

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

QUARTERLY STATEMENT

AS OF JUNE 30, 2020 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 of	(Current) (Prior) Connecticut	, State of Domicile o	r Port of Entry	СТ
Country of Domicile		United States of America		
Licensed as business type:	Life, Accident and	Health [X] Fraternal Benefit Soci	eties []	
Incorporated/Organized	04/25/1980	Commenced Bu	siness	05/12/1981
Statutory Home Office	100 Bright Meadow Boulevard		Enfield, (CT, US 06082
	(Street and Number)		(City or Town, State	e, Country and Zip Code)
Main Administrative Office		1295 State Street (Street and Number)		
	trized under the Laws of Connecticut United States of America seed as business type: Life, Accident and Health [X] Fraternal Benefit Societies [] porated/Organized O42579998 troy Home Office 100 Bright Meadow Boulevard Citre and Number) City or Town, State, Colly or Town, State, Colly or Town, State, City or Town, State, City or Town, State, Country and 2ip Code) (City or Town, State, City or Town, State, Country and 2ip Code) (City or Town, State, City or Town, State, Country and 2ip Code) (City or Town, State, City or Town, State, Country and 2ip Code) (City or Town, State, City or Town,		788-8411	
(City or Town	State, Country and Zip Code)		(Area Code) (1	elephone Number)
Mail Address		,		, MA, US 01111 e. Country and Zip Code)
	,	1295 State Street	(1.9)	, , ,
•				
				788-8411 Telephone Number)
Internet Website Address	, , ,	www massmutual com	, , ,	,
	Ohand Kablanhanna	www.macomataan.com		047 005 0400
Statutory Statement Contact	, ,	. 1		617-235-0122 de) (Telephone Number)
				226-4086 (Number)
	(=		(170)	
President and Chief		OFFICERS		
Executive Officer			<u>-</u>	
Secretary	Akintokunbo Akinbajo	Appointed A	ctuary	Douglas Wright Taylor
Flizabeth Ward Chicares Executi	ve Vice President and	OTHER		
· · · · · · · · · · · · · · · · · · ·		pert Fanning, Executive Vice President	dent Melvin	Fimothy Corbett, Executive Vice President
	DIR	ECTORS OR TRUSTEES		
		Michael Robert Fanning		Elizabeth Ward Chicares
County of h	lampden			
all of the herein described assets we statement, together with related exhicondition and affairs of the said report in accordance with the NAIC Annual rules or regulations require difference prespectively. Furthermore, the scope assets we will be supported to the scope and the same as the same	ere the absolute property of the said re bits, schedules and explanations therein rting entity as of the reporting period stat I Statement Instructions and Accounting nces in reporting not related to accour e of this attestation by the described off	porting entity, free and clear from contained, annexed or referred to, ed above, and of its income and de Practices and Procedures manual hiting practices and procedures, a cers also includes the related corr	any liens or claims the is a full and true state eductions therefrom for except to the extent according to the best responding electronic	nereon, except as herein stated, and that this ement of all the assets and liabilities and of th or the period ended, and have been complete that: (1) state law may differ; or, (2) that stat tof their information, knowledge and belie filing with the NAIC, when required, that is a
S .		-		Todd Garett Picken Treasurer
Subscribed and sworn to before me day of	this	b. If no, 1. State the 2. Date filed	amendment number	

ASSETS

			Current Statement Date		4
		1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	December 31 Prior Year Net Admitted Assets
1.	Bonds	4, 163, 309, 441		4, 163, 309, 441	3,809,562,902
	Stocks:				
	2.1 Preferred stocks	5,476,202		5,476,202	7,389,131
	2.2 Common stocks	321,554,394		321,554,394	314,411,333
3.	Mortgage loans on real estate:				
	3.1 First liens	966,719,639		966,719,639	933,021,597
	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				
	\$ encumbrances)				
	4.3 Properties held for sale (less \$ encumbrances)				
5.	Cash (\$27,238,018), cash equivalents				
	(\$291,145,549) and short-term				
	investments (\$115,302,764)	433,686,331		433,686,331	463,125,060
6.	Contract loans (including \$ premium notes)	152, 173, 537		152, 173,537	151,026,772
7.	Derivatives	1,243,341,527		1,243,341,527	532,927,762
8.	Other invested assets	161,346,649	253,696	161,092,952	160,589,252
9.	Receivables for securities	356,818,687		356,818,687	316,164,809
10.	Securities lending reinvested collateral assets				
11.	Aggregate write-ins for invested assets				
12.	Subtotals, cash and invested assets (Lines 1 to 11)	7,804,426,405	253,696	7,804,172,709	6,688,218,618
13.	Title plants less \$ charged off (for Title insurers				
	only)				
14.	Investment income due and accrued	111,427,804	1,636,179	109,791,625	92,830,961
15.	Premiums and considerations:				
	15.1 Uncollected premiums and agents' balances in the course of collection	106,960	41,439	65,522	255,930
	15.2 Deferred premiums, agents' balances and installments booked but				
	deferred and not yet due (including \$				
	earned but unbilled premiums)	(18, 198, 912)		(18, 198, 912)	(16,510,239)
	15.3 Accrued retrospective premiums (\$				
	contracts subject to redetermination (\$				
16.	Reinsurance:				
	16.1 Amounts recoverable from reinsurers			25,703,415	25,781,891
	16.2 Funds held by or deposited with reinsured companies				
	16.3 Other amounts receivable under reinsurance contracts	6,549,784		6,549,784	5,827,273
17.	Amounts receivable relating to uninsured plans				
	Current federal and foreign income tax recoverable and interest thereon				
	Net deferred tax asset			7,331,348	
19.	Guaranty funds receivable or on deposit	899,556		899,556	844,046
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	255,961	84,434	171,527	268,088
	Health care (\$) and other amounts receivable				
25.	Aggregate write-ins for other than invested assets		24,512	59,601	54,954
	Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	7,944,415,409	7,869,235	7,936,546,174	6,829,151,932
27.	From Separate Accounts, Segregated Accounts and Protected Cell Accounts	1.703.043.360		1,703,043,360	1.809.856 408
28.	Total (Lines 26 and 27)	9,647,458,769	7,869,235		8,639,008,340
-	DETAILS OF WRITE-INS	-, , -, -	, , , , , ,	.,,.	,, ,-
1101.	DETAILS OF WATE-ING				
1101.					
1103.					
1198.	Summary of remaining write-ins for Line 11 from overflow page				
1199.	Totals (Lines 1101 through 1103 plus 1198)(Line 11 above)				
	Miscellaneous other assets	50 RN1		59,601	54 954
	Cash advances to agents	·			
2502. 2503.	casi auvailles to agents	24,512			
2503. 2598.	Summary of remaining write-ins for Line 25 from overflow page				
	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	84.113			54,954
۷۶۶۶.	rotais (Lines 2001 timough 2003 plus 2090)(Line 20 above)	04,113	24,312	J8,001	J4,954

LIABILITIES, SURPLUS AND OTHER FUNDS

	LIABILITIES, SOITI ESS AND STITELT	1100	
		1 Current Statement Date	2 December 31 Prior Year
	Aggregate reserve for life contracts \$3,936,337,455 less \$	3,936,337,455	3,938,942,058
3.	Aggregate reserve for accident and health contracts (including \$ Modco Reserve) Liability for deposit-type contracts (including \$ Modco Reserve)	75,472,699	85,681,978
4.	Contract claims: 4.1 Life		18,502,063
5.	4.2 Accident and health		
6.	and unpaid		
	amounts: 6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$		
	Modco) 6.2 Policyholders' dividends and refunds to members not yet apportioned (including \$ Modco)		
7.	6.3 Coupons and similar benefits (including \$		
8.	Premiums and annuity considerations for life and accident and health contracts received in advance less \$ discount; including \$ accident and health premiums	10.595	9,977
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		
	ceded	227,618 226 580 169	314,209
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. 13.	General expenses due or accrued	1,099	139
	allowances recognized in reserves, net of reinsured allowances)	(5,399,240)	(4,190,740)
14.	Taxes, licenses and fees due or accrued, excluding federal income taxes	717,904	872,292
15.2	Current federal and foreign income taxes, including \$		
16. 17.	Unearned investment income		
	Amounts held for agents' account, including \$ agents' credit balances	04 554 504	(45, 000, 040)
19. 20.	Remittances and items not allocated		
21.	Liability for benefits for employees and agents if not included above		
22. 23.	Borrowed money \$ and interest thereon \$ Dividends to stockholders declared and unpaid		
24.	Miscellaneous liabilities:		
	24.01 Asset valuation reserve		
	24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
	24.04 Payable to parent, subsidiaries and affiliates 24.05 Drafts outstanding		
	24.06 Liability for amounts held under uninsured plans		
	24.07 Funds held under coinsurance		
	24.09 Payable for securities		
	24.10 Payable for securities lending		
25.	24.11 Capital notes \$ and interest thereon \$ Aggregate write-ins for liabilities		226.666.086
	Total liabilities excluding Separate Accounts business (Lines 1 to 25)	6,192,074,463	5,094,114,366
27.	From Separate Accounts Statement	1,703,043,360 7,895,117,823	1,809,856,408 6,903,970,774
28. 29.	Total liabilities (Lines 26 and 27) Common capital stock	2,500,000	2,500,000
30.	Preferred capital stock		
31. 32.	Aggregate write-ins for other than special surplus funds		
33.	Gross paid in and contributed surplus	450,276,208	450,276,208
34.	Aggregate write-ins for special surplus funds	1 201 605 504	1 202 261 250
35. 36.	Less treasury stock, at cost:	1,291,093,304 [.	1,202,201,330
	36.1 shares common (value included in Line 29 \$		
37.	36.2 shares preferred (value included in Line 30 \$	1,741,971,712	1,732,537,566
1	Totals of Lines 29, 30 and 37	1,744,471,712	1,735,037,566
39.	Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3) DETAILS OF WRITE-INS	9,639,589,534	8,639,008,340
2501.	Derivative collateral		
2502.	Derivative accrued interest	118,876,957	107,916,666
2503. 2598.	Funds awaiting escheat and other miscellaneous		
2599.	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	453,361,378	226,666,086
3101. 3102.			
3102.			
3198.	Summary of remaining write-ins for Line 31 from overflow page		
3199. 3401.	Totals (Lines 3101 through 3103 plus 3198)(Line 31 above)		
3402.			
3403. 3498.	Summary of remaining write-ins for Line 34 from overflow page		
3496. 3499.	Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)		
		·	<u></u>

SUMMARY OF OPERATIONS

		1 1	2	3
		Current Year	Prior Year	Prior Year Ended
		To Date	To Date	December 31
1.	Premiums and annuity considerations for life and accident and health contracts		158,853,577	312,324,893
2. 3.	Considerations for supplementary contracts with life contingencies. Net investment income		134.676.579	2,949,967 326.173.351
3. 4.	Amortization of Interest Maintenance Reserve (IMR)	2 136 135		804.221
5.	Separate Accounts net gain from operations excluding unrealized gains or losses			
6.	Commissions and expense allowances on reinsurance ceded	27,596,436	44,489,236	87,691,312
7.	Reserve adjustments on reinsurance ceded			
8.	Miscellaneous Income:			
	8.1 Income from fees associated with investment management, administration and contract	47,000,004	40 405 400	00 000 540
	guarantees from Separate Accounts		18,125,163	36,868,518
	8.2 Charges and fees for deposit-type contracts 8.3 Aggregate write-ins for miscellaneous income		1.062.508	1,924,233
9.	Totals (Lines 1 to 8.3)	303,254,268	361.165.858	768.736.495
10.	Death benefits		41, 188,693	90,730,503
11.	Matured endowments (excluding guaranteed annual pure endowments)			
12.	Annuity benefits			102,802,254
13.	Disability benefits and benefits under accident and health contracts		277,527	558,292
14.	Coupons, guaranteed annual pure endowments and similar benefits			
15.	Surrender benefits and withdrawals for life contracts	170,604,218	232,535,620	434,855,750
16.	Group conversions			
17.	Interest and adjustments on contract or deposit-type contract funds	1,218,460	3,379,273	5,659,767
18.	Payments on supplementary contracts with life contingencies			1,320,621
19.	Increase in aggregate reserves for life and accident and health contracts		(36,288,523)	(32,489,265)
20.	Totals (Lines 10 to 19)	264,511,502	292,275,735	603,437,922
21.	Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	10 002 512	28 072 EEU	57,335,524
22.	business only) Commissions and expense allowances on reinsurance assumed		28,972,009	57,333,324
22.	General insurance expenses and fraternal expenses			113,860,905
24.	Insurance taxes, licenses and fees, excluding federal income taxes	5.746 714	6.518 871	11,525,545
25.	Increase in loading on deferred and uncollected premiums	189.567	(369,238)	(946,337)
26.	Net transfers to or (from) Separate Accounts net of reinsurance	(54.950.244)	(70.867.835)	(153,809,820)
27.	Aggregate write-ins for deductions		(2,864,757)	(5,780,816)
28.	Totals (Lines 20 to 27)	273,967,181	311,257,418	625,622,923
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus			
	Line 28)	29,287,087	49,908,440	143, 113,572
30.	Dividends to policyholders and refunds to members			
31.	Net gain from operations after dividends to policyholders, refunds to members and before federal			===
	income taxes (Line 29 minus Line 30)		49,908,440	143,113,572
32.	Federal and foreign income taxes incurred (excluding tax on capital gains)	1,157,210	9,472,987	19,687,471
33.	Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	28,129,877	40,435,453	123,426,101
34.	Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital	20, 129,011	40,400,400	123,420, 101
54.	gains tax of \$			
	transferred to the IMR)	7,454,194	(6,207,855)	(7,795,705)
35.	Net income (Line 33 plus Line 34)	35.584.071	34,227,598	115.630.396
00.	CAPITAL AND SURPLUS ACCOUNT	00,001,011	01,221,000	110,000,000
36.	Capital and surplus, December 31, prior year	1,735,037,570	1,637,317,539	1,637,317,539
37.			34,227,598	115,630,396
38.		148, 183, 195		
39.	Change in net unrealized foreign exchange capital gain (loss)			
40.	Change in net deferred income tax	(26,421,684)	(9,731,355)	(21,875,684)
41.	Change in nonadmitted assets			
42.	Change in liability for reinsurance in unauthorized and certified companies	(255,477)		(2,273,207)
43.	Change in reserve on account of change in valuation basis, (increase) or decrease			
44.	Change in asset valuation reserve	6,028,884	(9,684,812)	(5,810,192)
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: 50.1 Paid in			
	50.2 Transferred from surplus (Stock Dividend)			
	50.3 Transferred to surplus			
51.	Surplus adjustment:	<u> </u>		
"	51.1 Paid in			
	51.2 Transferred to capital (Stock Dividend)			
	51.3 Transferred from capital			
	51.4 Change in surplus as a result of reinsurance			
52.	Dividends to stockholders	(173,000,000)		
53.	Aggregate write-ins for gains and losses in surplus	(3,336,727)	(3,386,119)	(6,772,238)
54.	Net change in capital and surplus for the year (Lines 37 through 53)		78,559,378	97,720,027
55.	Capital and surplus, as of statement date (Lines 36 + 54)	1,744,471,712	1,715,876,917	1,735,037,566
	DETAILS OF WRITE-INS			
	Revenue sharing			1,933,420
	Miscellaneous	' ' '	' ' '	, , ,
	0			
	Summary of remaining write-ins for Line 8.3 from overflow page			1 024 222
08.399.	Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	778,504	1,062,508	1,924,233
2/01.	Reinsurance ceded adjustment Miscellaneous charges to operations	(3,336,727)	(3,386,179)	(6,772,238)
	Miscellaneous charges to operations			991,422
	Summary of remaining write-ins for Line 27 from overflow page			
	Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	(2,822,236)	(2,864,757)	(5,780,816)
	neriisurance ceueu au justilierit		, , , ,	(0,772,230)
	Summary of remaining write-ins for Line 53 from overflow page			
	Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	(3,336,727)	(3,386,119)	(6,772,238)
		• • •		

CASH FLOW

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
Cash from Operations			
Premiums collected net of reinsurance	136,085,457	153,553,246	293,369,63
Net investment income	118 , 128 , 647	131,202,259	335 , 568 , 902
3. Miscellaneous income	47,421,007	67, 155, 986	132,172,28
4. Total (Lines 1 to 3)	301,635,111	351,911,491	761,110,82
5. Benefit and loss related payments	270,821,330	357,484,217	636,337,93
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(53,677,500)	(70, 124, 760)	(153,859,41
7. Commissions, expenses paid and aggregate write-ins for deductions	46,415,883	78,669,469	205,488,64
Dividends paid to policyholders			
9. Federal and foreign income taxes paid (recovered) net of \$ tax on capital			
gains (losses)	260,000	(114,491)	12,170,80
10. Total (Lines 5 through 9)	263,819,714	365,914,435	700,137,96
11. Net cash from operations (Line 4 minus Line 10)	37,815,397	(14,002,944)	60,972,85
Cash from Investments			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds			909,875,54
12.2 Stocks		(4,000,716)	
12.3 Mortgage loans	51,184,602	54,985,860	88,704,42
12.5 Other invested assets			32,908,54
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(386,735)	(2,648,468)	(3, 123, 76
12.7 Miscellaneous proceeds	89,833,016	3,597,429	(7,944,39
12.8 Total investment proceeds (Lines 12.1 to 12.7)	541,409,061	413,395,227	1,039,077,52
13. Cost of investments acquired (long-term only):			
13.1 Bonds	, ,		646,816,33
13.2 Stocks	,	,	2,518,25
13.3 Mortgage loans		72,522,593	96,991,03
13.4 Real estate			
13.5 Other invested assets		12,388,947	30,868,37
13.6 Miscellaneous applications	(18,798,167)	17,827,884	21,636,94
13.7 Total investments acquired (Lines 13.1 to 13.6)	848,633,980	591,630,342	798,830,94
14. Net increase (or decrease) in contract loans and premium notes	1,239,871	2,678,717	1,511,02
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(308,464,789)	(180,913,832)	238,735,56
Cash from Financing and Miscellaneous Sources			
16. Cash provided (applied):			
16.1 Surplus notes, capital notes			
16.2 Capital and paid in surplus, less treasury stock			
16.3 Borrowed funds			
16.4 Net deposits on deposit-type contracts and other insurance liabilities	(10,907,607)	11,649,315	(13,733,10
16.5 Dividends to stockholders			
16.6 Other cash provided (applied)	252,118,270	(69,468,896)	(213,854,97
17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	241,210,663	(57,819,581)	(227,588,07
DECONCILIATION OF CASH CASH FOLINALENTS AND SHORT TERM INVESTMENTS			
RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS 18. Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(29 438 729)	(252 736 357)	72 120 24
19. Cash, cash equivalents and short-term investments: 19. Cash, cash equivalents and short-term investments:	(20,700,720)		
19.1 Beginning of year	463 125 060	391,004,715	391,004,71
19.2 End of period (Line 18 plus Line 19.1)	433,686,331	138,268,358	463,125,06
to: Cumplemental disclosures of each flow information for a second secon			
te: Supplemental disclosures of cash flow information for non-cash transactions: 0.0001. Bond conversions and refinancing	12,789,219	32,601,051	57,616,48
20.0002. Stock conversions		398,874 410.132	22,57
20.0003. Net investment income payment in-kind bonds	270,788	410,102	614

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

	DIRECT PREMIUMS AND DEPOSIT-TYPE	CONTRACTS		
		1 Current Year	2 Prior Year	3 Prior Year Ended
		To Date	To Date	December 31
1.	Industrial life			
2.	Ordinary life insurance	89,479,725	94, 156, 812	185,111,141
3.	Ordinary individual annuities	409,905,534	702,456,378	1,388,409,218
4.	Credit life (group and individual)			
5.	Group life insurance			
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 (Lines 1 through 10)	499,385,259	796,613,190	1,573,520,359
12.	Fraternal (Fraternal Benefit Societies Only)			
13.	Subtotal (Lines 11 through 12)	499,385,259	796,613,190	1,573,520,359
14.	Deposit-type contracts			
15.	Total (Lines 13 and 14)	499,385,259	796,613,190	1,573,520,359
	DETAILS OF WRITE-INS			
1001.				
1002.				
1003.				
1098.	Summary of remaining write-ins for Line 10 from overflow page			
1099.	Totals (Lines 1001 through 1003 plus 1098)(Line 10 above)			

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- Note 33 Analysis of Life Actuarial Reserves by Withdrawal Characteristics
- Note 34 Premium and Annuity Considerations Deferred and Uncollected
- Note 35 Separate Accounts
- Note 36 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.

