance LLC	Ownership		MMLIC	
0000							JFIN LC Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership		MMLIC	
0000								DE	NIA NIA		Ownership	100.000	MMLIC	
0000							JFIN Revolver CLO Holdings LLC	CYM		Jefferies Finance LLC	Ownership	100.000	MMLIC	
							JFIN CLO 2007 Ltd.		NIA	Jefferies Finance LLC				
0000							JFIN CLO 2012 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN CLO 2013 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN CLO 2014 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	70.000	MMLIC	
0000							JFIN CLO 2014 Ltd	CYM	NI A	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	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN CLO 2015 Ltd	CYM	NIA	Jefferies Finance LLC	Ownership	44.000	MMLIC	
0000							JFIN CLO 2015 Ltd	CYM	NIA	Apex Credit Partners LLC	Ownership	56.000	MMLIC	
0000							JFIN CLO 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	33.000	MMLIC	
0000							JFIN CLO 2015-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	53.000	MMLIC	
0000							JFIN Revolver CLO Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	.100.000	MMLIC	
0000							JFIN Revolver CLO 2014 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	.100.000	MMLIC	
0000							JFIN Revolver CLO 2015 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership		MMLIC	
0000							JFIN Revolver CLO 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JFIN CLO 2016 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	
0000							JF IN OLO 2010 Ltd.	VIWL	IN I A	Massachusetts Mutual Life Insurance	Owner Sirrp		WWILTO	
0000			04-1590850		0000067160		MM Deiveta Favita Fond Investor II C	DE	NIA	Company	Ownership	_100.000	MMLIC	
					0000067160		MML Private Equity Fund Investor LLC							
0000			. 04-1590850 .				MM Private Equity Intercontinental LLC	DE	NI A	MML Private Equity Fund Investor LLC	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			. 04-1590850 .				300 South Tryon Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			04-1590850				300 South Tryon LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			20-3887968				54 West Capital LLC	DE	NI A	Company	Ownership	100.000	MML IC	
										Massachusetts Mutual Life Insurance				
0000			16-1720387	I	l		Alexandria Towers Investors LLC	DE	NIA	Company	Ownership	100.000	MMLIC	[
										Massachusetts Mutual Life Insurance				
0000				I			Almack Mezzanine Fund LP	GBR	NIA	Company	Ownership/Influence	38.900	MMLIC	
0000							Almack Mezzanine Fund LP	GBR	NIA	C.M. Life Insurance Company	Ownership.	4.300	MMLIC	
0000							Almack Mezzanine Fund LP	GBR	NIA	Barings (U.K.) Limitied	Management		MMLIC	
0000							ATHION MOZZAITHE FUND I LI	ווטע		Massachusetts Mutual Life Insurance	_ management		mmL10	
0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Company	Ownership/Influence	73.300	MMLIC	
0000			1				Almack Mezzaine Fund II Unieveraged LP				Management		MMLIC	
0000			1				Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Barings (U.K.) Limitied	_ mariagement		MMLIG	
0000				I				000		Massachusetts Mutual Life Insurance		0	144 10	
0000			-				Almack Mezzanine Fund III LP	GBR	NIA	Company	Ownership/Influence	34 . 400	MMLIC	
0000							Almack Mezzanine Fund III LP	GBR	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC	
0000							Almack Mezzanine Fund III LP	GBR	NIA	Barings (U.K.) Limitied	Management		MMLIC	
							Babson Capital Emerging Markets Corporate			Massachusetts Mutual Life Insurance				
0000							Bond Fund	JRL	NIA	Company	Ownership/Influence	98.700	MMLIC	
			1	1	1	1	18			1		1	1	1
0000							Babson Capital Emerging Markets Corporate Bond Fund	IBI	NIA	Barings LLC	Management		MMLIC	

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						Exchange		Domi-	ship		Management,	ship		ļ
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		ļ
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	ļ
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
	'					,	Babson Capital Emerging Markets Local Debt		<i>'</i>	Massachusetts Mutual Life Insurance	,		, , , , , , , , , , , , , , , , , , , ,	
0000							Fund	JRL	NIA	Company	Ownership/Influence	47.300	MMLIC	
							Babson Capital Emerging Markets Local Debt			,				
0000							Fund	JRL	NIA	Barings LLC	Management		MMLIC	
							Babson Capital Global Special Situations			Massachusetts Mutual Life Insurance				
0000							Credit Fund 1	JRL	NIA	Company	Ownership/Influence	98.700	MMLIC	
							Babson Capital Global Special Situations			. ,				ļ
0000							Credit Fund 1	JRL	NIA	Barings LLC	Management		MMLIC	
							Babson Capital Global Special Situation			Massachusetts Mutual Life Insurance	, and the second			ļ
0000			98-1206017 .				Credit Fund 2	DE	NIA	Company	Ownership/Influence	23.900	MMLIC	
							Babson Capital Global Special Situation			. ,				ļ
0000			98-1206017 .				Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership	1.500	MMLIC	
							Babson Capital Global Special Situation			, ,				ļ
0000			98-1206017 _				Credit Fund 2	DE	NIA	Barings LLC	Management		MML1C	
										Massachusetts Mutual Life Insurance				ļ
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Company	Ownership/Influence	78.700	MMLIC	
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.900	MML1C	
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE		Barings LLC	Management		MMLIC	
										Massachusetts Mutual Life Insurance	, and the second			ļ
0000							Babson Capital US High Yield Bond Fund	JRL	NIA	Company	Ownership/Influence	42.600	MMLIC	
0000							Babson Capital US High Yield Bond Fund	JRL	NIA	Barings LLC	Management		MMLIC	
0000							Babson CLO Ltd. 2007-I	CYM		Barings LLC	Influence		MMLIC	4
0000							Babson CLO Ltd. 2012-I	CYM	NIA	Barings LLC	Influence		MML1C	
0000							Babson CLO Ltd. 2012-II	CYM		Barings LLC	Influence		MMLIC	
0000							Babson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MMLIC	7
0000			98-1128827 .				Babson CLO Ltd. 2013-II	CYM	NIA	Barings LLC	Influence		MML1C	8
0000							Babson CLO Ltd. 2014-I	CYM	NIA	Barings LLC	Influence		MMLIC	2
0000							Babson CLO Ltd. 2014-II	CYM	NIA	Barings LLC	Influence		MMLIC	9
0000							Babson CLO Ltd. 2014-III	CYM	NIA	Barings LLC	Influence		MMLIC	
0000							Babson CLO Ltd. 2015-I	CYM		Barings LLC	Influence		MMLIC	10
0000							Babson CLO Ltd. 2015-II	CYM		Barings LLC	Influence		MMLIC	11
0000							Babson CLO Ltd. 2016-I	CYM		Barings LLC	Influence		MMLIC	
0000							Babson CLO Ltd. 2016-I	CYM		Barings LLC	Influence		MMLIC	
0000							Babson Euro CLO 2014-I BV	NLD		Barings LLC	Influence		MMLIC	
0000							Babson Euro CLO 2014-II BV	NLD		Barings LLC	Influence		MMLIC	
0000							Babson Euro CLO 2015-I BV	NLD		Barings LLC	Influence		MMLIC	
0000							Babson Euro CLO 2016-I BV	NLD	NIA	Barings LLC	Influence		MMLIC	
							Babson Global Credit Fund (Lux) SCSp,	1		Massachusetts Mutual Life Insurance				
0000							SIACV-SIF	LUX	NIA	Company	Ownership/Influence	15.200	MMLIC	
							Babson Global Credit Fund (Lux) SCSp,	1						
0000							SIACV-SIF	LUX	NIA	Barings LLC	Management		MMLIC	
										Massachusetts Mutual Life Insurance				
0000			47-3971963 .				Babson Investment Grade CLO Debt Fund LP	DE	NIA	Company	Ownership/Influence	93.300	MMLIC	
0000			47-3971963 .				Babson Investment Grade CLO Debt Fund LP	DE		C.M. Life Insurance Company	Ownership	6.700	MMLIC	
0000			47-3971963 .				Babson Investment Grade CLO Debt Fund LP	DE	NIA	Barings LLC	Management		MMLIC	
								1		Massachusetts Mutual Life Insurance				
0000							Baring Emerging Market Corp Debt Fund	JRL	NIA	Company	Ownership/Influence	87.700	MMLIC	
0000							Baring Emerging Market Corp Debt Fund	JRL	NIA	Baring Asset Management Limited	Management		MMLIC	
										Massachusetts Mutual Life Insurance				
0000			11-3789446				Baring Focused EAFE Equity Fund	DE		Company	Ownership/Influence	. 43.400	MMLIC	
0000			11-3789446 .				Baring Focused EAFE Equity Fund	DE	NIA	Baring Asset Management Limited	Management		MMLIC	