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

		F/S	F/S			
	SSAP#	Page	Line #	2020	_	2019
NET INCOME						
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$ 35,584,071	\$	115,630,396
(2) State prescribed practices that increase/(decrease) NAIC	N/A	N/A	N/A	-		-
(3) State permitted practices that increase/(decrease) NAIC	N/A	N/A	N/A	-	_	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	\$ 35,584,071	\$_	115,630,396
SURPLUS						
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 1,744,471,712	\$	1,735,037,566
(6) State prescribed practices that increase/(decrease) NAIC	N/A	N/A	N/A	-		-
(7) State permitted practices that increase/(decrease) NAIC	N/A	N/A	N/A	-	_	
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	\$ 1,744,471,712	\$	1,735,037,566

- Use of estimates in the preparation of the financial statements No change
- c. Accounting policy:
 - (1) No change
 - (2) Bonds are generally valued at amortized cost using the constant yield interest method with the exception of NAIC Category 6 bonds, which are in or near default, and certain residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS), which are rated by outside modelers, which are carried at the lower of amortized cost or fair value. NAIC ratings are applied to bonds and other securities. Categories 1 and 2 are considered investment grade, while Categories 3 through 6 are considered below investment grade. Bond transactions are recorded on a trade date basis, except for private placement bonds, which are recorded on the funding date.

The fair value of bonds is based on quoted market prices when available. If quoted market prices are not available, values provided by other third-party organizations are used. If values provided by other third-party organizations are unavailable, fair value is estimated using internal models by discounting expected future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and cash flow priority are also considered. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

(3-5) No Change

(6) For loan-backed and structured securities, such as asset-backed securities, mortgage-backed securities, including RMBS and CMBS, and structured securities, including collateralized debt obligations, amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies.

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

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

(7-14) No change

d. Going concern:

There is not substantial doubt regarding the Company's ability to continue as a going concern.

Note 2 - Accounting Changes and Corrections of Errors

- a. For the six months ended June 30, 2020 and 2019, the Company did not record any corrections of prior years' errors.
- b. Adoption of new accounting standards:

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

In August 2019, the NAIC adopted modifications to SSAP No. 51R, Life Contracts, to incorporate references to the Valuation Manual and to facilitate the implementation of PBR. The adoption, effective January 1, 2020, only applies to certain annuity products and includes inforce policies issued after 1980. Prior to adoption, the Company used formulas and assumptions to determine reserves as

prescribed by state laws and regulations. Under PBR, the aggregate reserve for contracts falling within the scope of these requirements shall equal the stochastic reserve plus the additional standard projection amount less the projected interest maintenance reserve included in the starting assets. These requirements constitute the Commissioners Annuity Reserve Valuation Method for all contracts encompassed by the scope. The modifications did not have a material effect on the Company's total annuity reserves and surplus in the financial statements.

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

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

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

In April 2020, the NAIC adopted modifications to SSAP Nos. 26R, 30R, 37, 43R and 48. This guidance provides limited time exceptions for impairment assessments related to mortgage loans, bank loans and other investments that predominantly invest in mortgage loans and does not require an impairment classification under SSAP No. 37 for mortgage loans or SSAP No. 26R for bank loans that are deferred/modified in response to the impacts of COVID-19. It also provides limited-scope provisions for assessing impairment for other investments (e.g., mutual funds, limited liability companies) that predominantly invest in mortgage loans impacted due to fair value declines if the entity does not intend to sell. This guidance only defers the assessment of impairment due to situations caused by the forbearance or modification of mortgage loan or bank loan payments for borrowers who are or may be unable to meet their contractual payment obligations because they are experiencing short-term financial or operational problems due to the effects of COVID-19. This guidance is only applicable for the first and second quarters of 2020 as it expires on September 29, 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

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

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

Note 3 - Business Combinations and Goodwill - No change

Note 4 - Discontinued Operations - No change

Note 5 - Investments

a. Mortgage loans, including mezzanine real estate loans - No change

in the security for a period of time sufficient to

- b. Debt restructuring No change
- c. Reverse mortgages No change
- d. Loan-backed securities:
 - (1) Prepayment assumptions for loan-backed and structured securities are based on various assumptions and inputs obtained from external industry sources along with internal analysis and actual experience.
 - (2) The following contains loan-backed and structured securities that recognized other-than-temporary impairments (OTTI) classified on the following bases for recognizing OTTI:

			(1)		(2)		(3)
			Amortized	Po	OTT cogni		
			Cost Basis		n Los		
		1	Before	(2a)		b)	Fair Value
			OTTI	terest	`	n-interest	1-(2a+2b)
			•			<u> </u>	/ /
OTT	I 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		2,725,567	 		483,094	 2,242,473
C.	Total first quarter	\$	2,725,567	\$ 	\$	483,094	\$ 2,242,473
OTT	I recognized in the second quarter						
d.	Intent to sell	\$	-	\$ -	\$	-	\$ -
e.	Inability or lack of intent to retain the investment						

f.	recover the amortized cost basis Total second quarter	\$	1,978,627 1,978,627	\$		\$	212,844 212,844	\$	1,765,783 1,765,783
OT	TI recognized in the third quarter	=	· · ·			-	,		· ·
g.	Intent to sell	\$	-	\$	-	\$	-	\$	-
h.	Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		_		_		-		_
i.	Total third quarter	\$	_	\$		\$	_	\$	_
ОТ	TI 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								
1	Total fourth quarter	\$		\$	<u> </u>	\$		\$	
••	rotariourur quartor	<u>~</u>		<u>*</u>		<u>*</u>		Ψ	
m.	Annual aggregate total			\$	-	\$	695,938		

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
05535DCF9	\$ 432,085	\$ 410,505	\$ (21,580)	\$ 410,505	\$ 362,606	March 31, 2020
45071KDD3	77,176	69,653	(7,524)	69,653	67,033	March 31, 2020
65535VRK6	41,952	40,956	(995)	40,956	37,844	March 31, 2020
79548KXQ6	29,027	28,392	(635)	28,392	21,372	March 31, 2020
12669GWN7	220,746	216,237	(4,509)	216,237	214,278	March 31, 2020
57645LAA2	1,924,581	1,476,730	(447,851)	1,476,730	1,981,360	March 31, 2020
9393365V1	7,834	7,719	(116)	7,719	6,622	June 30, 2020
57643QAE5	534,784	441,679	(93,105)	441,679	574,564	June 30, 2020
74951PBT4	14,931	9,486	(5,445)	9,486	10,438	June 30, 2020
86359DMC8	1,421,078	1,306,900	(114,178)	1,306,900	1,202,568	June 30, 2020
Totals	\$ 4,704,194	\$ 4,008,257	\$ (695,938)	\$ 4,008,257	\$ 4,478,685	

- (4) As of June 30, 2020, the gross unrealized losses and fair values for investments in structured and loan-backed securities for which an OTTI has not been recognized in earnings follow:
 - a. The aggregate amount of unrealized losses:

1	Less than 12 months	\$	(20,129,145)
		Ψ	,
2.	12 months or longer	\$	(7,550,741)

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

 1. Less than 12 months
 \$ 425,026,926

 2. 12 months or longer
 \$ 123,775,274

- (5) No change
- e. Dollar repurchase agreements and/or securities lending transactions: The Company did not have any dollar repurchase agreements and/or securities lending transactions as of June 30, 2020.
- f. Repurchase agreements transactions accounted for as secured borrowing:
 - (1) The Company did not have any repurchase agreements as of June 30, 2020.
- g. Reverse repurchase agreements transactions accounted for as secured borrowing: The Company did not have any reverse repurchase agreements transactions accounted for as secured borrowing as of June 30, 2020.
- h. Repurchase agreements transactions accounted for as a sale: The Company did not have any repurchase agreements transactions accounted for as a sale as of June 30, 2020.
- i. Reverse repurchase agreements transactions accounted for as a sale: The Company did not have any reverse repurchase agreements transactions accounted for as a sale as of June 30, 2020.
- j. Real estate No change
- k. Low-Income Housing Tax Credit No change
- I. Restricted Assets No change
- m. Working capital finance investments: The Company did not invest in working capital finance investments as of June 30, 2020.
- n. Offsetting and netting of assets and liabilities: The Company reports derivative and repurchase agreement assets and liabilities as gross in the financial statements without offsetting as of June 30, 2020.

5GI Securities:

Investment	Number of 5G	I Securities	Aggregate	BACV	Aggregate F	air Value
	Current Year	Prior Year	Current Year Prior Year C		Current Year	Prior Year
(1) Bonds - AC	32	43	\$31,920,956	\$44,724,121	\$30,896,901	\$44,671,172
(2) LB&SS - AC	1	1	2,300,839	2,435,608	2,250,904	2,291,778
(3) Preferred Stock - AC	5	3	2,062,069	2,062,868	3,420,566	3,223,153
(4) Preferred Stock - FV	1	1	60,884	66,454	60,884	66,454
(5) Total (1+2+3+4)	39	48	\$36,344,748	\$49,289,051	\$36,629,255	\$50,252,557

AC - Amortized Cost FV - Fair Value

- p. Short sales The Company does not engage in short sale transactions.
- q. Prepayment penalty and acceleration fees:

	 Six Months Ended June 30, 2020				
	 General Account	Separate Account			
1. Number of CUSIPS	15		N/A		
2. Aggregate amount of investment income	\$ 694,255		N/A		

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

Note 7 - Investment Income - No change

Note 8 - Derivative Instruments

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

Note 9 - Income Taxes

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

Note 10 - Information Concerning Parent, Subsidiaries and Affiliates

- a. The Company is a wholly owned subsidiary of MassMutual, a mutual insurance company domiciled in the Commonwealth of
- b-c. On June 27, 2020, the Company declared \$173,000,000 of dividends to MassMutual for the six months ended June 30, 2020, to be paid in August 2020.

Note 11 - Debt

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

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

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

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

(4) On June 27, 2020, a dividend in the amount of \$173,000,000 was declared by the Company to MassMutual, to be paid in August 2020

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. Joint and several liabilities No change
- f. All other contingencies:

In the normal course of business, the Company is involved in disputes, litigation and governmental or regulatory inquiries, administrative proceedings, examinations and investigations, both pending and threatened. These matters, if resolved adversely against the Company or settled, may result in monetary damages, fines and penalties or require changes in the Company's business practices. The resolution or settlement of these matters is inherently difficult to predict. Based upon the Company's assessment of

these pending matters, the Company does not believe that the amount of any judgment, settlement or other action arising from any pending matter is likely to have a material adverse effect on the statement of financial position. However, an adverse outcome in certain matters could have a material adverse effect on the results of operations for the period in which such matter is resolved, or an accrual is determined to be required, on the financial statement financial position, or on our reputation.

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

Note 15 - Leases - No change

Note 16 - Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk - No change

Note 17 - Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities

- a. Transfers of receivables reported as sales No change
- b. Transfer and servicing of financial assets:
 - (1) No change
 - (2) The Company did not have any servicing assets or liabilities in 2020 or 2019.
 - (3) No change
 - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2020 or 2019.
 - (5-7) No change
- c. Wash sales:
 - (1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days to enhance the Company's yield on its investment portfolio.
 - (2) The Company did not sell any securities with the NAIC Designation 3 or below, or unrated, through the six months ended June 30, 2020 that were reacquired within 30 days of the sale date.

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

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

Note 20 - Fair Value Measurements

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

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

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

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

The Company believes that the prices received from the pricing vendors are representative of prices that would be received to sell the assets at the applicable measurement date (exit prices) and are classified appropriately in the hierarchy.

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:

					Jı	une 30, 2020				
		Lovel 1		Lovel 2		Lovel 2	٨	let Asset Value		Total
Financial assets:		Level 1		Level 2		Level 3		(NAV)		Total
Bonds:										
Industrial and miscellaneous	\$	-	\$	3,675,542	\$	15,588,908	\$	-	\$	19,264,450
Preferred stocks		-		-		143,184		-		143,184
Common stock - subsidiary and affiliates	;	16,079,952		-		-		-		16,079,952
Common stock - unaffiliated		432,924		-		3,260,124		-		3,693,048
Derivatives:										
Interest rate swaps		-		1,127,391,303		-		-	•	1,127,391,303
Options		-		32,583,168		-		-		32,583,168
Currency swaps		-		82,286,596		-		-		82,286,596
Forward contracts		-		856,207		-		-		856,207
Financial futures		224,252		-		-		-		224,252
Separate account assets	1	,703,043,361		-		-		-		1,703,043,361
Total financial assets carried at fair value	\$ 1	,719,780,489	\$	1,246,792,816	\$	18,992,216	\$	-	\$ 2	2,985,565,52 ²
Financial liabilities: Repurchase agreements										
Derivatives:										
Interest rate swaps	\$	-	\$	1,106,985,280	\$	-	\$	-	\$ ^	1,106,985,280
Options		-		3,618,769		-		-		3,618,769
Currency swaps		-		808,393		-		-		808,393
Forward contracts				3,073,055		-		-		3,073,055
Financial futures		1,577,923		-		-		-		1,577,923
Total financial liabilities carried at fair value	Φ	1 577 000	Φ	1 111 105 107	\$		\$		φ.	1 446 062 420
at fail value	\$	1,577,923	Ф	1,114,485,497	Ф	<u>-</u>	φ	<u> </u>	Ф	1,116,063,420
					Dec	ember 31, 20				
		Level 1		Level 2		Level 3	١	let Asset Value (NAV)		Total
Financial assets:						2010.0		()		
Bonds:										
Industrial and miscellaneous	\$	_	\$	4,241,356	\$	9,295,673	\$	_	\$	13,537,02
Preferred stocks	•	_	•	-	•	148,754	•	_	*	148,75
Common stock - subsidiary and affiliates		17,122,205				,				17,122,20
•	•			-		0.500.004		-		
Common stock - unaffiliated Derivatives:		305,512		-		3,529,294		-		3,834,80
Interest rate swaps		-		465,963,255		-		-		465,963,25
Options		-		30,937,928		_		-		30,937,92
Currency swaps		_		35,513,162		-		-		35,513,16
Forward contracts		_		513,418		_		_		513,41
Separate account assets	1 :	809,856,410		-		_		_		1,809,856,41
Total financial assets carried		300,000,410								1,000,000,+1
at fair value	\$1,	827,284,127	\$	537,169,119	\$	12,973,721	\$	-	\$	2,377,426,96
Financial liabilities:										
Derivatives:	_			504 040 			_			E04 045 5
Interest rate swaps	\$	-	\$	561,212,675	\$	-	\$	-	\$	561,212,67
Options		-		7,713,197		-		-		7,713,19
Currency swaps		-		4,143,150		-		-		4,143,15
Forward contracts		-		3,938,480		-		-		3,938,48
Credit default swaps		-		4,485		-		-		4,48
Financial futures - long positions	_	15,723,530								15,723,53
Total financial liabilities carried										
at fair value	\$	15,723,530	\$	577,011,987	\$	-	\$		\$	592,735,51

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

	Balance			Gains	Gains							Balance
	as of	Tran	sfers ⁽¹⁾	(Losses) in	(Losses) in							as of
	03/31/2020	In	Out	Net Income	Surplus	-	Purchases	Issuances	Sales	ξ	Settlements	6/30/2020
Financial assets:												
Bonds:												
Industrial and miscellaneous	\$ 9,867,447	\$ 5,774,414	\$ -	\$ (38,736)	\$ (1,205,224)	\$	487,132	\$ 1,012,503	\$ -	\$	(308,628)	\$ 15,588,908
Preferred stocks	154,768	-	-	-	(9,214)		(2,370)	-	-		-	143,184
Common stocks - affiliated	15,032,740	-	(17,122,205)	-	2,089,465		-	-	-		-	-
Common stocks - unaffiliated	3,113,488	-	-	(25,098)	139,029		(5,454)	144,980	(106,821)		-	3,260,124
Total financial assets	\$ 28,168,443	\$ 5,774,414	\$ (17,122,205)	\$ (63,834)	\$ 1,014,056	\$	479,308	\$ 1,157,483	\$ (106,821)	\$	(308,628)	\$ 18,992,216

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

	Balance as of	Trans	sfers	(1)	(l	Gains Losses) in	(Gains Losses) in								Balance as of
	01/01/2019	In		Out	N	let Income		Surplus	F	Purchases	ls	ssuances	Sales	S	Settlements	12/31/2019
Financial assets:																
Bonds:																
Industrial and miscellaneous	\$ 4,289,614	\$ 5,778,836	\$	-	\$	(165,862)	\$	(208,043)	\$	44,766	\$	-	\$ 108,894	\$	(552,532)	\$ 9,295,673
Parent, subsidiaries and affiliates	6,384,098	-		(6,384,098)		-				-		-	-		-	-
Preferred stock	31,996	125,509				-		(20,786)		12,035		-	-		-	148,754
Common stock - unaffiliated	2,499,354	-		(25,232)		749,292		940,485		216,085		-	-		(850,690)	3,529,294
Total financial assets	\$ 13,205,062	\$ 5,904,345	\$	(6,409,330)	\$	583,430	\$	711,656	\$	272,886	\$	-	\$ 108,894	\$	(1,403,222)	\$ 12,973,721

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

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

(4) Valuation Techniques and Inputs

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

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

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

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

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

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

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

- (5) Derivative assets and liabilities fair value disclosures on a gross basis are included in paragraph 1 above. Since there are no derivative assets or liabilities classified in Level 3, the reconciliation disclosures required under paragraphs 2 through 4 are not applicable.
- b. The Company provides additional fair value information in Note 21. "Other Items".

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

June 30, 2020

			Julie	30, 2020			
						Net Asset	Not Practicable
	Aggregate	Admitted				Value	(Carrying
_	Fair Value	Assets	Level 1	Level 2	Level 3	(NAV)	Value)
Financial assets:							
Bonds:							
U. S. government and agencies	\$ 3,572,401	\$ 3,527,811	\$ -	\$ 3,572,401	\$ -	\$ -	\$ -
All other governments	1,490,566	1,310,688	-	1,490,566	-	-	-
States, territories and possessions	25,082,551	20,737,916	-	25,082,551	-	-	-
Political subdivisions	18,849,614	15,711,088	-	18,849,614	-	-	-
Special revenue	130,126,032	110,017,151	-	130,126,032	-	-	-
Industrial and miscellaneous	4,131,309,934	3,845,944,442	-	2,209,451,443	1,921,858,491	-	-
Parent, subsidiaries and affiliates	178,897,859	166,060,343	-	-	178,897,859	-	-
Preferred stocks	6,579,701	5,494,571	-	-	6,579,701	-	-
Common stock - subsidiary and affiliates ⁽¹⁾	16,079,952	16,079,952	16,079,952	-	-	-	-
Common stock - unaffiliated	3,693,048	3,693,048	432,924	-	3,260,124	-	-
Mortgage loans - commercial	846,105,258	806,803,988	-	-	846,105,258	-	-
Mortgage loans - residential	161,742,390	159,915,651	-	-	161,742,390	-	-
Cash, cash equivalents and							
short-term investments	433,686,331	433,686,331	27,238,018	406,448,313	-	-	-
Derivatives:							
Interest rate swaps	1,127,391,303	1,127,391,303	-	1,127,391,303	-	-	-
Options	32,583,168	32,583,168	-	32,583,168	-	-	-
Currency swaps	82,286,596	82,286,596	-	82,286,596	-	-	-
Forward contracts	856,207	856,207	-	856,207	-	-	-
Financial futures	224,252	224,252	224,252	-	-	-	-
Separate account assets	1,703,043,361	1,703,043,361	1,703,043,361	-	-	-	-
Financial liabilities:							
Individual annuity contracts	3,677,179,499	3,007,765,889	-	-	3,677,179,499	-	-
Supplementary contracts	70,214,958	69,519,760	-	-	70,214,958	-	-
Derivatives:							
Interest rate swaps	1,106,985,280	1,106,985,280	-	1,106,985,280	_	-	_
Options	3,618,769	3,618,769	-	3,618,769	-	-	-
Currency swaps	808,393	808,393	-	808,393	-	-	-
Forward contracts	2,735,555	2,735,555	-	2,735,555	-	-	-
Financial futures	1,577,923	1,577,923	1,577,923	-	-	-	_
	,,-20	.,,.20	.,,.20				

⁽¹⁾ Common stock - subsidiary and affiliates does not include MML Bay State Life Insurance Company (MML Bay State), which had a statutory carrying value of \$301,781,395.

December 31, 2019

Net Not Asset Practicabl Admitted Aggregate Value (Carrying Fair Value Assets Level 1 Level 2 Level 3 (NAV) Value) Financial assets: 3,754,335 3,747,695 \$ 3,754,335 \$ U. S. government and agencies All other governments 1.431.745 1.327.747 1.431.745 32,085,285 States, territories and possessions 32,085,285 28,787,937 20.476.532 Political subdivisions 18.252.991 20.476.532 Special revenue 130.334.983 114.496.247 130.334.983 Industrial and miscellaneous 3,708,095,870 3,439,425,093 1,783,454,712 1,924,704,795 Parent, subsidiaries and affiliates 208.636.940 203.525.192 7.350.930 201.286.011 Preferred stocks 8,612,629 7,389,131 8,612,629 Common stock - subsidiary and affiliates(1) 17.122.205 17.122.205 17.122.205 Common stock - unaffiliated 3.529.294 3.834.806 3.834.806 298.341 Mortgage loans - commercial 866,539,030 831,065,876 866,539,030 100.489.012 101.955.720 100.489.012 Mortgage loans - residential Cash, cash equivalents and 463.125.059 463,125,059 53.708.994 409,416,065 short-term investments Derivatives: Interest rate swaps 465.963.255 465.963.255 465.963.255 30,937,928 30,937,928 Options 30,937,928 35,513,162 35.513.162 35,513,162 Currency swaps Forward contracts 513 418 513 418 513 418 Separate account assets 1,809,856,409 1,809,856,409 1,809,856,409 Financial liabilities: Individual annuity contracts 3.640.908.800 2 990 883 311 3 640 908 800 81,548,634 Supplementary contracts 81,548,634 80,741,222 Derivatives: Interest rate swaps 561.212.675 561.212.675 561.212.675 Options 7,713,196 7,713,196 7,713,196 4.143.150 4.143.150 4.143.150 Currency swaps 3,938,480 3,938,480 3.938.480 Forward contracts Credit default swaps 4,485 4,485 4,485 Financial futures 15.723.530 15.723.530 15.723.530

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

Note 21 - Other Items

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

Business risks

The Company operates in a business environment subject to various risks and uncertainties. The principal risks include insurance and underwriting risks, investment and interest rate risks, currency exchange risk and credit risk. The combined impact of these risks could have a material, adverse effect on the Company's financial statements or result in operating losses in future periods. The Company employs the use of reinsurance, portfolio diversification, asset/liability management processes and other risk management techniques to mitigate the impact of these risks. This condensed risks and uncertainties disclosure should be read in conjunction with the disclosure in the Company's 2019 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.

⁽¹⁾ Common stock - subsidiary and affiliates does not include MML Bay State, which had a statutory carrying value of \$293,454,322.

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

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

Currency exchange risk

The Company has currency risk due to its non-U.S. dollar denominated investments. The Company mitigates a portion of its currency risk through the use of cross-currency swaps and forward contracts. Cross-currency swaps are used to minimize currency risk for certain non-U.S. dollar assets and liabilities through a pre-specified exchange of interest and principal. Forward contracts are used to hedge movements in exchange rates.

Credit and other market risks

The Company manages its investments to limit credit and other market risks by diversifying its portfolio among various security types and industry sectors as well as purchasing credit default swaps to transfer some of the risk.

Stressed conditions, volatility and disruptions in global capital markets or in particular markets or financial asset classes can have an adverse effect on the Company, in part because the Company has a large investment portfolio and assets supporting the Company's insurance liabilities are sensitive to changing market factors. Global market factors, including interest rates, credit spread equity prices, real estate markets, foreign currency exchange rates, consumer spending, business investment, government spending, the volatility and strength of the capital markets, deflation and inflation, all affect the business and economic environment and, ultimately, the profitability of the Company's business. Disruptions in one market or asset class can also spread to other markets or asset classes. Upheavals in the financial markets can also affect the Company's business through their effects on general levels of economic activity, employment and customer behavior.

Asset-based fees calculated as a percentage of the separate account assets are a source of revenue to the Company. Gains and losses in the investment markets may result in corresponding increases and decreases in the Company's separate account assets and related revenue.

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

- 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) Direct exposure through other investments.

Six Months Ended June 30, 2020 June 30, 2020 Actual Carrying Fair Alt-A: Value OTTI Cost Value 14,763,565 16,829,777 1,746 16,920,826 a. Residential mortgage-backed securities \$ b. Commercial mortgage-backed securities c. Collateralized debt obligations d. Structured securities 501,470 616,665 669,635 \$ \$ \$ Equity investments in SCAs * Other assets f. 15,265,035 17,537,491 17,499,412 1,746 \$ \$ \$ g. Total

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

						,	Year Ended
		Dec	ember 31, 2019	9		Dec	ember 31, 2019
	Actual		Carrying		Fair		
Alt-A:	 Cost		Value		Value		OTTI
a. Residential mortgage-backed securities	\$ 12,731,563	\$	14,951,778	\$	16,535,556	\$	42,030
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	544,186		657,039		745,113		-
f. Other assets	 -		-		-		
g. Total	\$ 13,275,749	\$	15,608,817	\$	17,280,669	\$	42,030

^{*} 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.

- (4) The Company has no underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty insurance coverage.
- g. Retained asset accounts No change

Note 22 - Events Subsequent

Management of the Company has evaluated subsequent events through August 14, 2020, the date the financial statements were available to be issued to state regulators and subsequently on the Company's website. No events have occurred subsequent to the date of the financial statements.

Note 23 - Reinsurance - No change

Note 24 - Retrospectively Rated Contracts and Contracts Subject to Redetermination

a – d. No change

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

Note 25 - Change in Incurred Losses and Loss Adjustment Expenses

There was no increase to reserves in 2020 for incurred losses and loss adjustment expenses attributable to insured events of prior years, which considered corrections of prior year errors.

Note 26 - Intercompany Pooling Arrangements - No change

Note 27 - Structured Settlements - No change

Note 28 - Health Care Receivables - No change

Note 29 - Participating Policies - No change

Note 30 - Premium Deficiency Reserves - No change

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

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

Note 33 - Analysis of Life Actuarial Reserves by Withdrawal Characteristics - No change

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

Note 35 - Separate Accounts - No change

Note 36 - Loss/Claim Adjustment Expenses - No change

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

1.1	Did the reporting entity experience any material transactions requiring 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 creporting entity?						Yes [] No [X]
2.2	If yes, date of change:					<u> </u>		
3.1	Is the reporting entity a member of an Insurance Holding Company S is an insurer? If yes, complete Schedule Y, Parts 1 and 1A.						Yes [X] No []
3.2	Have there been any substantial changes in the organizational chart	since the prior qu	uarter end?				Yes [] No [X]
3.3	If the response to 3.2 is yes, provide a brief description of those chan	ges.						
3.4	Is the reporting entity publicly traded or a member of a publicly traded	d group?					Yes [] No [X]
3.5	If the response to 3.4 is yes, provide the CIK (Central Index Key) cod	e issued by the S	SEC for the entity/group.	·				
4.1	Has the reporting entity been a party to a merger or consolidation dur If yes, complete and file the merger history data file with the NAIC.	ring the period co	overed by this statement	?			Yes [] No [X]
4.2	If yes, provide the name of the entity, NAIC Company Code, and state ceased to exist as a result of the merger or consolidation.	e of domicile (us	e two letter state abbrev	iation) for any entity t	hat has	8		
	1 Name of Entity		2 NAIC Company Code	3 State of Domicile				
			, , , , , , , , , , , , , , , , , , , ,					
5.	If the reporting entity is subject to a management agreement, includir in-fact, or similar agreement, have there been any significant change If yes, attach an explanation.	ng third-party adr s regarding the t	ninistrator(s), managing erms of the agreement o	general agent(s), atto or principals involved	orney- ?	Yes [] No [X] N/A []
6.1	State as of what date the latest financial examination of the reporting	entity was made	e or is being made			<u> </u>	12/3	31/2019
6.2	State the as of date that the latest financial examination report becardate should be the date of the examined balance sheet and not the control of the examined balance sheet and not the examined balance sheet and the examined						12/3	31/2014
6.3	State as of what date the latest financial examination report became the reporting entity. This is the release date or completion date of the date).	e examination rep	oort and not the date of t	he examination (bala	nce sh	eet	05/3	31/2016
6.4 6.5	By what department or departments? State of Connecticut Insurance Department Have all financial statement adjustments within the latest financial ex statement filed with Departments?	amination report	been accounted for in a	a subsequent financia	I	Yes [] No [] N/A [X]
6.6	Have all of the recommendations within the latest financial examinati	on report been c	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?	registrations (inc	cluding corporate registr	ation, if applicable) su	spend	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	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	g company.						
8.3	Is the company affiliated with one or more banks, thrifts or securities	firms?					Yes [X] No []
8.4	If response to 8.3 is yes, please provide below the names and location regulatory services agency [i.e. the Federal Reserve Board (FRB), the Insurance Corporation (FDIC) and the Securities Exchange Commissions (FDIC) and the Securities (FDIC) are th	e Office of the C	omptroller of the Curren	cy (OCC), the Federa	I Depo			
	1		2	3	4	5	6	
	Affiliate Name Baring International Investment Limited	London IIV	ocation (City, State)	FRB	OCC	FDIC	SEC	
	Barings Global Advisers Limited							
		Charlotte. NC					YES	
	MML Distributors, LLC	Enfield, CT					YES	
	MML Investment Advisers, LLC	Enfield, CT				1	YES	

1	2	3	4	5	6
Affiliate Name	Location (City, State)	FRB	OCC	FDIC	SEC
Baring International Investment Limited	London, UK				YES
Barings Global Advisers Limited	London, UK				YES
Barings Securities, LLC	Charlotte, NC				YES
MML Distributors, LLC	Enfield, CT				YES
MML Investment Advisers, LLC	Enfield, CT				YES
MML Investors Services, LLC	Springfield, MA				YES
MML Strategic Distributors, LLC	Springfield, MA				YES
MMLISI Financial Alliances, LLC	Springfield, MA				YES
The MassMutual Trust Company, FSB	Enfield, CT		YES		

GENERAL INTERROGATORIES

9.1	Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controlle similar functions) of the reporting entity subject to a code of ethics, which includes the following standards?		Yes [X] No []
	(b) Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the repor	ting entity;	
	(c) Compliance with applicable governmental laws, rules and regulations;		
	(d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and		
	(e) Accountability for adherence to the code.		
9.11	If the response to 9.1 is No, please explain:		
9.2	Has the code of ethics for senior managers been amended?		Yes [X] No []
9.21	If the response to 9.2 is Yes, provide information related to amendment(s).		
	All references to confidential information have been amended to restricted and confidential information to accurate	ly reflect amendments	
9.3	made to a Company Policy. Have any provisions of the code of ethics been waived for any of the specified officers?		Voc [] No [V]
9.31			les [] NO [X]
	FINANCIAL		
10.1	Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement		
10.2	If yes, indicate any amounts receivable from parent included in the Page 2 amount:		50
	INVESTMENT		
11 1	Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or of	henvise made available for	
	use by another person? (Exclude securities under securities lending agreements.)		
11.2	If yes, give full and complete information relating thereto:		
	Letter stock or securities restricted as to sale - excluding deposit with states		
12.	Amount of real estate and mortgages held in other invested assets in Schedule BA:		
13. 14.1	Amount of real estate and mortgages held in short-term investments: Does the reporting entity have any investments in parent, subsidiaries and affiliates?		
14.1	If yes, please complete the following:		
		1 Prior Year-End	2 Current Quarter
		Book/Adjusted	Book/Adjusted
	Bonds	Carrying Value	Carrying Value
14.21	Bonds	\$201,325,192	\$166,060,343
	Preferred Stock		\$
	Common Stock		\$317,861,347
	Short-Term Investments		\$
	Mortgage Loans on Real Estate		\$ 70.050.000
	All Other		\$70,252,906 \$554,174,596
	Total Investment in Parent included in Lines 14.21 to 14.26 above		\$
15.1	Has the reporting entity entered into any hedging transactions reported on Schedule DB?		
15.2	If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? If no, attach a description with this statement.	Yes	[X] No [] N/A [
16.	For the reporting entity's security lending program, state the amount of the following as of the current statement da		
	16.1 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2		
	16.2 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, I		
	16.3 Total payable for securities lending reported on the liability page.		\$