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Property Property												Type	If		
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Column C							Name of Securities			Relation-		Board,	Owner-		
Company Comp							Exchange		Domi-	ship		Management,	ship		
Company Comp			NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Code	Group		Company	ID	Federal		(U.Ś. or	Parent, Subsidiaries		Reporting	Directly Controlled by		Percen-	Ultimate Controlling	
100	Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
December December		•					,	Baring Global Dynamic Asset Allocation			Massachusetts Mutual Life Insurance	,	Ĭ	, , ,	
2000 20 20 20 20 20 20	0000			30-0607379		. 0001497049			DE	NIA	Company	Ownership/Influence	18.700	MMLIC	
2000 20 20 20 20 20 20								Baring Global Dynamic Asset Allocation				·			
Daming Informational Start In Certainly Find Description Descripti	0000			. 30-0607379 .		. 0001497049			DE	NIA	Baring Asset Management Limited	Management		MMLIC	
Description								Baring International Small Cap Equity Fund			Massachusetts Mutual Life Insurance				
25-14/276	0000			26-4142796 .					DE	NIA	Company	Ownership/Influence	64 . 400	MMLIC	
								Baring International Small Cap Equity Fund				·			
94-55823 Sentor Stored Partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sarings LE Sungared Conserve Order partners L. P. C. M. MA Sungared Conserve Order partners L. P. C. M. MA Sungared Conserve Order partners L. P. C. M. MA Sungared Conserve Order partners L. P. C. M. Massardurata Mutal Life Insurance Order partners L. P. Sungared Conserve Order partners			.			.		,		NIA					
	0000			98-0536233		.		Benton Street Partners I, L.P.	CYM	NIA	MassMutual Capital Partners LLC	Ownership/Influence	99 . 100	MMLIC	
	0000					.		Benton Street Partners I, L.P.	CYM	NIA		Management		MMLIC	
Section Street Pertners 1, LP													0.100		
Section Sect								,							
Section Street Partners 1, LP CM Mix Companies Control Control	0000			98-0536233				Benton Street Partners I, L.P.	CYM	NIA	Company	Ownership	0.400	MMLIC	
Section Steep Partners 1, L P								, , , , , , , , , , , , , , , , , , , ,			Massachusetts Mutual Life Insurance	,			
	0000			98-0536199				Benton Street Partners II. L.P.	CYM	NIA		Ownership/Influence	28,600	MMLIC	3
	0000								CYM	NIA	MassMutual Capital Partners LLC	Ownership	10.400	MMLIC	
												Management	-	MMLIC	
				1											
	0000							Braemar Energy Ventures I I P	DF	NIA		Ownership/Influence	92 500	MMLIC	
Carbridge Fole1, LLC								Diamar Energy terreards 1, Energy			Massachusetts Mutual Life Insurance				
Description	0000			06-1614196				Cambridge Hotel IIC	DF	NIA		Ownership	100 000	MMLIC	
Cheyenne Hountain Resort LLC															
Connecticut Valley Structured Credit COD 1, 1 th d	0000			04-1590850				Chevenne Mountain Resort IIC	DF	NIA		Ownership	100 000	MMLIC	
11															
Connecticut Valley Structured Credit COD File of Connecticut Valley Structured Credit COD Comment Valley Structured Credit COD Cod	0000								CYM	NIA	Barings II C	Influence		MMLIC	5
													-		
Saring European Core Property Fund SSSp	0000								CYM	NIA	Barings II C	Influence		MMLIC	
													94 000		
Barings European Core Property Fund SSS LUX NIAL Barings Real Estate Advisers LLC Massachusetts Mutal Life Insurance Mulc								Barings European Core Property Fund SCSp							
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DOOD Cornerstone Corners	0000			27-1701622		0001481752		Cornerstone Core Mortgage Venture I LP	DE	NIA		Ownership/Influence	50.000	MMLIC	
Massachusetts Mutual Life Insurance Management Mulc Mulc								Cornerstone Core Mortgage Venture I IP							
45-3751572															
December December	0000		.	45-3751572	l	0001534877		Cornerstone Enhanced Mortgage Fund I LP	DE	NIA.		Ownership/Influence	15.600	IMMLIC	
Dec															
December December															
20-8730751 Cornerstone Global Real Estate LP DE NIA C.M. Life Insurance Company Ownership 7.600 MMLIC	0000			20-8730751				Cornerstone Global Real Estate LP	DE	NIA		Ownership/Influence	92.300	MMLIC	
20-8730751 Cornerstone Global Real Estate LP DE NIA Barings Real Estate Advisers LLC Management MMLIC											C.M. Life Insurance Company			MMLIC	
DE											Barings Real Estate Advisers LLC				
.0000											Massachusetts Mutual Life Insurance	-			
.0000	0000			36-4770946				Cornerstone High Yield Venture LP	DE	NIA		Ownership/Influence	50.000	MMLIC	
Cornerstone Hotel Income & Equity Fund II											Barings Real Estate Advisers LLC				
												<u> </u>			
Cornerstone Hotel Income & Equity Fund II	0000			26-1828760		. 0001423638			DE	NIA		Ownership/Influence	16.900		
.0000								Cornerstone Hotel Income & Equity Fund II			, ,	,			
	0000			26-1828760		0001423638		LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
								Barings Core Property Fund LP		NIA			10.300		

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											Туре	If		
											of Control	Control		
											(Ownership,	is		
						Name of Securities			Relation-		Board,	Owner-		
						Exchange		Domi-	ship		Management,	ship		
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
										Massachusetts Mutual Life Insurance				
0000			27-0547156				Cornerstone Real Estate Fund VIII LP	DE	NIA	Company	Ownership/Influence	15.100	MML IC	
0000			. 27-0547156 .				Cornerstone Real Estate Fund VIII LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
0000			46-5432619				O D. I F. t. t. F I V I D	DE	MILA	Massachusetts Mutual Life Insurance	O mark i diadiana	25,400	MMLIC	
0000			46-5432619				Cornerstone Real Estate Fund X LP Cornerstone Real Estate Fund X LP	DE	NIA NIA	Company	Ownership/Influence	2.800	MMLIC	
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA NIA	Barings Real Estate Advisers LLC	Management_	2.800	MMLIC	
0000			. 40-3432019				Cornerstone hear Estate Fund X EF	l	NIA	Massachusetts Mutual Life Insurance	management			
0000			46-5437441				Barings/LAZ Parking Fund LP	DE	NIA	Company	Ownership/Influence	100.000	MMLIC	
0000			46-5437441	1			Barings/LAZ Parking Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC	
0000			13 070/741	3981641			Duchess VI CLO B.V.	GBR	NIA	Barings LLC	Influence		MMLIC	
0000]	4007502			Duchess VII CLO B.V.	GBR	NIA	Barings LLC	Influence		MMLIC	
			1	1						Massachusetts Mutual Life Insurance			-	
0000			20-3887968				E-Wise Land Venture LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance		-		
0000			80-0691253		. 0001517196 .		Gateway Mezzanine Partners I, L.P.	DE	NIA	Company	Ownership/Influence	62.500	MMLIC	
0000			80-0691253		. 0001517196 .		Gateway Mezzanine Partners I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	7.700	MMLIC	
0000			80-0691253	.	. 0001517196 .		Gateway Mezzanine Partners I, L.P	DE	NIA	MassMutual Holding LLC	Ownership	8.900	MMLIC	
0000			. 80-0691253 .		. 0001517196 .		Gateway Mezzanine Partners I, L.P	DE	NIA	Barings LLC	Management		MMLIC	
										Massachusetts Mutual Life Insurance				
0000			90-0991195		. 0001597511 .		Gateway Mezzanine Partners II LP	DE	NIA	Company	Ownership/Influence	34.900	MMLIC	
0000			90-0991195		. 0001597511 .		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.200	MMLIC	
0000			90-0991195		. 0001597511 .		Gateway Mezzanine Partners II LP	DE	NIA	MassMutual_Holding LLC	Ownership	5.100	MMLIC	
0000			90-0991195		. 0001597511 .		Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC	
										Massachusetts Mutual Life Insurance				
0000			. 37-1708623 .		. 0001565779 .		Great Lakes III, L.P.	DE	NIA	Company	Ownership/Influence	35.700	MMLIC	
0000			. 37-1708623 .		. 0001565779 .		Great Lakes III, L.P	DE	NIA	Barings LLC	Management		MMLIC	
0000			20-3887968				Kazwell Realty Partners LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	O	100.000		
0000			. 20-388/908 .				Razwell Healty Partners LLC		NIA	Massachusetts Mutual Life Insurance	Ownership		MMLTC	
0000			45-3754085				King Alexander LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000	-		. 40 0/04000 .			***************************************	INTING ATEXABILIES LLO	L	INI /\	Massachusetts Mutual Life Insurance	Οπισι 3πτρ			
0000			46-4255307				Marco Hotel LLC	DE	NIA.	Company	Ownership		MMLIC	
										Massachusetts Mutual Life Insurance				
0000			81-3000420				MM Debt Participations LLC	DE	NIA	Company	Ownership/Influence	100.000	MMLIC	
0000			81-3000420		.		MM Debt Participations LLC	DE	NIA	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 .				Oakley Grove Development LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
							·			Massachusetts Mutual Life Insurance				
0000			20-3887968	.	.		Old Pasco Properties LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			. 75-2901061 .		-		Reston Arboretum LLC	DE	NIA	Company	Ownership		MMLIC	
			l							Massachusetts Mutual Life Insurance		1		
0000			30-0713071		-		Riva Portland LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000							Rockall CLO B.V.	GBR	NIA	Barings LLC	Influence		MMLIC	
0000			E4 0055770				Budadilla Tana Orah 110	1/4	A	Massachusetts Mutual Life Insurance	0	100 000	144 10	
0000			. 54–2055778 .		-		Rockville Town Center LLC	VA	NIA	Company	Ownership	100.000		
0000			74 0400000		-		Sapphire Valley CDO I, Ltd.	CYM	NIA	Barings LLC	Influence			6
0000	I	ļ	74-3182902	.	.		SDC0S L.P	UE	NIA	Barings LLC	Management		MMLIC	