GENERAL INTERROGATORIES

	offices, vaults or safety custodial agreement w Outsourcing of Critical	y deposit boxes, vith a qualified ba Functions, Custo	 Special Deposits, real estate, mowere all stocks, bonds and other senk or trust company in accordance odial or Safekeeping Agreements or requirements of the NAIC Financial 	ecurities, owne e with Section of the NAIC Fir	ed throughout 1, III - Gener nancial Condi	t the current year al Examination Co ition Examiners H	held pursuant to a onsiderations, F. andbook?	Yes	[X] No	[]
		1	4 12 4 3			2					
	Citibank N A	Name of Cus	todian(s)	333 West 341	h Street Ne	w York NY 10001	ess				
	JP Morgan Chase Bank	(N.A		1 Chase Manh	attan Plaza,	19th Floor, New	York, NY 10005				
	State Street Global	Services		801 Pennsylv	ania Avenue, t Sydney NS	Kansas City, MO W 2000	64105				
	ortrodik, it.ii.			L Turk otroo	t oyunoy, no						
17.2	For all agreements that location and a comple		with the requirements of the NAIC I	Financial Cond	dition Examin		rovide the name,				
	1 Name(s)	2 Location(s)			3 Complete Explai	nation(s)				
	If yes, give full informa			(s) identified in		the current quarte		Yes	[]	No	[X]
	1 Old Custo	odian	2 New Custodian	Date	3 of Change		4 Reason				
17.5	make investment deci	sions on behalf o	nvestment advisors, investment ma f the reporting entity. For assets the stment accounts"; "handle securi	at are manage ities"]	ed internally b						
			1 n or Individual	2 Affilia	tion						
	Barings LLC	d		A							
	· ·										
	17.5097 For those firm designated with	ns/individuals liste ith a "U") manage	ed in the table for Question 17.5, do e more than 10% of the reporting e	o any firms/ind ntity's invested	lividuals unaf d assets?	filiated with the re	eporting entity (i.e.	Yes	[] No	[X]
			ed with the reporting entity (i.e. desint aggregate to more than 50% of t					Yes	[] No	[X]
17.6	For those firms or indi-	viduals listed in th	ne table for 17.5 with an affiliation o	code of "A" (aff	:::=4==1\ == !!! !						
	table below.			code of A (all	illated) or "U	" (unaffiliated), pr	ovide the information for the	е			
	1		2	Source of A (all	milated) or "U	" (unaffiliated), pro	ovide the information for the	е	Inve	5 stmo	unt
	1 Central Registration		2	sode of A (all	<u> </u>	3	4		Mana Agre	stme igem eeme	ent ent
	1 Central Registration Depository Number	Barings LLC	2 Name of Firm or Individual		Legal Entit	3 y Identifier (LEI)			Mana Agre	stme igem eeme	ent ent ed
	Central Registration Depository Number 106006	Barings LLC IFM Investors P	2 Name of Firm or Individual ty Ltd		Legal Entity	y Identifier (LEI)	4 Registered With SEC SEC		Mana Agre (IMA DS NO	stme igeme eeme (A) File	ent ent ed
	Central Registration Depository Number 106006 162754 Have all the filing requ If no, list exceptions: At 06/30/2020, 7 issue	Barings LLC IFM Investors P	2 Name of Firm or Individual	of the NAIC Inv	Legal Entity MMPERQOMXYEI restment Ana	y Identifier (LEI) NC8A2G084 alysis Office been	Registered With SEC SEC followed?		Mana Agre (IMA DS NO	stme ageme eeme A) File	ent ent ed
	Central Registration Depository Number 106006 162754 Have all the filing requ If no, list exceptions: At 06/30/2020, 7 issue	Barings LLC IFM Investors P sirements of the F es for 4 issuers diene or more of the	Name of Firm or Individual ty Ltd Purposes and Procedures Manual of the Individual	of the NAIC Inv	Legal Entity MMPERQOMXYEI restment Ana	y Identifier (LEI) NC8A2G084 alysis Office been	Registered With SEC SEC followed?		Mana Agre (IMA DS NO	stme ageme eeme A) File	ent ent ed
	Central Registration Depository Number 106006	Barings LLC IFM Investors P irrements of the F es for 4 issuers di inne or more of the 6,135,788 or 0.36 is securities, the r innecessary to peravailable.	Name of Firm or Individual ty Ltd Purposes and Procedures Manual of the following: Valid cusip/PPN, auditors of of all assets. The portion of the following and the follow	of the NAIC Involved financials a sowing elements urity does not exagence.	Legal Entity MMPERQOMXYEI Prestment Analysis and Procedure and/or execute s for each selexist or an No	y Identifier (LEI) NC8A2G084	Registered With SEC		Mana Agre (IMA DS NO	stme ageme eeme A) File	ent ent ed
18.2	Central Registration Depository Number 106006	Barings LLC IFM Investors P irrements of the F es for 4 issuers di inne or more of the 6,135,788 or 0.36 GI securities, the r necessary to per available. In is current on all is an actual expec	Name of Firm or Individual ty Ltd	of the NAIC Involved financials a sowing elements urity does not exagence.	Legal Entity MMPERQOMXYEI vestment Analysis and Proceed and/or execute so for each selexist or an No	y Identifier (LEI) NC8A2G084 alysis Office been dures Manual. Thed legal documen off-designated 5GI AIC CRP credit ra	Registered With SEC	Yes	Mana Agre (IM/ DS NO	stme ggem eemee A) File	ent ent ed
18.2	Central Registration Depository Number 106006	Barings LLC IFM Investors P IFM Investors P Irm Investors P In it is securities, the rescalable. In it is current on all it is an actual expective self-designated If I securities, the securities, the securities, the securities, the securities is purchased in properties.	Name of Firm or Individual ty Ltd	of the NAIC Involved in the Purpose ed financials a powing elements urity does not a payments. Intracted interest in the powing elements	Legal Entity MMPER00MXYEI Westment Analysis and Proceed as for each selexist or an Notes and princip atts of each	y Identifier (LEI) NC8A2G084	Registered With SEC	Yes	Mana Agre (IMA DS NO	stme ggemeemee \(\right) File \(\frac{1}{2}\) No	ent ent ed [X]
19.	Central Registration Depository Number 106006	Barings LLC IFM Investors P IFM Investors P Irm Investors Irm Investors Irm Investor Irm Irm Irm Irm Irm Irm Irm Irm Irm Ir	Name of Firm or Individual ty Ltd Purposes and Procedures Manual of the Individual of Indi	of the NAIC Involved in the Purpose ed financials a powing elements urity does not a payments. Illowing element Illowing element Designation repropersion in the PL security with the NAIC CF or examination in PL security with the NAIC CF or examination in PL security with the NAIC CF or examination in PL security with the NAIC CF or examination in PL security with the NAIC CF or examination in PL security with the NAIC CF or examination in PL security with the NAIC CF or examination in the NAIC CF or examination	Legal Entition MMPER00MXYEI restment Analysis and Proceed and/or execute sis for each selexist or an Nalysist and princip ants of each selexist or an Nalysist and princip ants of each selexist or an Nalysist and princip ants of each selexist in the SVO.	y Identifier (LEI) NC8A2G084 alysis Office been dures Manual. The legal documen off-designated 5GI AIC CRP credit rate. Delf-designated PLO e security. I capacity as a NF rance regulators.	Registered With SEC	Yes	Mana Agre (IMA DS NO	stme ggemeemee \(\right) File \(\frac{1}{2}\) No	ent ent ed
19.	Central Registration Depository Number 106006	Barings LLC IFM Investors P In recessary to per available. If it is current on all is an actual expectory self-designated LGI securities, the recessary to per available. If it is current on all is an actual expectory self-designated LGI securities, the recessary to per available. If it is current on all is an actual expectory self-designated LGI securities, the recessary to per available. LGI securities, the recessary to per available. LGI securities, the recessary to per available or per per available or per available or per intity is holding called a public credit recessary to per available or predominantly horted NAIC Designicity as an NRSRC	Name of Firm or Individual ty Ltd	of the NAIC Involved in the Purpose ed financials a sowing elements urity does not examination recognized in the PL security with the purpose of the purpose	Legal Entity MMPEROMXYEI Westment Analysis and Proceed as for each selexist or an Notes of each selexist of each selexist or an Notes of each selexist or an Notes of each selexist or an Notes of each selexist of each selexis	y Identifier (LEI) NC8A2G084 alysis Office been dures Manual. The legal documen off-designated 5GI AIC CRP credit rance. Delf-designated PLU e security. capacity as a NF rance regulators. Illowing elements e security. its legal capacity	Registered With SEC SEC SEC SEC followed? The majority of these tation. Security: Se	Yes	Mana Agre (IMA DS NO	stme ggemeemee \(\right) File \(\frac{1}{2}\) No	ent ent ed

GENERAL INTERROGATORIES

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

Life and	d Accident Health Companies/Fraternal Benefit Societies: Report the statement value of mortgage loans at the end of this reporting period for the following categories:	. 1
	1.1 Long-Term Mortgages In Good Standing	Amount
	1.11 Farm Mortgages	\$
	1.12 Residential Mortgages	\$159,915,651
	1.13 Commercial Mortgages	\$806,803,991
	1.14 Total Mortgages in Good Standing	\$966,719,642
	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)	\$ 966,719,642
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?	
	If yes, please provide the amount of custodial funds held as of the reporting date	
3.2		
3.3	Do you act as an administrator for health savings accounts? If yes, please provide the balance of the funds administered as of the reporting date	
3.4		
4.	Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states?	res [x] NO []
4.1	If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity?	Yes [] No []
Fratern 5.1	al Benefit Societies Only: In all cases where the reporting entity has assumed accident and health risks from another company, provisions should be made in this statement on account of such reinsurances for reserve equal to that which the original company would have been required to establish had it retained the risks. Has this been done?	Yes [] No [] N/A []
5.2	If no, explain:	
6.1	Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus?	
6.2	If yes, what is the date(s) of the original lien and the total outstanding balance of liens that remain in surplus?	

Date	Outstanding Lien Amount

SCHEDULE S - CEDED REINSURANCE

Showing All New Reinsurance Treaties - Current Year to Date

1	2	3	4		5	6	7	8	9	10
										Effective
									Certified	Date of Certified
NAIC Compan						Type of	Type of		Reinsurer	Certified
Compan	/ ID	Effective		Dom	iciliary	Reinsurance	Business		Rating	Reinsurer
Code	Number	Date	Name of Reinsurer	Juris	diction	Ceded	Ceded	Type of Reinsurer	(1 through 6)	Rating
82627	06-0839705	10/29/2019	Swiss Re Life & Health America (SRI3)		MO	CO/I	XXXL	Authorized.		
82627	06-0839705	10/29/2019	Swiss Re Life & Health America (SR14)		MO	CO/I	XXXL	Authorized		

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS

Current Year To Date - Allocated by States and Territories

2. 3.			1	Life Co 2	ntracts 3	4 Accident and	5	6	7
2. 3.				2	3				
2. 3.						Health Insurance			I
2. 3.			A ativo			Premiums,		T-4-1	I
2. 3.			Active Status	Life Insurance	Annuity	Including Policy, Membership	Other	Total Columns	Deposit-Type
2. 3.	States, Etc.		(a)	Premiums	Considerations	and Other Fees	Considerations	2 Through 5	Contracts
3.	Alaska	, ·-	L	1, 150, 533	3,983,249			5, 133, 782 59, 908	
	Arizona		L	1.620.369	3,026,238			4,646,607	
4.	Arkansas		Ē	245,622	2,248,101			2,493,723	
	California		L	9,427,149	38,832,198			48,259,347	
	Colorado			946,932	3,935,280				·
	Connecticut		Ļ	3,669,072	13,359,528			17,028,600	
	Delaware		L L	96,069 908,371	3,523,902			3,619,971 1,898,736	
	Florida		L	9.176.886	35,541,632			44,718,518	
	Georgia	1		2,081,467	7,504,376			9,585,843	L
	Hawaii		L	1,044,793	2,666,098			3,710,891	l
	Idaho		L	169,873	1,710,071			1,879,944	
	Illinois			2,459,066	18,534,330			20,993,396	
	Indianalowa		L	1,388,084 569,303	6,815,916 3,610,106			8,204,000 4,179,409	[
	Kansas		L		1,885,666			2,518,324	
	Kentucky		L	512,757	2.362.128			2,874,885	
	Louisiana		Ĺ	672,853	6,348,865			7,021,718	
	Maine		L	193,255	1,218,442			,	ļ
	Maryland			3,447,658					
	Massachusetts			2,380,941	18,825,730				[
	Michigan		L L	2,048,524 2,261,468	17,023,105 6,642,695			19,071,629 8,904,163	
	Mississippi		L					3.975.962	 [
	Missouri			1,090,723	8, 146, 455			,.	
27.	Montana	MT	L	128,786	917,358			1,046,144	L
	Nebraska		<u>L</u>	384,816	2,796,616				<u> </u>
	Nevada		L	723,780	1, 146,885				
	New Hampshire New Jersey		L L	527,077 4,958,021	4,759,543				
	New Mexico		L	4,958,021	24,803,045			1,960,896	
	New York		N	3,047,834	875,235			3,923,069	
	North Carolina		L	3,000,846	10,683,789			13,684,635	
	North Dakota		L	10,722	1,014,120				ļ
	Ohio		L	2,221,357	15,406,909			17,628,266	·
	Oklahoma Oregon		L	855,628	716,971 3,647,927				ſ····
	Pennsylvania		L L	405,410 4,634,756	3,647,927			4,053,337 43,427,241	
	Rhode Island		L	322,234	2,990,756			, ,	
	South Carolina		Ĺ	1,481,091	3,624,342			5, 105, 433	
42.	South Dakota	. SD	L	44,728	714,911			759,639	ļ
	Tennessee		L	1,970,572	17,820,428			19,791,000	·
	Texas		<u>Ļ</u>	5,930,927	20,086,815			26,017,742	†
	Utah Vermont	. UT	L	822,748	2,905,418			3,728,166	ſ
	Virginia		L	283,364 2,691,101	1,084,878			1,368,242 19.270.950	
	Washington		L	1,222,050	3,679,690			4,901,740	
	West Virginia		L	322,246	1,392,649			1,714,895	
	Wisconsin		L	889,248	10,201,457			11,090,705	ļ
	Wyoming		L	69,573	406,735			476,308	·····
	American Samoa		N	440				440	ſ
	Puerto Rico		N L	1.629.392	775.674			2.405.066	
	U.S. Virgin Islands		N	634	773,074			634	
	Northern Mariana Islands		N						L
57.	Canada	- CAN	N	7,363				7,363	
	Aggregate Other Aliens	٠.	XXX	32,505	40,000			72,505	·
	Subtotal		XXX	88,272,355	409,905,534			498 , 177 , 889	[
90.	Reporting entity contributions for employee b plans		XXX						L
91.	Dividends or refunds applied to purchase pai	d-up							
വാ	additions and annuities		XXX		ļ				[
92.	Dividends or refunds applied to shorten endo or premium paying period		XXX						L
93.	Premium or annuity considerations waived un	nder						/	
94.	disability or other contract provisions		XXX	731,091				731,091	J
	Totals (Direct Business)		XXX	89.003.446	409,905,534			498,908,980	
	Plus Reinsurance Assumed		XXX	89,003,446	409,905,534			498,908,980	 [
	Totals (All Business)		XXX		409,905,534			498,908,980	L
98.	Less Reinsurance Ceded		XXX	62,643,205	299,726,319			362,369,524	ļ
	Totals (All Business) less Reinsurance Cede	d	XXX	26,360,241	110, 179, 215			136,539,456	<u> </u>
	DETAILS OF WRITE-INS			00 505	40.000			70 505	I
58001. 58002.	ZZZ Other Alien		XXX	32,505	40,000			72,505	 [
58003.			XXX						
	Summary of remaining write-ins for Line 58 fi	rom							
	overflow page		XXX						<u> </u>
58999.	Totals (Lines 58001 through 58003 plus 58998)(Line 58 above)		XXX	32,505	40,000			72,505	I
9401.	58998)(Line 58 above)		XXX	02,000	+0,000			12,000	
0.400		ĺ	XXX						ļ
9403.			XXX						 }
9498.	Summary of remaining write-ins for Line 94 fr		VVV						İ
9499.	overflow page		XXX						
J .00.	94 above)	0	XXX						<u> </u>
,	Status Counts:								
	ensed or Chartered - Licensed Insurance of gible - Reporting entities eligible or approve						on-domiciled RRG ified or accredited		

¹¹

PART 1 – ORGANIZATIONAL CHART

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

	<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
MASSACHUSEITS MUTUAL LIFE INSURANCE COMPANY Direct & Indirect Owned Subsidiaries:	04-1590850	65935	Massachusetts
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
CML Global Capabilities LLC	None		Delaware
MM Global Capabilities I LLC	None		Delaware
MassMutual Global Business Services India LLP	None		India
MM Global Capabilities (Netherlands) B.V.	None		Netherlands
MassMutual Global Business Services Romania S.R.L.	None		Romania
MM Global Capabilities 11 LLC	None		Delaware
MM Global Capabilities 1 II LLC	None		Delaware
MM/Barings Multifamily TEBS 2020 LLC	None		United Kingdom
Barings Ascend LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Ly me Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Tim berlands II, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
Jefferies Finance LLC	27-0105644		Delaware
APEX Credit Partners LLC	None		Delaware
Jefferies Credit Partners LLC	None		Delaware
Jefferies Credit Management LLC	None		Delaware
Jefferies Private Credit GP LLC	None		Maryland
Jefferies Private Credit Fund LP	None		Delaware
Jefferies Private Credit BDC Inc.	None		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
JFIN Fund VI LLC	None		Delaware Delaware
JFIN Asset Management LLC	None		
JFAM GP LLC	None		Delaware

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

	Federal Tax ID	NAIC Co Code	State of Domicile
JFAM GP LP	None		Delaware
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Revolver Holdings III LLC	None		Delaware
JFIN Revolver SPE III LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, SLP	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.*	None		Cayman Islands
Apex Credit CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO 2015 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-11 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2018 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019-II Ltd.	None		Cayman Islands
JFIN Revolver Fund, L.P.	None		Delaware
Apex Credit CLO 2016 Ltd.	None		Cayman Islands
Apex Credit CLO 2017 Ltd.	None		Cayman Islands
Apex Credit CLO 2017-II Ltd.	None		Cayman Islands
Apex Credit CLO 2019-II Ltd.* Apex Credit CLO 2020 Ltd.	None None		Cayman Islands Cayman Islands
* " " " " " " " " " " " " " " " " " " "			•
MassMutual Mortgage Lending LLC MassMutual Retirement Services, LLC	None 04-1590850		Delaware Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MINIC HIVESUIGHTAUVISCIS, LLC	INOILE		Demware

^{*}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.