				1 /1		- DEIAIL	. OI IIIOOIIAIIOL	_ !!\	7LDII'	NG COMPANY S				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
											Type	If		
											of Control	Control		
											(Ownership,	is		
						Name of Securities			Relation-		Board,	Owner-		
						Exchange		Domi-	ship		Management,	ship		
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
										Massachusetts Mutual Life Insurance				
0000			46-5491311 .				Seattle 1415 Hotel Owner LLC	DE	NI A	Company	Ownership	100.000		
										Massachusetts Mutual Life Insurance				
0000			04-1590850 .				Sedona TFMP Land LLC	DE	NIA	Company	Ownership	100.000	MMLIC	
0000			20-8856877		0001409910		0	DE	NIA	Massachusetts Mutual Life Insurance	Ownership/Influence	46.600	MMLIC	
0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P Somerset Special Opportunities Fund L.P	DE		C.M. Life Insurance Company	Ownership	2.300	MMLIC	
0000			20-8856877		0001409910		Somerset Special Opportunities Fund L.P	DE		Barings LLC		2.300	MMLIC	
			20-0000011		000 14099 10		oomerset opecial opportunities rund L.P			Massachusetts Mutual Life Insurance	Management		INMILIO	
0000			04-1590850 .				South Myrtle Monrovia MM LLC	DE		Company	Ownership	100.000	MMLIC	
0000			U-1030000 .				OOG CIT WAS LIFE MOIN OVIA WIN LLO	E	NI /\	Massachusetts Mutual Life Insurance	Omici Sitip			
0000			20-3887968				South Pasco Properties LLC	. DE	NIA	Company	Ownership	100.000	MMLIC	
							COUNTY TOPON COO LEG			Massachusetts Mutual Life Insurance				
0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P	DE	NIA	Company	Ownership/Influence	25.800	MMLIC	
0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	DE		C.M. Life Insurance Company	Ownership	4.500	MMLIC	
0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	DE		Barings LLC	Management		MMLIC	
0000			30-0336246		0001345379		Tower Square Capital Partners II, L.P.	DE	NIA	MassMutual Holding LLC	Ownership	2.300	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			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		C.M. Life Insurance Company	Ownership	15.000		
0000			32-0160190 .				Tower Square Capital Partners II-A, L.P	DE		Barings LLC	Management		MMLIC	
0000			41-2280127 .		0001447547		Tower Square Capital Partners III, L.P	DE		Barings LLC	Management		. MMLIC	
0000			41-2280127 _		0001447547		Tower Square Capital Partners III, L.P	DE	NIA	MassMutual Holding LLC	Ownership/Influence	21.800		
0000			44 0000400		0001447548			DE		Massachusetts Mutual Life Insurance	0 1: 0.0	96.400	MMLIC	
0000			41-2280129 ₋ 41-2280129 ₋		0001447548		Tower Square Capital Partners IIIA, L.P.	DE		Company	Ownership/Influence	96.400	MMLIC	
0000			80-0920367		0001447548		Tower Square Capital Partners IIIA, L.P Tower Square Capital Partners IV-A, L.P	DE		Barings LLC	Management	21.300	MMLIC	
0000			80-0920367		0001598727		Tower Square Capital Partners IV-A, L.P	DE		Barings LLC	Management	21.300	MLIC	
0000			00-0320307		0001390727		lower square capital raithers IV-A, L.F			Massachusetts Mutual Life Insurance	management		. INVILLED	
0000			04-3722906 .		0001228752		Tower Square Capital Partners, L.P	DE		Company	Ownership/Influence	41, 100	MMLIC	
0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	DE		C.M. Life Insurance Company	Ownership	0.600	MMLIC	
0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	DE		Barings LLC	Management_		MMLIC	
0000			04-3722906		0001228752		Tower Square Capital Partners, L.P.	DE		MassMutual Holding LLC	Ownership	2.900	MMLIC	
]		1					Massachusetts Mutual Life Insurance				
0000			04-1590850 .				West 46th Street Hotel LLC	DE		Company	Ownership		MMLIC	
0000							Whately CDO, Ltd	CYM		Barings LLC	Influence		. MMLIC	
										Massachusetts Mutual Life Insurance				
0000			20-4981369 .		0001371601		Wood Creek Multi Asset Fund, L.P	DE		Company	Ownership/Influence	100.000	MMLIC	
0000			20-4981369 .		0001371601		Wood Creek Multi Asset Fund, L.P.	DE	NIA	Barings LLC	Management		MMLIC	
0000							Babson Capital Emerging Markets Debt	LDI	NII A	Denis and LLO	W		MM 10	
0000							Blended Total Return Fund	JRL	NIA	Barings LLC	Management		_ MMLIC	
0000							Babson Capital Emerging Markets Debt Short Duration Fund	IDI	NI A	Barings LLC	Managament		MMLIC	
0000							Babson Capital Emerging Markets Sovereign	JRL	NIA	Dai Higs LLC	Management		- INMLIO	
0000							Debt Fund	JRL	NIA	Barings LLC	Management		- MMLIC	
0000							Babson Capital Floating Rate Income Fund,		NI /\	Dai mgo LLV	manayement		mmL10	
0000			27-3330830 .		0001521404		L.P.	DE	NIA	MassMutual Holding LLC	Ownership	0.000	MMLIC	
			0000000 .				Babson Capital Floating Rate Income Fund,			macomatan initiality LLV				
0000			27-3330830		0001521404		L.P.	DE	NIA	Barings LLC	Management		MMLIC	
					1		Babson Capital Loan Strategies Master Fund			··· •				
0000							LP	CYM	NI A	Barings LLC	Management		MMLIC	