	<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
MML Strategic Distributors, LLC	46-3238013		Delaware
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MassMutual Asset Finance LLC*	26-0073611		Delaware
MMAF Equipment Finance LLC 2013-A	90-1005837		Delaware
MMAF Equipment Finance LLC 2014-A	36-4785301		Delaware
MMAF Equipment Finance LLC 2015-A	38-3969560		Delaware
MMAF Equipment Finance LLC 2016-A	32-0489588		Delaware
MMAF Equipment Finance LLC 2017-A	35-2590691		Delaware
MMAF Equipment Finance LLC 2017-B	32-0546197		Delaware
MMAF Equipment Finance LLC 2018-A	82-5335801		Delaware
MMAF Equipment Finance LLC 2019-A	83-3722640		Delaware
MMAF Equipment Finance LLC 2019-B	None		Delaware
Rozier LLC	None		Delaware
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		Delaware
Sleeper Street LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
MassMutual Ventures Holding LLC	None		Delaware
Crane Venture Partners LLP	None		United Kingdom
MassMutual Ventures Management LLC	None		Delaware
MassMutual Ventures SEA Management Private Limited	None		Singapore
MassMutual Ventures Southeast Asia I LLC	None		Delaware
MassMutual Ventures Southeast Asia II LLC	None		Delaware
MassMutual Ventures UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II LLC	None		Delaware
MassMutual Ventures US III LLC	None		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China

^{*}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
Baring International Fund Managers (Bermuda) Limited	98-0457465	Bermuda
Baring Asset Management (Asia) Limited	98-0457463	Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None	Korea
Barings InvestmentManagement(Shanghai) Limited	None	Hong Kong, Special Administrative Region of China
Barings Overseas Investment Fund Management (Shanghai) Limited	None	Hong Kong, Special Administrative Region of China
Baring SICE (Taiwan) Limited	98-0457707	Taiwan ROC
Barings Japan Limited	98-0236449	Japan
Barings Australia Holding Company Pty Ltd	None	Australia
Barings Australia Pty Ltd	98-0457456	Australia
Barings Finance LLC	80-0875475	Delaware
BCF Europe Funding Limited	None	Ireland
BCF Senior Funding I LLC	None	Delaware
BCF Senior Funding I Designated Activity Company	None	Ireland
Barings Securities LLC	04-3238351	Delaware
Barings Guernsey Limited	98-0437588	Guernsey
Barings Europe Limited	None	United Kingdom
Barings Asset Management Spain SL	None	Spain
Barings Italy S.r.l.	None	Italy
Barings Sweden AB	None	Sweden
Barings Finland Oy	None	Finland
Barings Netherlands B.V.	None	Netherlands
Barings Real Estate UK Holdings Limited	None	Delaware
BREAE AIFM LLP	None	United Kingdom
Barings Real Estate Advisers (Continental Europe) Limited	98-0654401	United Kingdom
Barings Real Estate Advisers Europe LLP	98-0654388	United Kingdom
Barings Real Estate Advisers Europe Finance LLP	98-0654412	United Kingdom
Barings Real Estate GmbH	98-1194368	Germany
Baring Asset Management Limited	98-0241935	United Kingdom
Barings European Direct Lending 1 GP LLP	None	United Kingdom
Barings Global Advisors Limited	98-1012393	United Kingdom
BCGSS 2 GP LLP	None	United Kingdom
Baring International Investment Limited	98-0457328	United Kingdom
Baring International Investment Management Holdings	98-0457587	United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576	United Kingdom
Baring Asset Management GmbH	98-0465031	Germany
Baring International Fund Managers (Ireland) Limited	98-0524272	Ireland
Baring Asset Management Switzerland Sarl	None	Switzerland
Baring France SAS	98-0497550	France
Baring Fund Managers Limited	98-0457586	United Kingdom
Baring Pension Trustees Limited	98-0457574	United Kingdom
Baring Investment Services Limited	98-0457578	United Kingdom

^{*}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 Core Fund Feeder I GP S.à.r.l.	None		Luxembourg
Barings Investment Fund (LUX) GP S.à r.l.	None		Luxembourg
Barings GPC GP S.à.r.l.	None		Luxembourg
Barings European Core Property Fund GP Sa.r.l	None		United Kingdom
Barings Umbrella Fund (LUX) GP S.à.r.l.	None		Luxembourg
PREIF Holdings Limited Partnership	None		United Kingdom
Almack Mezzanine GP III Limited	None		United Kingdom
Almack Holding Partnership GP Limited	None		United Kingdom
Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund II Limited	None		United Kingdom
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Multifam ily Capital Holdings LLC	None		Delaware
Barings Multifamily Capital LLC	None		Michigan
Barings Multifamily Capital Corporation Barings Real Estate Advisers Inc.	None 04-3238351		Delaware California
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC*	81-2244463 81-4258759		Delaware Delaware
Aland Royalty Holdings LP	None		Delaware
ASM SIP, LP	None		Cayman Islands
Intermodal Holding II LLC	46-2344300		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Novation Companies, Inc.	None		Maryland
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC*	81-4065378		Connecticut
EIP Holdings I, LLC	None		Delaware
Tam iam i Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
Techquity, LP	None		Delaware
U.S. Pharmaceuticals Holdings I, LLC	46-0687392		Delaware
U.S. Pharmaceuticals Holdings II, LLC	47-5436800		Delaware
Validus Pharmaceuticals LLC	None		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Aland Roy alty GP, LLC	None		Delaware
Alaska Future Fund GP, LLC	None		Delaware
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware
Barings Alternative Investments SLP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC Barings Investment Series LLC	None		Delaware Delaware
	None		
Barings Capital Investment LLC Barings Emerging Generation Fund GP, LLC	None None		Maryland Delaware
Datailgs Littergaing Generation Fund OF, LLC	TNOHE		Demware

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Babson Global Loan Feeder Management, LLC	None		Delaware
Barings ABIF SLP, LLC	None		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Core Property Fund GP LLC	None		Delaware
Barings Direct Lending GP Ltd.	None		Cay man Islands
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings GPSF	None		Delaware
Barings Multi Asset Income Fund	None		Hong Kong
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings North American Private Loan Fund Management II, LLC	None		Delaware
Barings/LAZ Parking Fund GP LLC	None		Delaware
Barings Small Business Fund LLC	None		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
BRECS VII GP LLC	None		Delaware
CCM Fund I REIT Manager LLC	None		Delaware
CEMF I GP LLC	None		Delaware
CHY Venture GP LLC	None		Delaware
CREF X GP LLC	None		Delaware
GreatLakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Loan Strategies Management LLC	04-1590850		Delaware
Mezzco II LLC	02-0767001		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
SBNP SIA II LLC	None		Delaware
SBNP SIA III LLC	None		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware
Harbor Tech (Asia) Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MML Management Corporation Mass Mutual Letamostic and Helding MSC. Inc.	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444 04-3341767		Massachusetts
MassMutual Holding MSC, Inc. MML Mezzanine Investor II, LLC	04-3341767		Massachusetts Delaware
,			
MML Mezzanine Investor III, 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.

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
MassMutual External Benefits Group LLC	27-3576835		Delaware
Other Affiliates & Funds:			
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Try on Hotel LLC	82-2432216		Delaware
2160 Grand Manager LLC	04-1590850		Delaware
300 South Try on LLC	04-1590850		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Barings Affordable Housing Mortgage Fund I LLC	82-3468147		Delaware
	61-1902329		Delaware
Barings Asset-Based Income Fund (US) LP	36-4868350		Delaware
	None		Ireland
Barings European Real Estate Debt Income Fund	None		Delaware
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund*	None		Ireland
	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Caym an Islands
Babson CLO Ltd. 2016-11	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
	None		Cayman Islands
Barings CLO 2019-IV	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Babson Euro CLO 2016-I BV	None		Netherlands
Barings Euro CLO 2019-I	3603726OH		Ireland
Barings Euro CLO 2019-II	None		Ireland
Barings Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands
Barings Global Inv. Grade Strat Fund	None		Ireland
Barings Global Private Loan Fund	None		Luxem bourg
	00.0065545		D 1

82-3867745

Delaware

Barings Global Real Assets Fund LP

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

	Federal Tax ID NAIC Co Code	State of Domicile
Barings Global Special Situations Credit Fund 3	None	Ireland
Barings Middle Market CLO 2017-I Ltd & LLC	None	Cayman Islands
Barings Middle Market CLO 2018-1	None	Cayman Islands
Barings Middle MarketCLO 2019-I	None	Cayman Islands
Barings North American Private Loan Fund LP	38-4010344	Delaware
Barings RE Credit Strategies VII LP	98-1332384	Delaware
Baring International Small Cap Equity Fund	26-4142796	Delaware
Barings CLO Investment Partners LP	81-0841854	Delaware
Barings Real Estate European Value Add I SCSp*	None	United Kingdom
Braemar Energy Ventures I, L.P. *	None	Delaware
Barings European Core Property Fund SCSp	None	Luxembourg
Benchmark 2018-B2 Mortgage Trust	38-4059932	New York
Benchmark 2018-B4	None	New York
Benchmark 2018-B8	38-4096530	New York
Braselton Point LLC	04-1590850	Delaware
Barings Core Property Fund LP	20-5578089	Delaware
Cornerstone Real Estate Fund VIII LP	27-0547156	Delaware
Cornerstone Real Estate Fund X LP	46-5432619	Delaware
Cornerstone Permanent Mortgage Fund III LLC	35-2531693	Massachusetts
Cornerstone Permanent Mortgage Fund IV LLC	61-1793735	Massachusetts
GASL Holdings, LLC	82-2932156	Delaware
Gateway Mezzanine Partners II LP*	90-0991195	Delaware
GreatLakes III, L.P.	37-1708623	Delaware
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012	New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059	New York
KKR-MM Vector LP	82-1512591	Delaware
Marco Hotel LLC	46-4255307	Delaware
Miami Douglas One GP LLC*	04-1590850	Delaware
Miami Douglas Two GP LLC*	04-1590850	Delaware
Miami Douglas Two LP*	04-1590850	Delaware
HB Naples Golf Owner LLC	45-3623262	Delaware
MM Debt Participations LLC	81-3000420	Delaware
RB Apartments LLC	82-4411267	Delaware
Reston Arboretum LLC	75-2901061	Delaware
Rockall CLO B.V.	None	United Kingdom
Rockville Town Center LLC	54-2055778	Virginia
Somerset Special Opportunities Fund L.P.*	20-8856877	Delaware
SouthPointe Industrial LLC	04-1590850	Delaware
Ten Fan Pier Boulevard LLC	35-2553915	Delaware
Tower Square Capital Partners III, L.P.	41-2280127	Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129	Delaware

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

		Federal Tax ID	NAIC Co Code	State of Domicile
	Tower Square Capital Partners IV-A, L.P.	80-0920367		Delaware
	Trailside MM Member LLC*	04-1590850		Delaware
	Washington Gateway Two LLC*	83-1325764		Delaware
	Washington Gateway Three LLC*	32-0574045		Delaware
	West 46 th Street Hotel LLC	05-1590850		Delaware
Barings	Affiliates & Funds:			
	Barings Emerging Markets Debt Short Duration Fund	None		Ireland
	Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
	Barings Global High Yield Fund	47-3790192		Massachusetts
	Barings Total Return Bond Fund	47-3734770		Massachusetts
	CCIC Fund	None		Peoples Republic of China
	Great Lakes II LLC*	71-1018134		Delaware
Bari	ngs Real Estate Affiliates & Funds:			
	Wood Creek Venture Fund LLC	04-1590850		Delaware
	50 Liberty LLC*	36-4823011		Delaware
	One Harbor Shore LLC*	80-0948028		Delaware
	Budapester Strasse LLC	81-4382111		Delaware
	Calgary Railway Holding LLC*	82-2285211		Delaware
	Cornbrook PRS Holdings LLC	82-3307907		Delaware
	Cornerstone California Mortgage Fund I LLC	95-4207717		California
	Cornerstone California Mortgage Fund II LLC	95-4207717		California
	Cornerstone California Mortgage Fund III LLC	95-4207717		California
	Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
	Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
	Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
	Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
	Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
	CREA Madison Member LLC	81-0890084		Delaware
	CCB Montford Park LLC*	82-1563809		Delaware
	Danville Riverwalk Venture, LLC	82-2783393		Delaware
	Fan Pier DevelopmentLLC*	20-3347091		Delaware
	Landmark Manchester Holdings LLC	81-5360103		Delaware
	MM Island Member LLC	04-1590850		Delaware
	NoHo West Venture LLC	83-0881588		Delaware
	PACO France Logistics 2 LLC	04-1590850		Delaware
	Portland 400 Sixth Manager LLC	82-3393166		Delaware
	Salom on Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
	Sawgrass Village Shopping Center LLC*	27-2977720		Delaware
	Spain Avalon Holding LLC	04-1590850		Delaware
	Three PW Office Holding LLC	81-5273574		Delaware
	Twenty Two Liberty LLC*	35-2484550		Massachusetts

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	Federal Tax ID	NAIC Co Code	State of Domicile
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
MassMutual Premier Funds:			
MassMutual Barings Dynamic Allocation Fund	45-3168892		Massachusetts
MassMutual Premier Focused International Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Premier Value Fund MassMutual Select Funds:	04-3277550		Massachusetts
MassMutual Select Diversified International Fund	14-1980900		Massachusetts
MassMutual Select Diversified Value Fund	01-0821120		Massachusetts
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual SelectLarge Cap Value Fund	04-3513019		Massachusetts
MassMutual SelectMid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual SelectSmall Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3430358 82-3439837		Massachusetts Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3451779 82-3472295		Massachusetts Massachusetts
MassMutual Select T. Rowe Price Retirement 2043 Fund	82-3472293 82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481713 82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2000 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
MML Series Investment Funds:	02 3333744		Wassachuse as
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:	10 120,000		Tradisa e Trade ad
MML Series II Asset Momentum Fund	47-3517233		Massachusetts
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MML Series II Special Situations Fund	47-3559064		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2015 Fund	27-1933828		Massachusetts
MassMutual RetireSMART 2035 Fund	27-1933380		Massachusetts
MassMutual RetireSMART 2045 Fund	27-1932769		Massachusetts
MassMutual RetireSMART 2055 Fund	46-3289207		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 2060 Fund	47-5326235	Massachusetts
MassMutual RetireSMART Conservative Fund	45-1618155	Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222	Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464	Massachusetts
MassMutual RetireSMART Moderate Fund	45-1618262	Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046	Massachusetts

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

SCHEDULE Y

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0000							CML Special Situations Investor LLC	DE	DS	C.M. Life Insurance Company	Owner ship	100.000	MMLIC		
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										Massachusetts Mutual Life Insurance					
0000							MM/Barings Multifamily TEBS 2020 LLC	GBR	NIA	Company	Owner ship	100.000	. MMLIC		
										Massachusetts Mutual Life Insurance					
0000							MML Special Situations Investor LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			47-5322979				Tinken land Franck Halding H.O.	חר	NIA	Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLC Timberland Forest Holding LLC	DE	NIA NIA	Company	Ownership	0.000	MMLIC		
0000			47-5322979				Timber land Forest Holding LLC	DF	NIA	Wood Creek Capital Management LLC	Management		MMLIC		
0000			. 17 0022070				Lyme Adirondack Forest Company, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
0000							Lyme Adirondack Timberlands I, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership.	100.000	MMLIC		
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0000			. 04-1590850	.			MassMutual Intellectual Property LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
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0000		1		1			MassMutual Mortgage Lending LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
0000							Apex Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		1
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						N			D. L. C.		(Ownership,	is		ls an	
						Name of Securities		D:	Relation-		Board,	Owner-		SCA	
		NAIG				Exchange	Nonconf	Domi-	ship		Management,	ship		Filing	
_		NAIC				if Publicly Traded	Names of	ciliary	to	5 6	Attorney-in-Fact,	Provide		Re-	
Group	Out a Name	Company	ID	Federal	0114	(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000							Jefferies Private Credit GP LLC	DE	NIA	Jefferies Credit Management LLC	Ownership.	100.000	MMLIC		
0000							Jefferies Private Credit Fund LP Jefferies Private Credit BDC Inc.	DE	NIA NIA	Jefferies Private Credit GP LLC Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
0000							JFIN GF AGVISET LLC	DE	NIA	Jefferies Finance LLC	Owner ship	100.000	MMLIC		
0000							JFIN Fund VI LLC	DE	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
							JFIN Asset Management LLC	DE	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
0000							JFAM GP LLC	DE	NIA	JFIN Asset Management, LLC	Ownership.	100.000	MMLIC		
0000							JFAM GP LP	DE	NIA	JFIN Asset Management, LLC	Owner ship.	100.000	MMLIC		
0000							Jefferies Direct Lending Fund C LP	DE	NI A	JFIN Asset Management, LLC	Owner ship	100.000	MMLIC		
0000							Jefferies DLF C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund C LLC	Ownership	100.000	MMLIC		
0000							Jefferies Direct Lending Fund C SPE LLC	DE	NIA	Jefferies DLF C Holdings LLC	Owner ship.	100.000	MMLIC		
0000							JFIN Revolver Holdings LLC	DE	NIA	Jefferies Finance LLC	Owner ship	100.000	MMLIC		
0000							JFIN Revolver Holdings II LLC	DE	NIA NIA	Jefferies Finance LLC	Ownership.	100.000	MMLIC		
0000							JFIN Revolver Holdings III LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
0000							JFIN Europe GP. S.a.r.I.	LUX	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
0000							Jefferies Finance Europe, SLP	LUX	NIA	JFIN Europe GP. S.a.r.I.	Ownership	100.000	MMLIC		
0000							Jefferies Finance Europe, SCSp	LUX	NIA	JFIN Europe GP, S.a.r.I.	Owner ship.	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	Owner ship	100.000	MMLIC		
0000							JFIN LC Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO Holdings LLC	DE	NIA	Jefferies Finance LLC	Owner ship.	100.000			
0000							JFIN CLO 2012 Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
0000							JFIN CLO 2013 Ltd	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN CLO 2014-II Ltd. JFIN CLO 2015 Ltd.	CYM	NIA	Jefferies Finance LLC Jefferies Finance LLC	Ownership Ownership	100.000	MMLIC		
							JFIN CLO 2015 Ltd.	CYM	NIA	Apex Credit Partners LLC	Owner ship.	56.000	MMLIC		
0000							JFIN Revolver Fund, L.P.	DE	NIA	Jefferies Finance LLC	Ownership.	90.000	MMLIC		
0000							Apex Credit CLO 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	33.000	MMLIC		
0000							Apex Credit CLO 2015-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Owner ship.	53.000	MMLIC		
0000							JFIN Revolver CLO 2014 Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship	100.000	MMLIC		
0000							JFIN Revolver CLO 2015 Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship	100.000	MMLIC		
0000							JFIN Revolver CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship	100.000	MMLIC		
0000							JFIN Revolver CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
0000							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship	100.000	MMLIC		·
0000							JFIN Revolver CLO 2018 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
							JFIN Revolver CLO 2019 Ltd	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		·
.0000							Apex Credit CLO 2019-11 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	.	1
.0000							Apex Credit CLO 2016 Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		1
.0000							Apex Credit CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Owner ship.	100.000	MMLIC		
.0000							Apex Credit CLO 2019-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Owner ship.	74.000	MMLIC		
.0000							Apex Credit CLO 2020 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance	,	1			
.0000			04-1590850				MassMutual Retirement Services, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
1		1								Massachusetts Mutual Life Insurance					
0000			04-1590850				MM Copper Hill Road LLC	DE	NIA	Company	Owner ship	100.000	MMLIC		
		I	<u> </u>					1		Massachusetts Mutual Life Insurance	L				
0000			04-3356880				MML Distributors LLC	MA	NI A	Company	Ownership	99.000	MMLIC		
0000			04-3356880				MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership	1.000	. MMLIC		

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											Type	If			
											of Control	Control			
											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent. Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
Code	Gloup Name	Code	Number	NOOD	CIIC	international)	Of Allillates	tion	Littity	Massachusetts Mutual Life Insurance	Other)	lage	Littiy(les)/i elsoli(s)	(1/14)	
0000							MML Investment Advisers, LLC	DE	NIA	Company	Owner ship	100.000	MMLIC		
							mine Threatment Advisors, LEO			Massachusetts Mutual Life Insurance	omici sirip.		. WWLIO		
0000			. 46-3238013				MML Strategic Distributors, LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 06-1563535	. 2881445			The MassMutual Trust Company, FSB	CT	NIA	Company	Ownership	100.000	MMLIC	Y	
										Massachusetts Mutual Life Insurance					
0000			. 26-0073611				MassMutual Asset Finance LLC	DE	NI A	Company	Ownership	99.600	. MMLIC		
0000			26-0073611				MassMutual Asset Finance LLC		NIA	C.M. Life Insurance Company	Ownership	0.400	MMLIC		.
0000			. 90-1005837				MMAF Equipment Finance LLC 2013-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	. MMLIC		·····
0000		-	36-4785301	-			MMAF Equipment Finance LLC 2014-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC	.	
0000			. 38-3969560				MMAF Equipment Finance LLC 2015-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			. 32-0489588 35-2590691				MMAF Equipment Finance LLC 2016-A	DE	NIA NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC	-	
0000			. 32-2590691				MMAF Equipment Finance LLC 2017-A	DE DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			82-5335801				MMAF Equipment Finance LLC 2017-B	VE	NIA	MassMutual Asset Finance LLC	Owner ship	100.000	MMLIC	-	
0000			83-3722640				MMAF Equipment Finance LLC 2019-A	DE	NIA	MassMutual Asset Finance LLC	Owner ship.	100.000	MMLIC		
0000			. 00 0/22040				MMAF Equipment Finance LLC 2019-B	DE	NIA	MassMutual Asset Finance LLC	Ownership.	100.000	MMLIC		
0000							Rozier LLC	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		.[]
										Massachusetts Mutual Life Insurance	·				
0000			. 04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Company	Ownership	100.000	MMLIC		.
0000			. 04-1590850				MML Private Equity Fund Investor LLC		NIA	Baring Asset Management Limited	Management		MMLIC		
0000			. 04-1590850				MM Private Equity Intercontinental LLC	DE	NI A	MML Private Equity Fund Investor LLC	Ownership	100.000	. MMLIC		
			45 0700 407							Massachusetts Mutual Life Insurance		400.000			l .
0000			. 45–2738137				Pioneers Gate LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			. 04-2854319	2392316			MassMutual Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC	v	
0000			06-1597528	. 23923 16			MassMutual Assignment Company	NC NC	NIA	Company	Owner ship	100.000	MMLIC	T	
0000			. 37-1732913				Fern Street LLC	DE	NIA	MassMutual Holding LLC	Owner ship.	100.000	MMLIC		
0000			. 07 1702310				Sleeper Street LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			46-2252944				Haven Life Insurance Agency, LLC	DE	NIA.	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000			04-1590850				MassMutual Capital Partners LLC	DE	NIA	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000							MassMutual Ventures Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			.				Crane Venture Partners LLP	GBR	NIA	MassMutual Holding LLC	Owner ship	33.000	MMLIC	.	
0000							MassMutual Ventures Management LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	. MMLIC		
0000			1	1	1		MassMutual Ventures SEA Management Private	D=	N1 -	W W A T W L B T T T T T T T T T T T T T T T T T T		400 000	IIII 10		
0000			-				Limited	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures Southeast Asia I LLC	DE	NIA NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	-	
0000							MassMutual Ventures Southeast Asia II LLC MassMutual Ventures UK LLC	∪E	NIA NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			47-1296410	1	I		MassMutual Ventures US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	-	
0000			. 77 1230410	1			MassMutual Ventures US II LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			1	1	1		MassMutual Ventures US III LLC	DE	NIA	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000			. 04–1590850	.			MM Rothesay Holdco US LLC	DE	NIA	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000			. 47-1466022				LifeScore Labs, LLC	MA	NIA	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000			. 04-1590850				MML Investors Services, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			. 04-1590850	.			MML Insurance Agency, LLC	MA	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		.
0000			. 41-2011634				MMLISI Financial Alliances, LLC	DE	NIA	MML Investors Services, LLC	Owner ship	100.000	. MMLIC		
0000			. 45-4000072	.			MM Asset Management Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	. MMLIC		·····
0000			. 51-0504477				Barings LLC	DE	NI A	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
0000			00 0504074		1		Baring Asset Management (Asia) Holdings	11/0	ALL A	Danis and LLO	0	400 000	MMLIC		
0000			. 98-0524271				Limited	HKG	NIA	Barings LLC	Ownership	100.000	MINILIU	.	

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						Name of Securities			Relation-		Board,	Owner-		SCA	,
						Exchange		Domi-	ship		Management,	ship		Filing	,
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	,
Croun		_	ID	Fadaral			Parent, Subsidiaries			Directly Controlled by	Influence,		Liltimate Controlling		. '
Group		Company		Federal	0114	(U.S. or		Loca-	Reporting	Directly Controlled by		Percen-	Ultimate Controlling	quired?	'
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Baring International Fund Managers (Bermuda)			Baring Asset Management (Asia) Holdings					,
0000			. 98-0457465				Limited	BMU	NIA	Limited	Ownership	100.000	. MMLIC		
										Baring Asset Management (Asia) Holdings					,
0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Limited	Ownership	100.000	MMLIC		.l'
0000							Baring Asset Management Korea Limited	KOR	NI A.	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		,
							Barings Investment Management (Shanghai)								
0000							Limited	HKG	NI A	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		,
0000							Barings Overseas Investment Fund Management			Dai ing Asset management (Asia) Emilited	owner strip.				
0000								LIVO	ALL A	Denies Assat Massacrat (Asia) Limited	0hi	100,000	MMLIC		,
0000							(Shanghai) Limited	HK G	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	. WINILIV		
										Baring Asset Management (Asia) Holdings	L	100.05			1
0000			. 98-0457707				Baring SICE (Taiwan) Limited	TWN	NIA	Limited	Ownership	100.000	MMLIC		
										Baring Asset Management (Asia) Holdings					,
0000			. 98-0236449				Barings Japan Limited	JPN	NI A	Limited	Owner ship	100.000	MMLIC		
										Baring Asset Management (Asia) Holdings	·				,
0000							Barings Australia Holding Company Pty Ltd	AUS	NIA	Limited	Ownership	100.000	MMLIC		,
0000			98-0457456				Barings Australia Pty Ltd	AUS	NIA	Baring Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
0000			80-0875475				Barings Finance LLC	DE	NIA	Barings LLC	Owner ship	100.000	MMLIC		
0000			. 00-00/34/3					IRL	NIA	Barings Finance LLC	Owner ship.	100.000	MMLIC		
							BCF Europe Funding Limited								
0000							BCF Senior Funding LLC	DE	NI A	Barings Finance LLC	Ownership	100.000	. MMLIC		
							BCF Senior Funding Designated Activity								,
0000							Company	IRL	NI A	Barings Finance LLC	Owner ship	100.000	. MMLIC		
0000			. 04-3238351				Barings Securities LLC	DE	NIA	Barings LLC	Ownership	100.000	. MMLIC		.,
0000			. 98-0437588				Barings Guernsey Limited	GGY	NIA	Barings LLC	Ownership	100.000	MMLIC		.
0000							Barings Europe Limited	GBR	NI A	Barings Guernsey Limited	Ownership.	100.000	MMLIC		. '
0000							Barings Asset Management Spain SL	ESP	NIA	Barings Europe Limited	Ownership.	100.000	MMLIC		
0000							Barings Italy S.r.I.	ITA	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
0000							Barings Sweden AB	SWE	NIA	Barings Europe Limited	Owner ship.	100.000	MMLIC		
0000							Barings Finland Oy	FIN	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
0000							Barings Netherlands B.V.	NLD	NIA	Barings Europe Limited	Ownership	100.000	. MMLIC		
0000							Barings Real Estate UK Holdings Limited	DE	NIA	Barings Europe Limited	Ownership	100.000	. MMLIC		
0000							BREAE AIFM LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	. MMLIC		
1							Barings Real Estate Advisers (Continental								,
0000			. 98-0654401				Europe) Limited	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	. MMLIC		
0000			98-0654388			l	Barings Real Estate Advisers Europe LLP	GBR	NI A	Barings Real Estate UK Holdings Limited	Owner ship.	100.000	MMLIC		.l'
"		1					Barings Real Estate Advisers Europe Finance	1			1	1			1
0000			98-0654412			1	LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership.	100.000	MMLIC		1
0000			98-1194368				Barings Real Estate GmbH	DEU	NIA	Barings Real Estate UK Holdings Limited	Owner ship.	100.000	MMLIC		
0000			. 98-0241935					GBR	NIA			100.000	MMLIC		1
			. 30-0241930				Baring Asset Management Limited			MassMutual Holdings (Bermuda) Limited	Ownership				
0000							Barings European Direct Lending 1 GP LLP	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	. MMLIC		
0000			. 98-1012393				Barings Global Advisors Limited	GBR	NIA	Baring Asset Management Limited	Owner ship	100.000	MMLIC		
0000							BCGSS 2 GP LLP	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			. 98-0457328				Baring International Investment Limited	GBR	NIA	Baring Asset Management Limited	Owner ship	100.000	. MMLIC		.
							Baring International Investment Management								,
0000			. 98-0457587				Holdings	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		,
										Baring International Investment Management					
0000			. 98-0457576				Baring Asset Management UK Holdings Limited.	GBR	NIA	Holdings	Ownership	100.000	MMLIC		,
0000			. 30-043/3/0				barring Asset Management on Horurings Elimited .	ubn		Baring Asset Management UK Holdings Limited	owner simp	100.000	. I MINILI C		
0000			00 0405004				D : 4 4 H	DELL		baring asset management on hordings Limited	1	400,000	188.10		,
0000			. 98-0465031				Baring Asset Management GmbH	DEU	NI A		Ownership	100.000	. MMLIC		
							Baring International Fund Managers (Ireland)	1		Baring Asset Management UK Holdings Limited	Ч.	1			1
0000			. 98-0524272				Limited	IRL	NI A		Ownership	100.000	. MMLIC		.
						1		1		Baring Asset Management UK Holdings Limited	1				1
0000					l	1	Baring Asset Management Switzerland Sarl	CHE	NIA		Ownership	100.000	MMLIC	[.1
							5			Baring Asset Management UK Holdings Limited					
0000			98-0497550			1	Baring France SAS	FRA	NIA	gg	Ownership	100.000	MMLIC		1
0000			טטטוטדט טטן		1		שמו וואַ ו ו מווטט טחט	1 IIV		<u> </u>	omiol only				4

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											of Control	Control			
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						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filina	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent. Subsidiaries			Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
	One we Name				Olle			Loca-	Reporting						
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	
0000			98-0457586				Baring Fund Managers Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			98-0457574				Baring Pension Trustees Limited	GBR	NI A	Baring Asset Management Limited	. Ownership	100.000	MMLIC		
0000			98-0457578				Baring Investment Services Limited	GBR	NIA	Baring Asset Management Limited	. Ownership.	100.000	MMLIC		
0000							Barings Core Fund Feeder GP S.à.r.l Barings GPC GP S.à. r.l .	LUX	NIA NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000								LUX		Baring Asset Management Limited		100.000	MMLIC		
0000							Barings European Core Property Fund GP Sàrl . Barings Investment Fund (LUX) GP S.à. r.l	LUX	NIA	Baring Asset Management Limited Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							Barings Umbrella Fund (LUX) GP S.à.r.l.	LUX	NIA	Baring Asset Management Limited	Owner ship	100.000	MMLIC		
0000							PREIF Holdings Limited Partnership	GBR	NIA	Baring Asset Management Limited	Ownership.	100.000	MMLIC		
0000							Almack Mezzanine GP III Limited	GBR	NIA	Baring Asset Management Limited	Ownership.	100.000	MMLIC		
0000							Almack Mezzanine Griff Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			98-0432153				Barings (U.K.) Limited	GBR	NIA	Barings Guernsey Limited	Ownership.	100.000	MMLIC		
0000							Barings Multifamily Capital Holdings LLC	DE	NIA	Barings LLC	. Ownership.	100.000	MMLIC		
0000							Barings Multifamily Capital LLC	MI	NIA	Barings LLC	Owner ship.	100.000	MMLIC		
0000							Barings Multifamily Capital Corporation	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	CA	NIA	Barings Real Estate Advisers LLC	Owner ship.	100.000	MMLIC		
			0. 0200001	0.00000			Salingo nour Estato naviosio moi			Massachusetts Mutual Life Insurance					
0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Company	Ownership/Influence	30.000	MMLIC		
0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC		
							, , , , , , , , , ,			Massachusetts Mutual Life Insurance					
0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Company	Ownership/Influence	40.000	MMLIC		
0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Barings LLC	Influence.		MMLIC		
							, and the second			Massachusetts Mutual Life Insurance					
0000			83-0560183				Aland Royalty Holdings LP	DE	NIA	Company	Ownership.	26.000	MMLIC		
0000			83-0560183				Aland Royalty Holdings LP	DE	NIA	Barings LLC	. Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							ASM SIP, LP	CYM	NIA	Company	Ownership	13.200	MMLIC		
0000							ASM SIP, LP	CYM	NIA	Barings LLC	. Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-2344300				Intermodal Holdings II LLC	DE	NIA	Company	Ownership	18.000	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	Barings LLC	. Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Novation Companies, Inc.	MD	NIA	Company	Ownership	16.800	MMLIC		
										Massachusetts Mutual Life Insurance		04.505		1	
0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Company	Ownership/Influence	31.500	MMLIC		ļ
0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Barings LLC	. Influence		MMLIC		
0000			04 4005070				Device to 1 0 Willeddiese 110	ОТ	NIA	Massachusetts Mutual Life Insurance	0	00.700	MMLIC	1	
0000			81-4065378				Remington L & W Holdings LLC	CT	NIA NIA	Company	Ownership/Influence	66.700			
0000			81-4065378				Remington L & W Holdings LLC	CT	NIA	Barings LLC	. Influence		MMLIC		
0000			I]		Tamiami Citurus, LLC	DE	NI A	Massachusetts Mutual Life Insurance	Ownership	15.700	MML1C		
							Teaktree Acquisition, LLC		NIA NIA	Company	Ownership	15.700	MMLIC		·····
0000							Teaktree Acquisition, LLC	DE	NIA	Barings LLC	Influence	14./00	MMLIC		
0000							reaktiee Acquisition, LLC	VE	NIA	Massachusetts Mutual Life Insurance	. IIII ruerice		MIVIL I U		
0000			I]		Techquity, LP	DE	NIA	Company	Ownership	37.500	MMLIC		
0000							Techquity, LP	DE	NIA	Barings LLC	Influence	000	MMLIC		
0000							roonquity, Li	UL		Massachusetts Mutual Life Insurance	. IIII I uciloe		MWLIV		
0000			46-0687392		Ì		US Pharmaceutical Holdings I, LLC	DE	NIA	Company	Management		MMLIC		
							35			Massachusetts Mutual Life Insurance					
0000			20-2970495]		US Pharmaceutical Holdings II, LLC	DE	NIA	Company	Ownership/Influence	42,400	MMLIC		
0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			I		Ì		EIP Holdings I, LLC	DE	NIA	Company	Ownership/Influence	29.000	MMLIC		
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						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent. Subsidiaries	Loca-		Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
	Craun Nama				CIIV				Reporting						*
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	
0000							EIP Holdings I, LLC	DE	NIA	Barings LLC	Management		MMLIC		
0000							Validus Pharmaceuticals LLC	DE	NIA	Massachusetts Mutual Life Insurance	Ownership/Influence	70.000	MMLIC		
0000							VGS Acquisition Holding, LLC	DE	NIA	Company MassMutual Holding LLC	Ownership/Influence	33.300	MMLIC		
0000							VGS Acquisition Holding, LLC	DE	NIA	Barings LLC	Management		MMLIC		
0000							Aland Royalty GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Alaska Future Fund GP, LLC	DE	NIA	Barings LLC	Owner ship	100.000	MMLIC		
0000							BAI GP. LLC	DE	NIA	Barings LLC	Owner ship.	100.000	MMLIC		
0000							BAI Funds SLP. LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Baring Asset-Based Income Fund (US) GP, LLC .	DE	NIA	Barings LLC	Owner ship.	100.000	MMLIC		
0000							Barings Investment Series LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000							Barings Capital Investment LLC	MD	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000							Barings Emerging Generation Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Barings Global Investment Funds (U.S.)			-					
0000			04-1590850				Management 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 ABIF SLP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings CLO Investment Partners GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Core Property Fund GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Direct Lending GP Ltd.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Global Energy Infrastructure	DE	A.I. A			400.000	188 10		
0000							Advisors, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Multi Asset Income Fund Barings North American Private Loan Fund	HKG	NI A	Barings LLC	Management		MMLIC		
0000							Management, LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000							Barings North American Private Loan Fund	UE	NIA	bai mys LLC	Owner Sirrp	100.000	. WWLTC		
0000							Management II, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
. 0000							Barings Global Real Assets Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings GPSF	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000							Barings/LAZ Parking Fund GP LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000							Barings Small Business Fund LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			98-0536233				Benton Street Advisors, Inc.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							BRECS VII GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							CCM Fund REIT Manager LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							CHY Venture GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000		.					CREF X GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		·
0000			04-1590850				Great Lakes III GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		· · · · · · · · · · · · · · · · · · ·
0000		-	04 4500050				Lake Jackson LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Loan Strategies Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000		-	02-0767001 41-2280126				Mezzco II LLC	DE	NIA NIA	Barings LLC	Ownership	98.400	MMLIC		
0000			80-0920285				Mezzco IV LLC	DE	NIA	Barings LLC	Ownership.	99.300	MMLIC		
0000			00-0920200				Mezzco Australia II LLC	DE	NIA	Barings LLC	Owner ship.	100.000	MMLIC		
0000							RECSA-NY GP LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000			04-1590850				SBNP STA TI LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
0000							SBNP SIA III LLC	DE	NIA	Barings LLC	Owner ship.	100.000	MMLIC		
		1					Somerset Special Opportunities Management LLC								
0000		.]	04-1590850		l			DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				SouthPointe Industrial LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		
		1	1	1	1					Massachusetts Mutual Life Insurance	1		1		1
0000		.	04-3313782				MassMutual International LLC	DE	NIA	Company	Ownership	100.000	MMLIC	Y	
0000							MassMutual Solutions LLC	DE	NIA	MassMutual International LLC	Ownership	100.000	MMLIC		.
0000							HarborTech (Asia) Limited	HKG	NIA	MassMutual International LLC	Owner ship	100.000	MMLIC		.
0000							Yunfeng Financial Group Limited	HKG	NIA	MassMutual International LLC	Ownership	24.900	MMLIC		'