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1	2	3	4	5	6 7	8	9	10	11	12 Type of Control	13 If Control	14	15
Group		NAIC Company	ID	Federal	Name of Sec Exchang if Publicly T (U.S. o	e aded Names of	Domi- ciliary Loca-	Relation ship to Reportin		(Ownership, Board, Management, Attorney-in-Fact, Influence.	is Owner- ship Provide Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK Internatio	oal) Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
0000						Babson Capital Global Investment Grade			B : 110				
0000						Corporate Plus Fund	JRL	NIA	Barings LLC	Management			
0000			47-3758432 .			Total Return Fund	MA	NIA	Barings LLC	Management		MMLIC	
0000			47-3774453			Barings Emerging Markets Local Currency Debt Fund	MA	NIA	Barings LLC	Management		MMLIC	
0000			47-3790192			Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC	
0000			47-3734770			Barings Total Return Bond Fund	MA	NIA	Barings LLC	Management		MMLIC	
0000			47-3801860 .			Barings U.S. High Yield Fund	MA AUS	NIA NIA	Barings LLCBarings LLC	Management		MMLIC	
0000						dateway wezzaiine Faithers i nust		NI /\	Massachusetts Mutual Life Insurance	management			
0000			71-1018134 .			Great Lakes II LLC	DE	NI A	Company	Ownership	11.200	. MMLIC	
0000		-	71–1018134			Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company Massachusetts Mutual Life Insurance	Ownership	1.000	. MMLIC	
0000			56-2505390 .			Great Lakes LLC	DE	NIA	Company	Ownership	4.400		
0000			56-2505390 .			Great Lakes LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.500	. MMLIC	
0000			46-2344300			Intermodal Holdings II LLC	DE	NIA	Wood Creek Capital Management LLC	Influence		MMLIC	
0000						LP	CYM	NIA	Barings LLC	Management		MMLIC	
									Massachusetts Mutual Life Insurance				
0000		-	. 04–1590850 .			Wood Creek Venture Fund LLCBaring Greater China Equity Fund	DE	NIA NIA	Company	Ownership	40.000	MMLIC	
0000						12-18 West 55th Street Predevelopment, LLC			Massachusetts Mutual Life Insurance	management		- INSTITUTE OF THE PROPERTY OF	
0000			20-2548283 .				DE	NIA	Company	Ownership	89.000	. MMLIC	
0000			20-2548283 .			12-18 West 55th Street Predevelopment, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.700		
									Massachusetts Mutual Life Insurance	omioi omp			
0000			46-4803557 .			2 Harbor Shore Member LLC	DE	NIA	Company	Ownership	70.800	MMLIC	
0000			. 46–4803557 .			2 Harbor Shore Member LLC	DE	NIA	C.M. Life Insurance Company Massachusetts Mutual Life Insurance	Ownership	7.000	. MMLIC	
0000			36-4823011 .			50 Liberty LLC	DE	NIA	Company	Ownership	46.100	MMLIC	
0000			36-4823011 .			50 Liberty LLC	DE	NIA	C.M. Life Insurance Company Massachusetts Mutual Life Insurance	Ownership	4.600	. MMLIC	
0000			80-0948028			One Harbor Shore LLC	DE	NIA	Company	Ownership	32.300	MMLIC	
0000			80-0948028 .			One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.200	. MMLIC	
0000			45-5257904 .			21 West 86 LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	96.900		
0000			. 45-5257904 . . 45-5257904 .			21 West 86 LLC	DE	NIA NIA	C.M. Life Insurance Company	Ownership	3. 100	MMLIC	
									Massachusetts Mutual Life Insurance	·			
0000			45-2779931 ₄₅₋₂₇₇₉₉₃₁			AT Mid-Atlantic Office Portfolio LLC AT Mid-Atlantic Office Portfolio LLC	DE	NIA NIA	Company	Ownership			
0000		-	. 10 2110001			The mid Actualities Stride For Clothe LLC		NI /\	Massachusetts Mutual Life Insurance	omici dirip			
0000			04-1590850 .			Budapester Strasse LLC	DE	NIA	Company	Ownership	100.000		
0000			04-1590850 .			CHC/RFP VI Core LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000		
		-				Cornerstone California Mortgage Fund I LLC	;		Massachusetts Mutual Life Insurance	·			
0000		-	95-4207717 .			0	CA	NIA	Company	Ownership	100.000	MMLIC	
0000			95-4207717			Cornerstone California Mortgage Fund II	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	
									Massachusetts Mutual Life Insurance	·			
0000		.	56-2630592			Cornerstone Fort Pierce Development LLC	DE	NIA	Company	Ownership	84 . 400		

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					1 1 <i>F</i>	4 - DEIAIL	. OF INSURANCE		/LDI	ING COMPAINT				
1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership,	13 If Control	14	15
						Name of Securities Exchange		Domi-	Relation- ship		Board, Management,	Owner- ship		
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
0000	G. 5 G. 7 Ta. 11 5	0000	56-2630592	1.002	0	meomationary	Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.600	MMLIC	
			00 2000002				Corner of the Force Boveropment EEC			Massachusetts Mutual Life Insurance	0 O P			
0000			45-2632610				Cornerstone Permanent Mortgage Fund	DE	NIA	Company	Ownership	100.000		
							3.0			Massachusetts Mutual Life Insurance				
0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			35-2531693				Cornerstone Permanent Mortgage Fund III	MA	NIA	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			46-5001122				CREA 330 Third LLC	DE	NIA	Company	Ownership	0.900	MMLIC	
0000			46-5001122	-		.	CREA 330 Third LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.100	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			46-4367364				CREA FMF Nashville LLC	DE	NI A	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			. 26-2399532				CREA/LYON West Gateway, LLC	DE	NIA	Company	Ownership	54.000	MMLIC	
0000			26-2399532	-			CREA/LYON West Gateway, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	MMLIC	
0000			81-0890084				CREA Madison Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC	
0000			00 0040470				0054 (000)/ 1 110	DE.		Massachusetts Mutual Life Insurance		00 400	188 10	
0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	Company	Ownership	93.400	MMLIC	
0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.600	MMLIC	
0000			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NIA	Company	Ownership	67.100	MMLIC	
0000			. 26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.600	MMLIC	
0000			20-1011391	. 3930030			ration cornerstone one MFD LLC	VE	NIA	Massachusetts Mutual Life Insurance	Owner strip	0.000	WWILTO	
0000			20-3347091				Fan Pier Development LLC	DE	NIA	Company	Ownership	58.500	MMLIC	
0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MMLIC	
			20 00 17 00 1				Turi Tor Bovoropilloric ELO			Massachusetts Mutual Life Insurance	0 and 0 and p			
0000			46-3880526				Farringdon London Holdings LLC	DE	NIA	Company	Ownership	94.500	MMLIC	
0000			46-3880526				Farringdon London Holdings LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	5.500	MMLIC	
										Massachusetts Mutual Life Insurance				
0000							Infinity SCD Ltd	GBR	NIA	Company	Ownership.	4.200	MMLIC	
										Massachusetts Mutual Life Insurance	·			
0000			20-4819358				Johnston Groves LLC	DE	NIA	Company	Ownership	57.200	MMLIC	
		1								Massachusetts Mutual Life Insurance				
0000			81-2871333			.	MM Chatham Office LLC	DE	NIA	Company	Ownership	83.400	MMLIC	
		1								Massachusetts Mutual Life Insurance				
0000			81-2871333	-			MM Chatham Office LLC	DE	NIA	Company	Ownership	16.600	MMLIC	
		1								Massachusetts Mutual Life Insurance				
0000			46-5347643	-			MMI/Hines Harrison LLC	DE	NIA	Company	Ownership	82.800	MMLIC	
0000			. 46-5347643	-			MMI/Hines Harrison LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.200	MMLIC	
0000		1					Salomon Brothers Commercial Mortgage Trust	DE					188.10	
0000						-	2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MMLIC	
0000		1	07 0077700				O William Ob inn Ounter U.O.	DE	NILA	Massachusetts Mutual Life Insurance	0	04 000	188 10	
0000			27-2977720	-			Sawgrass Village Shopping Center LLC	DE	NIA	Company	Ownership	84.200	MMLIC	
0000			. 27-2977720	-		-	Sawgrass Village Shopping Center LLC	DE	NIA	C.M. Life Insurance Company	Ownership	15.800	MMLIC	
0000		1					Ten Fan Pier Boulevard LLC	DE	MIA	Massachusetts Mutual Life Insurance	Ownership	91.000	MMLIC	
0000							Ten Fan Pier Boulevard LLC	DE	NIA NIA	Company	Ownership	91.000	MMLIC	
							len ran rier boulevard LLC	VE	NIA	Massachusetts Mutual Life Insurance	Uwilet SHTP	9.000		
0000		1	35-2484550				Twenty Two Liberty LLC	MA	NIA	Company	Ownership	59.200	MMLIC	
0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC	
			I UU LTUTUUU											

	PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM													
1	2	3	4	5	6	7	8	9	10	11	12 Type of Control	13 If Control	14	15
											(Ownership,	is		
						Name of Securities			Relation-		Board,	Owner-		
						Exchange		Domi-	ship		Management,	ship		
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
										Massachusetts Mutual Life Insurance				
0000			45-4606547 .				UK LIW Manager LLC	DE	NIA	Company	Ownership	1.000	MMLIC	
0000			45-4606547				UK LIW Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC	
0000			45-4000547 .				ON LIN WEINDER LLC		NI /\	Massachusetts Mutual Life Insurance	Owner Sirrp			
0000			45-5401109 .				Washington Gateway Apartments Venture LLC	DE	NIA	Company	Ownership.	92.000	MMLIC	
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA.	C.M. Life Insurance Company	Ownership	4.800	MMLIC	
							, ,			Massachusetts Mutual Life İnsurance				
0000			20-2970495				Waterford Development Associates	DE	NIA	Company	Ownership	90.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			. 47-1993493 .				Waterloo London Holdings LLC	DE	NI A	Company	Ownership	100.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			. 46-3122029 . . 46-3122029 .				WeHo Domain LLC	DE	NIA NIA	Company	Ownership	77.400	MMLIC	
0000			46-3122029 .				WEHO DOMAIN LLC	DE	NIA	C.M. Life Insurance Company	Ownership	12.600	MMLIC	
0000			81-1552222				Willowwood Lakeside Master LLC	DE	NIA	Company	Ownership	50.000	MMLIC	
0000			. 01-1332222				WITHOWWOOD Lakeside waster LLO	UL		Massachusetts Mutual Life Insurance	- Owner Sirrp	000.000	WWL10	
0000			20-5481477 .				Ygnatio Valley Funding	DE	NIA	Company	Ownership	90.000	MMLIC	
							MassMutual Barings Dynamic Allocation Fund			Massachusetts Mutual Life Insurance				
0000			45-3168892 .			OQ	, , , , , , , , , , , , , , , , , , ,	MA	NIA	Company	Ownership	0.000	MMLIC	
										Massachusetts Mutual Life Insurance	·			
0000			51-0529328 .		0000927972	00	MassMutual Premier Main Street Fund	MA	NI A	Company	Ownership	2.300	MMLIC	
							MassMutual Premier Strategic Emerging			Massachusetts Mutual Life Insurance				
0000			26-3229251 .		0000927972	00	Markets Fund	MA	NIA	Company	Ownership	. 14.900	. MMLIC	
0000			. 04-3277550 .		0000927972	00	MassMutual Premier Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	O	97.600	MMLIC	
0000			. 04-3277330 .		0000927972	0 u	MassMutual Select Diversified	MA	NI A	Massachusetts Mutual Life Insurance	Ownership	97.000		
0000			14-1980900 .		0000916053	00	International Fund	MA	NIA	Company	Ownership	48.800	MMLIC	
0000			14 1000000 .		00000 10000	OQ	The chartenar rana			Massachusetts Mutual Life Insurance	- Owner Sirip		WILL TO	
0000			01-0821120 .		0000916053	OQ	MassMutual Select Diversified Value Fund	MA	NIA	Company	Ownership	15.300	MMLIC	
										Massachusetts Mutual Life Insurance	·			
0000			04-3512593 .		0000916053	OQ	MassMutual Select Fundamental Growth Fund .	MA	NIA	Company	Ownership	14.800	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			04-3513019		0000916053	0Q	MassMutual Select Large Cap Value Fund	MA	NI A	Company	Ownership	100.000	- MMLIC	
0000			40 4740005		0000040050	00	Marshard Colored Hild Co., Volum 5		ALLA	Massachusetts Mutual Life Insurance	0	00.400	184 10	
0000			. 42–1710935 .		0000916053	UU	MassMutual Select Mid-Cap Value Fund	MA	NIA	Company	Ownership	98.400		
0000			02-0769954 .		0000916053	00	MassMutual Select Small Capital Value Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.300	MMLIC	
,0000			. 02-0103334 .		65000 60000	Ο υ ,	MassMutual Select Small Company Value Fund	WA	NI /\	Massachusetts Mutual Life Insurance	Onliei 3/11p	24.000		
0000			04-3584140 .		0000916053	00		MA	NIA	Company	Ownership	42.700	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			46-4257056		0000067160		MML Series International Equity Fund	MA	NIA	Company	Ownership	9.000	MMLIC	
										Massachusetts Mutual Life Insurance				
0000			47-3517233 .		0001317146		MML Series II Asset Momentum Fund	MA	NI A	Company	Ownership	96.700	MMLIC	
					1					Massachusetts Mutual Life Insurance			l	
0000			47-3529636 .		0001317146		MML Series II Dynamic Bond Fund	MA	NIA	Company	Ownership	4.300	MMLIC	
0000			47 0544000		0001017140		MM Comics II Faulty Details Found	144	AJ I A	Massachusetts Mutual Life Insurance	O	00.000	IMU I C	
0000			47-3544629 .		0001317146		MML Series II Equity Rotation Fund	MA	NIA	CompanyMassachusetts Mutual Life Insurance	Ownership	98.800	. MMLIC	
0000			47-3559064		0001317146		MML Series II Special Situations Fund	MA	NIA	Company	Ownership	_98.800	MMLIC	
0000			_ +1-0003004 _		0001017140		minim oci ico il opecial ottuationo Fund	M.	NIA	ouiiparry	- Owner strib	000.00	I WINIE TO	