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						Name of Securities			Relation-		Board,	Owner-		SCA	
								Domi							
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	_ to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000							MassMutual Asia Limited (SPV)	HKG	NIA	MassMutual International LLC	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 04-2443240				MML Management Corporation	MA	NIA	Company	Ownership	100.000	MMLIC	Y	
0000			. 04-3548444				MassMutual International Holding MSC, Inc	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
0000			. 04–3341767				MassMutual Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
								25		Massachusetts Mutual Life Insurance		400.000			
0000			. 04–1590850				MML Mezzanine Investor II, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			04 4500050					DE	A11.4	Massachusetts Mutual Life Insurance		44 400	188.10		
0000			. 04–1590850				MML Mezzanine Investor III, LLC	DE	NIA	Company	Ownership	11.100	MMLIC		
0000			07 0570005				Marshitan Futanal Bandita Com II C	חר	NII A	Massachusetts Mutual Life Insurance	0	100 000	MMLIC		
0000			27-3576835				MassMutual External Benefits Group LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			04 4500050				400 0 1 01 1 1 1 0	DE	A11.4	Massachusetts Mutual Life Insurance		400.000	188.10		
0000			. 04–1590850				100 w. 3rd Street LLC	DE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			04 4500050				0400 04 11 11-0	DE	NIA		0	00 100	MMLIC		
0000			. 04–1590850				2160 Grand Manager LLC	UE	NIA	Company Massachusetts Mutual Life Insurance	Ownership	98.100	. MMLTC		
0000			82-2432216				000 Courts Tours Hotel H.O.	DE	NI A		0	100 000	INN 10		
0000			. 82-2432216				300 South Tryon Hotel LLC	UE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			. 04-1590850				300 South Tryon LLC	DE	NIA		Ownership	100.000	MMLIC		
0000							300 South Tryon LLC	UE	NIA	Company	Owner Strip	100.000	. WWLIG		
0000							Almack Mezzanine Fund LP	CDD	NIA	Company	Ownership/Influence	41,400	MMLIC		
0000							Almack Mezzanine Fund I LP	GBR GBR	NIA	C.M. Life Insurance Company	Ownership	4.600	MMLIC		
0000							ATIMACK MEZZATITIE FUTU T EI	UDI1		Massachusetts Mutual Life Insurance	Owner Sirip.	4.000	. IMMLIO		
0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Company	Ownership/Influence	72.900	MMLIC		
							Barings Affordable Housing Mortgage Fund I			Massachusetts Mutual Life Insurance	Carret Girip/ Intradice				
0000							LLC	DE	NIA	Company	Ownership.	98.700	MMLIC		
							Barings Affordable Housing Mortgage Fund I			- Company					
0000							LLC	DE	NIA	Barings LLC	Management		MMLIC		
							Barings Affordable Housing Mortgage Fund II			Massachusetts Mutual Life Insurance	1				
0000			61-1902329				LLC	DE	NIA	Company	Ownership	99.600	MMLIC		l
							Barings Affordable Housing Mortgage Fund II			. ,	·				
0000			61-1902329				LLC	DE	NIA	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Company	Ownership/Influence	11.300	MMLIC		
0000			. 36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
0000		.	36-4868350	.			Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	. Management		MMLIC		
			1				Barings Emerging Markets Corporate Bond Fund			Massachusetts Mutual Life Insurance			1		
0000		.	.					IRL	NIA	Company	Ownership/Influence	77.900	MMLIC		
			1				Barings Emerging Markets Corporate Bond Fund								
0000			.					IRL	NIA	Barings LLC	. Management		MMLIC		
1			I				Barings European Real Estate Debt Income Fund	l		Massachusetts Mutual Life Insurance	l		l		
0000		-	-				B	DE	NIA	Company	Ownership	14.000	MMLIC		
0000			00 4000017				Babson Capital Global Special Situation	DE	N/ -	Massachusetts Mutual Life Insurance		00 000	188.10		
0000		-	. 98–1206017				Credit Fund 2	DE	NI A	Company	Ownership/Influence	22.300	MMLIC		
0000			00 1000017				Babson Capital Global Special Situation	DE	NII A	C.M. Life Incurence Communication	Ownership	1 400	MMLIC		
0000		-	. 98-1206017				Credit Fund 2	UE	NIA	C.M. Life Insurance Company	Owner ship	1.400	. MWILTO		
0000			00 1000017				Credit Fund 2	DE	NI A	Barings LLC	Managament		MMLIC		
0000			. 98-1206017				oreuri Fund 2	DE	NIA	Massachusetts Mutual Life Insurance	. Management		WWILIU		
0000			. 37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NIA		Ownership/Influence	75.800	MMLIC		
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NIA NIA	Company	Ownership	3.800	MMLIC		
0000			. 37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NIA	Barings LLC	Management		MMLIC		
0000							Danson Capital Loan Strategies Fund, L.P	<i>u</i> E	NIA	Massachusetts Mutual Life Insurance	. mandyallant		I WANTE I U		
0000			1				Barings US High Yield Bond Fund	IRL	NIA	Company	Ownership/Influence	57.200	MMLIC		
0000				1			Dai mgo vo mgn mora Dulla Falla		+1417	vviiipuiij	Tomor simp/ initiacitec		, mm=1V		

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						Name of Securities			Relation-		Board,	Owner-		SCA	
								Dami						Filing	
		NIAIO				Exchange	Names	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	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
0000							Babson CLO Ltd. 2013-I	CYM	NI A	Barings LLC	Influence		MMLIC		3
0000							Babson CLO Ltd. 2014-I	CYM	NIA	Barings LLC	Influence		MMLIC		2
0000							Babson CLO Ltd. 2015-I	CYM	NIA	Barings LLC	Influence	·····	MMLIC		4
0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence	·····	MMLIC		5
0000							Babson CLO Ltd. 2016-1	CYM	NIA	Barings LLC	Influence	·····	MMLIC		
0000							Babson CLO Ltd. 2016-II	CYM		Barings LLC Barings LLC	Influence.		MMLIC		
0000							Barings CLO Ltd. 2017-1 Barings CLO 2018-111	CYM	NIA NIA	Barings LLC	Influence	······	MMLIC		
0000							Barings CLO 2016-111	CYM	NIA	Barings LLC	Influence.		MMLIC		
0000							Barings CLO 2019-1	CYM	NIA	Barings LLC	Influence	······	MMLIC		
0000			98-1473665				Barings CLO 2019-1	CYM	NIA	Barings LLC	Influence.		MMLIC		
0000			. 30-14/3003				Barings CLO 2019-11	CYM	NIA	Barings LLC	Influence.	······	MMLIC		
0000							Barings CLO 2019-111	CYM	NIA	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2014-1 BV	NLD	NIA	Barings LLC	Influence.		MMLIC		
0000							Babson Euro CLO 2014-1 BV	NLD	NIA	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2015-1 BV	NLD	NIA	Barings LLC	Influence.		MMLIC		
0000							Babson Euro CLO 2016-1 BV	NLD	NIA	Barings LLC	Influence		MMLIC		
0000			. 36-037260H				Babson Euro CLO 2019-I BV	IRL	NIA	Barings LLC	Influence.	······	MMLIC		
0000							Babson Euro CLO 2019-II BV	IRL	NIA	Barings LLC	Influence		MMLIC		1
							2400011 2410 020 2010 11 21			Massachusetts Mutual Life Insurance					1
0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Company	Ownership/Influence	99.300	MMLIC		
0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MMLIC		
			1				Barings Real Estate European Value Add I SCSp			Massachusetts Mutual Life Insurance					
0000								GBR	NI A	Company	Ownership/Influence	44.800	MMLIC		
							Barings Real Estate European Value Add SCSp			' '					
0000								GBR	NI A	C.M. Life Insurance Company	Ownership	5.000	MMLIC		
							Barings Real Estate European Value Add I SCSp								
000Q								GBR	NIA	Barings LLC	Management		MMLIC		
0000			82-5330194				Barings Global Em. Markets Equity Fund	NC	NIA	Barings LLC	Management		MMLIC		
							Barings Global Energy Infrastructure Fund I			Massachusetts Mutual Life Insurance					
0000			98-1332384				LP	CYM	NIA	Company	Ownership/Influence	94.300	MMLIC		
							Barings Global Energy Infrastructure Fund I								
0000			98-1332384				LP	CYM	NIA	Baring Asset Management Limited	Management		MMLIC		
0000							Barings Global Inv. Grade Strat Fund	IRL	NIA	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance	I	40.000			
0000							Barings Global Private Loan Fund	LUX	NIA	Company	Ownership/Influence	12.200	MMLIC		
0000			-				Barings Global Private Loan Fund	LUX	NIA	Barings LLC	Management		MMLIC		
0000			00 0007745	1			Denimer Olekel Deal As 4 5 115	DE	NI A	Massachusetts Mutual Life Insurance	0	40 400	188 10		
0000			. 82-3867745	-			Barings Global Real Assets Fund LP	DE	NIA	Company	Ownership/Influence	43.100	MMLIC		
0000			. 82-3867745 82-3867745				Barings Global Real Assets Fund LP	DE	NIA NIA	C.M. Life Insurance Company	Ownership	7.600	MMLIC		
UUUU			02-300//45	1			Barings Global Real Assets Fund LP Barings Global Special Situations Credit Fund	VE	NIA	Massachusetts Mutual Life Insurance	Management		WIVIL I U		· · · · · · · · · · · · · · · · · · ·
0000				1			parings ground special Situations credit Fund	IRL	NIA	Company	Ownership/Influence	19.800	MMLIC		
0000							Barings Global Special Situations Credit Fund	INL	NIA	Ouiiparry	. Towner SITIP/ ITIT Lucitive	18.000	I WINLE I C		
0000							2	IRL	NIA	Barings LLC	Management		MMLIC		
0000							Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NIA	Barings LLC	Influence		MMLIC		
0000							Barings Middle Market CLO 2018-1	CYM	NIA	Barings LLC	Influence		MMLIC		
0000			1				Barings Middle Market CLO 2019-1	CYM	NIA	Barings LLC	Influence		MMLIC		
			1							Massachusetts Mutual Life Insurance					1
0000			38-4010344				Barings North American Private Loan Fund LP .	DE	NIA	Company	Ownership/Influence	45.600	MMLIC		
0000			38-4010344				Barings North American Private Loan Fund LP .	DE	NIA	Baring Asset Management Limited	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 98-1332384	.]			Barings RE Credit Strategies VII LP	DE	NIA	Company	Ownership/Influence	34.300	MMLIC		
										,					

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						Name of Securities			Relation-		Board,	_		SCA	
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		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Croun			ID	Federal		(U.S. or	Parent. Subsidiaries			Discatly Controlled by	Influence,	Provide Percen-	Ultimate Controlling	quired?	
Group Code	Group Name	Company Code	Number	RSSD	CIK	International)	Or Affiliates	Loca- tion	Reporting Entity	Directly Controlled by (Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Gloup Name	Code	98-1332384	RSSD	CIK	international)	Barings RE Credit Strategies VII LP	DE	NIA	Baring Asset Management Limited	Management	lage	IMMLIC	(1/N)	+
0000			. 30-1332304				ballings he credit strategres vii er	UE	NIA	Massachusetts Mutual Life Insurance	management		MWLTC		
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NIA	Company	Ownership/Influence	9.700	MMLIC		
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NIA	Baring Asset Management Limited	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Braemar Energy Ventures I, L.P.	DE	NI A	Company	Ownership/Influence	89.900	MMLIC		
0000							Braemar Energy Ventures I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MMLIC		
0000							Braemar Energy Ventures I, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
0000							Barings European Core Property Fund SCSp	LUX	NIA	MassMutual Holding LLC	Ownership/Influence	12.500	MMLIC		
0000							Barings European Core Property Fund SCSp Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company Barings Real Estate Advisers LLC	Ownership	0.800	MMLIC		
0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	NY	NIA	Barings LLC	Influence.		MMLIC		
0000			4003302				Benchmark 2018-B4	NY	NIA	Barings LLC	Influence.		MMLIC		
0000			38-4096530				Benchmark 2018-B8	NY	NIA	Barings LLC	Influence		MMLIC		
0000			04-1590850				Braselton Point LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC]
0000			20-5578089				Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	15.700	MMLIC		
0000			20-5578089				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Company	Ownership/Influence	24.800	MMLIC		
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	C.M. Life Insurance Company	Ownership	2.800	MMLIC		
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC .	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	98.600	MMLIC		
0000			. 33-2331093				Corner Stone Fermanent mortgage Fund 111 LLC .	WA	NIA	Massachusetts Mutual Life Insurance	. Towner Simp/ Intrudence		MWILTO		
0000			61-1793735				Cornerstone Permanent Mortgage Fund IV LLC	MA	NIA	Company	Ownership	98.600	MMLIC		
							corner octorio i ormanenti mer tgage i ana 11 220			Massachusetts Mutual Life Insurance					
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Company	Ownership/Influence	34.800	MMLIC		
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.200	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-2932156				GASL Holdings, LLC	DE	NIA	Company	Ownership/Influence	11.300	MMLIC		
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NI A	Barings LLC	Management		MMLIC		
0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41,200	MMLIC		
0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Barings LLC	Management_	41.200	MMLIC		
							JPMCC Commercial Mortgage Securities Trust			Dui ingo LEO	managomorre		mm_1V		
0000		.	38-4041011				2017-JP7	NY	NIA	Barings LLC	Influence		MMLIC		
1 1		1			1		JPMDB Commercial Mortgage Securities Trust	1		-					
0000		.	38-4032059				2017-C5	NY	NIA	Barings LLC	Influence		MMLIC		
1		1			1			l		Massachusetts Mutual Life Insurance					1
0000			82-1512591				KKR-MM Vector LP	DE	NIA	Company	Ownership/Influence	62.500	MMLIC		
0000			40 4055007					DE	NII 4	Massachusetts Mutual Life Insurance	0 1:	400.000	188 10		
0000		-	. 46-4255307				Marco Hotel LLC	UE	NI A	Company	Ownership	100.000	MMLIC		
0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	Company	Ownership	0.000	MMLIC		
0000		1	04-1590850				Miami Douglas One GP LLC	DE	NIA	C.M. Life Insurance Company	Owner ship	5.500	MMLIC		1
										Massachusetts Mutual Life Insurance					
0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Company	Ownership	0.000	MMLIC		
0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
		1			1					Massachusetts Mutual Life Insurance					1
0000			. 04-1590850				Miami Douglas Two LP	DE	NIA	Company	Ownership	89.900	MMLIC		
0000			04-1590850				Miami Douglas Two LP	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
0000		1	4E 0600000		1		LID No- Loo Cold Company LLC	DE	NII A	Massachusetts Mutual Life Insurance	O-marahi-	100 000	MA IC		1
0000			45-3623262				HB Naples Golf Owner LLC	UE	NIA	Company	Ownership	100.000	MMLIC		

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Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
										Massachusetts Mutual Life Insurance					
0000			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			82-4411267				RB Apartments LLC	DE	NIA	Company	Ownership	100.000	. MMLIC		
			75 000 100 1					-		Massachusetts Mutual Life Insurance		400 000			
0000			75–2901061				Reston Arboretum LLC	DE	NIA	Company	Ownership	100.000	. MMLIC		
0000							Rockall CLO B.V.	GBR	NIA	Barings LLC	Influence	·····	MMLIC		
0000			54-2055778				Rockville Town Center LLC	VA	NIA	Massachusetts Mutual Life Insurance	0	100.000	MMLIC		
0000			. 54-2055776				ROCKVITTE TOWN CENTER LLC	VA	NIA	Company	Ownership		. MIVILIO		
0000			20-8856877				Somerset Special Opportunities Fund L.P	DE	NIA	Company	Ownership/Influence	59.000	MMLIC		
0000			20-8856877				Somerset Special Opportunities Fund L.P	DE	NIA	C.M. Life Insurance Company	Ownership	2.900	MMLIC		
0000			20-0030011				Somerset Special Opportunities Fund L.F	UE	NIA	Massachusetts Mutual Life Insurance	. Towner Sirrp	2.900	MWLIC		
0000			35-2553915				Ten Fan Pier Boulevard LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	MassMutual Holding LLC	Ownership/Influence	18.000	MMLIC		
			11 2200127				Town oquate oup tur rurnors in, E.i.			Massachusetts Mutual Life Insurance	omici diripi ini radiloc				
0000			41-2280129				Tower Square Capital Partners IIIA, L.P	DE	NIA	Company	Ownership/Influence	92.100	MMLIC		
. 0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
							, , , , , , , , , , , , , , , , , , , ,			Massachusetts Mutual Life Insurance					
0000			80-0920367			l	Tower Square Capital Partners IV-A, L.P	DE	NIA	Company	Ownership/Influence	21.300	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				Trailside MM Member LLC	DE	NIA	Company	Ownership	59.600	MMLIC		
0000			04-1590850				Trailside MM Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			83-1325764				Washington Gateway Two LLC	DE	NIA	Company	Ownership		MMLIC		
0000			83-1325764				Washington Gateway Two LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.700	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			32-0574045				Washington Gateway Three LLC	DE	NIA	Company	Ownership	83.600	MMLIC		
0000			. 32-0574045				Washington Gateway Three LLC	DE	NIA	C.M. Life Insurance Company	Ownership	11.400	MMLIC		
0000			04 4500050				W 4 4041 04 4 11 4 1 11 0	DE		Massachusetts Mutual Life Insurance		400 000	188 10		
0000			. 04–1590850				West 46th Street Hotel LLC	DE	NIA	Company	Ownership	100.000	. MMLIC		
0000		1			1		Barings Emerging Markets Debt Short Duration Fund	IRL	NIA	Barings LLC	Management.		MMLIC	1	
0000							Babson Capital Loan Strategies Master Fund LP	INL	NIA	Dai iligo LLO	manayellerit		. WWILTO		
0000		I		1	I		Dabbon Oupritus Evan Ottategres master Fullu LF	CYM	NIA	Barings LLC	Management		MMLIC		
0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
0000			47-3734770				Barings Total Return Bond Fund	MA	NIA	Barings LLC	Management		MMLIC		
0000							CCIC Fund	CHN	NIA	Barings LLC	Influence		MMLIC		
			1							Massachusetts Mutual Life Insurance					
0000		l	71-1018134				Great Lakes II LLC	DE	NIA	Company	Ownership	11.200	MMLIC		
0000			71-1018134				Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	1.000	MMLIC		
		1		1	1					Massachusetts Mutual Life Insurance	1				
0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Company	Ownership	40.000	MMLIC		
		I		1	I					Massachusetts Mutual Life Insurance					
0000			36-4823011				50 Liberty LLC	DE	NIA	Company	Ownership	59.100	MMLIC		
0000			. 36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	. MMLIC		
l l		1			1					Massachusetts Mutual Life Insurance				1	
0000			. 80-0948028				One Harbor Shore LLC	DE	NIA	Company	Ownership	61.000	MMLIC		
0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	MMLIC		
0000		1	04 4000 ***		1			DE	A17.5	Massachusetts Mutual Life Insurance		400 000	188.10	1	
0000			81-4382111				Budapester Strasse LLC	DE	NIA	Company	Ownership	100.000	MMLIC		.1