							T .							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
											Type	lf		
											of Control	Control		
											(Ownership,	is		
						Name of Securities			Relation-		Board,	Owner-		
						Exchange		Domi-	ship		Management,	ship		
		NAIC				if Publicly Traded	Names of	ciliary	to.		Attorney-in-Fact,	Provide		
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	*
	areap riame	0000		1.002	0	intornational)	0.7aco			Massachusetts Mutual Life Insurance	001)	lage		
0000			46-3289207		0000916053		MassMutual RetireSMART 2055 Fund	MA	NIA	Company	Ownership	25.300	MMLIC	
0000			-0 0200201 .		00000 0000		massmataar Hetileowniii 2000 Lana			Massachusetts Mutual Life Insurance	οπιοι σιτιρ	20.000	IIII V	
0000			47-5326235		0000916053		MassMutual RetireSMART 2060 Fund	MA	NIA	Company	Ownership	99.500	MMLIC	
0000			. 47 3020203 .		0000310000		massmataar netri edmarii 2000 Fund	IVI/\		Massachusetts Mutual Life Insurance	Owner Strip		WWL10	
0000			45-1618155		0000916053		MassMutual RetireSMART Conservative Fund	MA	NIA	Company	Ownership	35.700	MMLIC	
0000			45-1010155		0000310033		wasswutuai netiieswani conservative runu	IWA		Massachusetts Mutual Life Insurance	. Owner Sirrp		WWILTO	
0000			45-1618222		0000916053		MassMutual RetireSMART Growth Fund	MΑ	NIA	Company	Ownership	74.400	MAIL LC	
0000			45-1010222		0000310033		wasswutuai netiieswani diowtii ruid	IWA		Massachusetts Mutual Life Insurance	_ Owner Sirrp	/4.400	WWL10	
0000			45-1618262		0000916053		MassMutual RetireSMART Moderate Fund	МΔ	NIA	Company	Ownership	50.400	MMLIC	
0000			43-1010202		0000910055		MassMutual RetireSMART Moderate Growth	NA	NIA	Massachusetts Mutual Life Insurance	. Owner Strip	50.400	INMILIO	
0000			45-1618046		0000916053		masswutuai netiieswani woderate diowtii	MA	NIA	Company	Ownership	88.500	MMLIC	
0000			45-3417590		0001530245		Company Clabal High Violat Fund	MA DE	NIA	OppenheimerFunds. Inc.	Management	000.86	MMLIC	
0000			45-341/590		000 1530245		Oppenheimer Global High Yield Fund	DE	NIA		management		MWLIC	
0000			46-1604428		0001562689		O	DE	NIIA	Massachusetts Mutual Life Insurance	Ownership	00 700	MMLIC	
0000							Oppenheimer Global Real Estate Fund	DE	NIA	Company				
0000			46-1604428 .		0001562689		Oppenheimer Global Real Estate Fund	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC	
0000			46-1604428		0001562689		Oppenheimer Global Real Estate Fund	DE	NIA	OppenheimerFunds, Inc.	Management	-	MMLIC	
1			l		1		Oppenheimer Global Multi-Asset Growth Fund							
0000			47-3676235 .					DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
1							Oppenheimer Global Multi-Asset Income Fund							
0000			47-1714929 .					DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	
							Oppenheimer Macquarie Global							
0000			81-1080638 .				Infrastructure Fund	DE		OppenheimerFunds, Inc.	Management		MMLIC	
0000			47-3987967 .				Oppenheimer SteelPath Panoramic Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC	

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

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

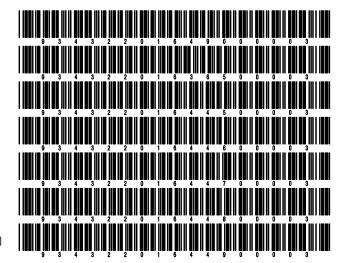
The following supplemental reports are required to be filed as part of your statement filing. However, in the event that your company does not transact the type of business for which the special report must be filed, your response of NO to the specific interrogatory will be accepted in lieu of filing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

	<u> </u>	Response
1.	Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO
2.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3.	Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC?	NO
4.	Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC?	NO
5.	Will the Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI be filed with the state of domicile and electronically with the NAIC?	NO
6.	Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Average Market Value) be filed with the state of domicile and electronically with the NAIC?	NO
7.	Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) be filed with the state of domicile and electronically with the NAIC?	NO
	Explanation:	
	Explanation.	

- 1. Not Required
- Not Required
- 3. Not Required
- 4. Not Required
- Not Required
- 6. Not Required
- 7. Not Required

Bar Code:

- Trusteed Surplus Statement [Document Identifier 490]
- Medicare Part D Coverage Supplement [Document Identifier 365]
- Reasonableness of Assumptions Certification required by Actuarial Guideline 3. XXXV [Document Identifier 445]
- Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 446]
- Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
- 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

Addition	ai write-ins for Liabilities Line 25		
		1	2
		Current	December 31
		Statement Date	Prior Year
2504.	Funds awaiting escheat	2,320,352	2,021,208
2505.	Miscellaneous liabilties	88,101	109,769
2597.	Summary of remaining write-ins for Line 25 from overflow page	2,408,453	2,130,977

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		24, 171,011
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		1,283,641
5.	Deduct amounts received on disposals		25,454,652
6.	Total foreign exchange change in book/adjusted carrying value		
7.	Deduct current year's other than temporary impairment recognized		
8.	Deduct current year's depreciation		
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

	* *	1	2
		V . D .	Prior Year Ended
		Year to Date	December 31
1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	985,850,414	944,390,174
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	100,063,010	197,025,939
	2.2 Additional investment made after acquisition	7,532,057	13,013,121
3.	2.1 Actual cost at time of acquisition 2.2 Additional investment made after acquisition Capitalized deferred interest and other	648,924	1,306,342
4.	Accrual of discount	114,524	142,846
5.	Unrealized valuation increase (decrease)		
6.	Total gain (loss) on disposals Deduct amounts received on disposals	(309,714)	38,512
7.	Deduct amounts received on disposals	87, 105, 338	163,526,790
8.	Deduct amortization of premium and mortgage interest points and commitment fees	242,243	491,226
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest	(3,665,020)	(6,048,504)
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)	1,001,559,421	985,850,414
12.	Total valuation allowance		
13.	Subtotal (Line 11 plus Line 12)	1,001,559,421	985,850,414
14.	Deduct total nonadmitted amounts		
15.	Statement value at end of current period (Line 13 minus Line 14)	1,001,559,421	985,850,414

SCHEDULE BA - VERIFICATION

Other Long-Term Invested Assets

	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	234, 145, 696	232,592,855
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	3,403,212	31,676,417
	2.2 Additional investment made after acquisition	25,015,856	35,620,821
3.	Capitalized deferred interest and other		
4.	Accrual of discount		
5.	Unrealized valuation increase (decrease)	4,218,932	11,656,939
6.	Unrealized valuation increase (decrease)	(520, 100)	(191,956
7.	Deduct amounts received on disposals		76,071,913
8.	Deduct amortization of premium and depreciation	7,090	9,406
9.	Total foreign exchange change in book/adjusted carrying value	59,999	(917,373
10.	Deduct current year's other than temporary impairment recognized		210,688
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	207,982,434	234,145,696
12.	Deduct total nonadmitted amounts	1,523,789	3,071,271
13.	Statement value at end of current period (Line 11 minus Line 12)	206,458,645	231,074,425

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	4,470,816,857	4,555,765,734
2.	Cost of bonds and stocks acquired	738,051,726	687,541,645
3.	Accrual of discount		
4.	Unrealized valuation increase (decrease)	12,874,535	17, 166, 311
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	(11,346,716)	(13, 183, 986)
9.	Deduct current year's other than temporary impairment recognized	5,949,483	13,635,228
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)	4,668,734,061	4,470,816,857

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

Dulling	the Current Quarter for	2	3	4	5	6	7	8
	Book/Adjusted	_	, and the second		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
PONIDO								
BONDS								
				(2.422.222)				
1. NAIC 1 (a)	2,224,574,280	53,712,043	58,741,059	(2,432,932)	2,244,221,882	2,224,574,280	2,217,112,332	2,136,035,988
2. NAIC 2 (a)	1,793,303,693	1,034,000,552	972,896,364	(22,286,778)	1,836,522,624	1,793,303,693	1,832,121,103	1,881,471,817
3. NAIC 3 (a)	211,954,604	20,995,073	14,738,993	28,440,944	230,756,584	211,954,604	246,651,628	217,547,321
4. NAIC 4 (a)	256,376,269	26, 106,842	28, 115,910	(15,275,915)	229,037,194	256,376,269	239,091,286	205,206,344
5. NAIC 5 (a)	56, 150, 996	904,736	3,341,551	11,573,065	48,493,532	56,150,996	65,287,246	34,583,610
6. NAIC 6 (a)	26,054,052	357,756	2,443,615	934,030	23,871,684	26,054,052	24,902,223	16,202,669
7. Total Bonds	4,568,413,894	1,136,077,002	1,080,277,492	952,414	4,612,903,500	4,568,413,894	4,625,165,818	4,491,047,748
PREFERRED STOCK								
THE ETHER GLOOK								
8. NAIC 1	10,251,998			(851,998)	10,198,080	10,251,998	9,400,000	11,700,000
9. NAIC 2	7.683.664	465 . 126	795.239	888 . 157	8.168.920	7.683.664	8.241.708	9,042,542
	7,876,348		,	[6, 125,843	7,876,348	, ,	6,871,807
10. NAIC 3	, ,	600,220	36,400	(523,966)	, ,	, ,	7,916,202	
11. NAIC 4	4,086,321	175,572		(56,354)	2,786,630	4,086,321	4,205,539	1,701,871
12. NAIC 5	138,495		705,403	1,149,849	469,164	138,495	582,941	469,671
13. NAIC 6								
14. Total Preferred Stock	30,036,826	1,240,918	1,537,042	605,688	27,748,637	30,036,826	30,346,390	29,785,891
15. Total Bonds and Preferred Stock	4,598,450,720	1,137,317,920	1,081,814,534	1,558,102	4,640,652,137	4,598,450,720	4,655,512,208	4,520,833,639

NAIC 4 \$; NAIC 5 \$......; NAIC 6 \$......

SCHEDULE DA - PART 1

Short-Term Investments

	1 Book/Adjusted Carrying Value	2 Par Value	3 Actual Cost	4 Interest Collected Year-to-Date	5 Paid for Accrued Interest Year-to-Date
9199999 Totals	14.971.819	XXX	14,913,738	Tour to Date	Tour to Bato

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		26,472,927
2.	Cost of short-term investments acquired	31,839,001	47,025,310
3.	Accrual of discount	129, 170	92,070
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	1, 172	661
6.	Deduct consideration received on disposals	16,997,525	73,590,968
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)	14,971,818	
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	14,971,818	

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)	40,482,980
2.	Cost Paid/(Consideration Received) on additions	3,540,489
3.	Unrealized Valuation increase/(decrease)	86,062,409
4.	Total gain (loss) on termination recognized	(1,655,302)
5.	Considerations received/(paid) on terminations	15,828,628
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)	112,601,949
10.	Deduct nonadmitted assets	
11.	Statement value at end of current period (Line 9 minus Line 10)	112,601,949

SCHEDULE DB - PART B - VERIFICATION

	Futures Con		III ICATIO	'14	
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 - Cu	mulative Cash Cha	nge 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	(13,092,268)			
	3.14 Section 1, Column 18, prior year	3,130,702	(16,222,969)	(16,222,969)	
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	(13,092,268)			
	3.24 Section 1, Column 19, prior year	3,130,702	(16,222,969)	(16,222,969)	
3.3	Subtotal (Line 3.1 minus Line 3.2)				
4.1	Cumulative variation margin on terminated contracts during the year		102,340,784		
4.2	Less:				
	4.21 Amount used to adjust basis of hedged item				
	4.22 Amount recognized	99,210,082	99,210,082		
4.3	Subtotal (Line 4.1 minus Line 4.2)				3, 130, 702
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				(3, 130, 702)
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				
Ω	Statement value at end of current period (Line 6 minus Line 7)				

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open $N\ O\ N\ E$

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

SCHEDULE DB - VERIFICATION

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

		Book/Adjusted Carrying	Value Check
1.	Part A, Section 1, Column 14.	112,601,949	
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance		
3.	Total (Line 1 plus Line 2)		112,601,949
4.	Part D, Section 1, Column 5	1,033,527,519	
5.	Part D, Section 1, Column 6	(920,925,570)	
6.	Total (Line 3 minus Line 4 minus Line 5)		
		Fair Value Ch	eck
7.	Part A, Section 1, Column 16	112,601,949	
8.	Part B, Section 1, Column 13		
9.	Total (Line 7 plus Line 8)		112,601,949
10.	Part D, Section 1, Column 8	1,033,527,519	
11.	Part D, Section 1, Column 9	(920,925,570)	
12	Total (Line 9 minus Line 10 minus Line 11)	<u></u>	
		Potential Exposure	e Check
13.	Part A, Section 1, Column 21	205,879,729	
14.	Part B, Section 1, Column 20	10,708,200	
15.	Part D, Section 1, Column 11	216,587,929	
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	290,288,161	173,465,084
2.	Cost of cash equivalents acquired	3,509,241,031	6,071,788,210
3.	Accrual of discount	1,264,783	987,249
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	4,302	3,373
6.	Deduct consideration received on disposals	3,561,332,988	5,955,955,755
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)	239,465,289	290,288,161
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	239,465,289	290,288,161