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						Exchange		Domi-	ship		Management,	ship		Filing	
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Group		Company	ID	Federal		(U.Ś. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	0.000				0	international,	0.7.mma.co		y	Massachusetts Mutual Life Insurance	0	iago .		(1711)	
0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	Company	Ownership	90.000	MMLIC		
0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	10.000	MMLIC		
			02 2200211				cargary narrway nording LLC			Massachusetts Mutual Life Insurance	owner strip.				
0000			82-3307907				Cornbrook PRS Holdings LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
0000			02-0001301				COMBTOOK THE HOTCHIGS LLC	UL	NIA	Massachusetts Mutual Life Insurance	Owner strip	100.000	. WWLTO		
0000			95-4207717				Cornerstone California Mortgage Fund LLC	CA	NIA	Company	Ownership.	100.000	MMLIC		
			95-4201111				Corner Storie Carriornia mortgage Fund 1 LLC	UA	NIA	Massachusetts Mutual Life Insurance	Owner Sirrp	100.000			
0000			95-4207717				Corneratore California Martagae Fund II II C	CA	NIA		Ownership	100.000	MMLIC		
			95-4201111				Cornerstone California Mortgage Fund II LLC Cornerstone California Mortgage Fund III LLC	UA	NIA	Company	Owner Sirrp	100.000			
0000			95-4207717				Cornerstone Carriornia mortgage Fund III LLC	CA	NIA		Ownership.	100.000	MMLIC		
			90-4207717					UA	NIA	Company	Owner Ship	100.000	MINIC		
0000			F0 0000F00				0 + 5 + 0: 0 + + + + +	DE	AU A		0 1:	04 400	188.10		
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	Company	Owner ship	84.100			
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
								l		Massachusetts Mutual Life Insurance					
0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Company	Ownership	98.300	MMLIC		
0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Barings LLC	Management		. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Company	Owner ship	98.500	MMLIC		
0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Barings LLC	Management		. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			61-1793735				Cornerstone Permanent Mortgage Fund IV	MA	NIA	Company	Owner ship	100.000	. MMLIC		
0000			81-0890084				CREA Madison Member LLC	DE	NIA	C.M. Life Insurance Company	Owner ship	100.000	. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-1563809				CCB Montford Park LLC	DE	NIA	Company	Owner ship	75.200	MMLIC		
0000			82-1563809				CCB Montford Park LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-2783393				Danville Riverwalk Venture, LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3347091				Fan Pier Development LLC	DE	NIA	Company	Ownership.	59.200	MMLIC		
0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	5.600	MMLIC		
							·			Massachusetts Mutual Life İnsurance					
0000			81-5360103				Landmark Manchester Holdings LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
							, , , , , , , , , , , , , , , , , , ,			Massachusetts Mutual Life Insurance					
0000			04-1590850		l		MM Island Member LLC	DE	NIA	Company	Ownership.	51.000	MMLIC		[
										Massachusetts Mutual Life Insurance	,				
0000			83-0881588				NoHo West Venture LLC	DE	NIA	Company	Ownership.	95.000	MMLIC		[
			1							Massachusetts Mutual Life Insurance					
0000			04-1590850	l	I	l	PACO France Logistics 2 LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		[l
										Massachusetts Mutual Life Insurance			*		
0000			82-3393166				Portland 400 Sixth Manager LLC	DE	NIA	Company	Ownership.	97.000	MMLIC		
			5550 100				Salomon Brothers Commercial Mortgage Trust								
0000							2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence.		MMLIC		
0000							2001 111111	<i>D</i> L		Massachusetts Mutual Life Insurance					
0000			27-2977720	1	1		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			2311120				oungrass viriage onopping center LLC	UL		Massachusetts Mutual Life Insurance	omici sittp		MWLIV		
0000			04-1590850	1	1		Spain Avalon Holding LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
UUUU			0600601				opani Avaion notuing LLC	uc	N1A	Massachusetts Mutual Life Insurance	Owner Strip	100.000	. IVIIVIL I U		
0000			81-5273574				Three PW Office Holding LLC	DE	NIA		Ownership	95.100	MMLIC		
0000			01-02/00/4				IIII de Fii VIII de Hotaling LLC	VE	NIA	Company Massachusetts Mutual Life Insurance	Ownership	001			
0000			25 2404550	1	1		Tuesty Tue Liberty LLC		NII A		Ownership	GE 000	MALLO		
0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	Company	Ownership	65.000	MMLIC		
0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	C.M. Life Insurance Company	Owner ship	35.000	MMLIC		

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						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
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					_	,				Massachusetts Mutual Life Insurance	,		3(11)		
0000			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance	·				
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Company	Ownership	96.300	. MMLIC		
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Owner ship	3.700	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			45-3168892				MassMutual Barings Dynamic Allocation Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
0000			F4 0F00000		0000007070	00	W W + 1 B + W + O + F +		A.I. A	Massachusetts Mutual Life Insurance	0 1:	00.000	188 10		
0000			51-0529328		0000927972	00	MassMutual Premier Main Street Fund	MA	NIA	Company	Ownership	63.200	MMLIC		
0000			26-3229251		0000927972	00	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership.	2.100	MMLIC		
			20-3223231		0000921912	υ ν	ruiiu	MA	NIA	Massachusetts Mutual Life Insurance	owner strip	2. 100	. WWLIC		
0000			04-3277550		0000927972	00	MassMutual Premier Value Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
			04 0211000		0000321312	ou	MassMutual Select Diversified International			Massachusetts Mutual Life Insurance	Office Strip.	b.000	WWL10		
0000			14-1980900		0000916053	00	Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
						*				Massachusetts Mutual Life Insurance					
0000			01-0821120		0000916053	00	MassMutual Select Diversified Value Fund	MA	NIA	Company	Ownership	0.800	MMLIC		
										Massachusetts Mutual Life Insurance	· ·				
0000			. 04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NIA	Company	Owner ship	3.200	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 04–3513019		0000916053	00	MassMutual Select Large Cap Value Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
0000			40 4740005		0000040000	00	Manakatan I Calant Mid Car Value Found	144	NIA	Massachusetts Mutual Life Insurance	0	10,000	MMLIC		
0000			. 42-1710935		0000916053	00	MassMutual Select Mid-Cap Value Fund MassMutual Select Small Capital Value Equity	MA	NIA	Company Massachusetts Mutual Life Insurance	Ownership	16.300	. MMLIC		
0000			02-0769954		0000916053	00	Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
			02 0700007		0000010000	ou	T ditu			Massachusetts Mutual Life Insurance	omioi omp				
0000			04-3584140		0000916053	0Q	MassMutual Select Small Company Value Fund	MA	NIA	Company	Ownership.	5.800	MMLIC		
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance	· ·				
0000			82-3347422		0000916053	00	2005 Fund	MA	NIA	Company	Ownership	6.900	MMLIC		
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3355639		0000916053	00	2010 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
0000			82-3382389		0000916053	00	MassMutual Select T. Rowe Price Retirement 2015 Fund	MA	NILA	Massachusetts Mutual Life Insurance	Omenabia	0.000	MMLIC		
0000			02-3302309		0000916055	υ ų	MassMutual Select T. Rowe Price Retirement	MA	NIA	Company	Ownership	0.000	. WIVILIO		
0000			82-3396442		0000916053	00	2020 Fund	MA	NIA	Company	Ownership.	0.000	MMLIC		
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance			1		
0000			82-3417420		0000916053	00	2025 Fund	MA	NIA	Company	Ownership	0.000	MMLIC	[
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3430358		0000916053	00	2030 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3439837		0000916053	00	2035 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
0000			82-3451779		0000916053	00	MassMutual Select T. Rowe Price Retirement 2040 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership.	0.000	MMLIC		
0000			02-3431779		0000910055	UQ	MassMutual Select T. Rowe Price Retirement	MA	NIA	Massachusetts Mutual Life Insurance	Owner Sirrp		. WWLTO		
0000			82-3472295		0000916053	00	2045 Fund	MA	NIA	Company	Ownership.	0.000	MMLIC		
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3481715		0000916053	00	2050 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
							MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3502011		0000916053	00	2055 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
			00 0505 445				MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance	l		l		
0000			82-3525148		0000916053	UQ	2060 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
0000]	82-3533944	1	0000916053	00	MassMutual Select T. Rowe Price Retirement Balanced Fund	MA	NIA	Massachusetts Mutual Life Insurance	Ownership.	0.000	MMLIC		
0000			oz-აააა944		5CU01 EUUUU	υ ν	Datanceu Funu	MA		Company	Owner Strip	0.000	WIWIL I U		

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Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
										Massachusetts Mutual Life Insurance					
0000			46-4257056				MML Series International Equity Fund	MA	NI A	Company	Owner ship	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			47-3517233				MML Series II Asset Momentum Fund	MA	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			47-3529636				MML Series II Dynamic Bond Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			47-3544629				MML Series II Equity Rotation Fund	MA	NIA	Company	Ownership	95.100	. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			47-3559064				MML Series II Special Situations Fund	MA	NIA	Company	Ownership	97.300	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-1933828		0000916053	0Q	MassMutual RetireSMART 2015 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
								l		Massachusetts Mutual Life Insurance					
0000			27-1933389		0000916053	0Q	MassMutual RetireSMART 2035 Fund	MA	NIA	Company	Ownership	4.400	MMLIC		
0000			07 4000700		0000040050	00	H H L L D L' OWDT 0045 5		ALL A	Massachusetts Mutual Life Insurance	Ownership	0.500	MMLIC		
0000			27-1932769		0000916053	0Q	MassMutual RetireSMART 2045 Fund	MA	NIA	Company	Ownership	9.500	MMLIC		
0000			46-3289207		0000916053	00	MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance	Ownership.	00.700	INN 10		
0000			46-3289207		0000916053	0Q	Massmutual Hetiresmahl 2055 Fund	MA	NIA	Company	Uwnersnip	29.700	. MMLIC		
0000			47-5326235		0000916053	00	MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance	Ownership.	60.500	INN 10		
0000			47-0326230		0000916053	0Q	Massmutuai Hetiresmahi 2060 Fund	MA	NIA	Company	Owner snip	000.000	. MMLIC		
0000			45-1618155		0000916053	00	MassMutual RetireSMART Conservative Fund	MA	NIA	Company	Owner ship.	0.000	MMLIC		
0000			45-1010100		0000910055	0Q	massmutual hetiresmani conservative runu	MA	NIA	Massachusetts Mutual Life Insurance	Owner Strip	0.000	. WINILIG		
0000			45-1618222		0000916053	00	MassMutual RetireSMART Growth Fund	MA	NIA		Ownership	0.000	MMLIC		
0000			40-1010222		00009 10053	υ ν	massmutuai netiiesmani urowtii runu	MA	NIA	Company	Owner Siffp	0.000	NINIL IC		
0000			03-0532464		0000916053	00	MassMutual RetireSMART In Retirement Fund	MA	NIA	Company	Ownership	1.600	MMLIC		
0000			03-0332404		86001 6000	υ ν	massmutuai netiresmani ili netirement fund	MA	NIA	Massachusetts Mutual Life Insurance	owner sirtp	000	. INVINIL I C		
0000			45-1618262		0000916053	00	MassMutual RetireSMART Moderate Fund	MA	NIA	Company	Ownership	0.000	MMLIC	- 1	
0000			40-1010202		00009 10000	υ ν	massmutuai netiiesmani moderate fund	WA	NIA	Massachusetts Mutual Life Insurance	owner sirrp	9.000	. INVILITO		
0000			45-1618046		0000916053	00	MassMutual RetireSMART Moderate Growth Fund .	MA	NIA	Company	Ownership	0.000	MMLIC	- 1	
0000			45-1010040		00009 10000	υ ν	massmutuai netiiesmani moderate drowth Fund	WA	NIA	Company	owner sirrp	9.000	. INVILITO		· · · · · · · · · · · · · · · · · · ·
															1

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

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

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

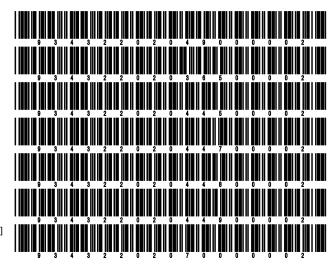
		Response
1.	Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO
2.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3.	Will the Reasonableness of Assumptions Certification required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

Explanation:

- 1. Not Required.
- 2. This line of business is not written by the company.
- 3. Not Required.
- 5. Not Required.
- 6. Not Required.
- 7. Not Required.
- 8. Not Required.

Bar Code:

- 1. Trusteed Surplus Statement [Document Identifier 490]
- 2. Medicare Part D Coverage Supplement [Document Identifier 365]
- Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]
- Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
- Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]
- 7. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]
- 8. Life PBR Statement of Exemption (2nd Quarter Only) [Document Identifier 700]



NONE

SCHEDULE A - VERIFICATION

Real Estate

		1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book/adjusted carrying value, December 31 of prior year		
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition		
	2.2 Additional investment made after acquisition		
3.	Current year change in encumbrances		
4.	Total gain (loss) on disposals		
5.	Deduct amounts received on disposals		
6.	Total foreign exchange change in book/adjusted rying		
7.	Deduct current year's other than temporary impailment 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
		Year to Date	Prior Year Ended December 31
1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	933,021,597	921,272,354
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	84,654,571	87,202,430
	2.2 Additional investment made after acquisition	3,515,311	9,788,601
3.	2.1 Actual cost at time of acquisition 2.2 Additional investment made after acquisition Capitalized deferred interest and other	1,188,325	1,273,315
4.	Accrual of discount	216,038	200,504
5.	Unrealized valuation increase (decrease)		
6.	Total gain (loss) on disposals	93,429	(76,590)
7.	Deduct amounts received on disposals	51, 184, 602	88,704,427
8.	Deduct amortization of premium and mortgage interest points and commitment fees	(159,400)	793,688
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest	(4,631,930)	2,859,098
10.	Deduct current year's other than temporary impairment recognized		
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	967,032,139	933,021,597
12.	Total valuation allowance	(312,500)	
13.	Subtotal (Line 11 plus Line 12)		
14.	Deduct total nonadmitted amounts		
15.	Statement value at end of current period (Line 13 minus Line 14)	966,719,639	933,021,597

SCHEDULE BA - VERIFICATION

Other Long-Term Invested Assets

	Ŭ .	1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book/adjusted carrying value, December 31 of prior year	160,933,329	168,637,463
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition		3,790,866
	2.2 Additional investment made after acquisition	8,437,726	27,077,512
3.	Capitalized deferred interest and other		
4.	Capitalized deferred interest and other Accrual of discount		
5.	Unrealized valuation increase (decrease)	(5,546,718)	33,437,351
6.	Total gain (loss) on disposals	1,070,298	199,230
7.	Deduct amounts received on disposals	6,262,322	70,570,514
8.	Deduct amortization of premium and depreciation	6, 104	11,578
9.	Total foreign exchange change in book/adjusted carrying value	12,533	220,366
10.	Deduct current year's other than temporary impairment recognized		1,847,367
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)		
12.	Deduct total nonadmitted amounts	253,696	344,077
13.	Statement value at end of current period (Line 11 minus Line 12)	161,092,952	

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, 131, 363, 369	4,418,143,411
2.	Cost of bonds and stocks acquired	775 , 748 , 830	703,389,159
3.	Accrual of discount	1,672,353	3,719,248
4.	Unrealized valuation increase (decrease)	3,751,229	(12,209,679)
5.	Total gain (loss) on disposals	7,400,159	945,783
6.	Deduct consideration for bonds and stocks disposed of	408,308,111	985,342,446
7.	Deduct amortization of premium	1,071,905	1,947,812
8.	Total foreign exchange change in book/adjusted carrying value	(16,623,300)	10,796,856
9.	Deduct current year's other than temporary impairment recognized	4,286,841	11,691,399
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees	694,255	5,560,248
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	4,490,340,037	4, 131, 363, 369
12.	Deduct total nonadmitted amounts		
13.	Statement value at end of current period (Line 11 minus Line 12)	4,490,340,037	4,131,363,369

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

DI	uring the Current Quarter for	2	3	2 Designation	5	6	7	8
	Book/Adjusted	2	3	4	Book/Adjusted	Book/Adjusted	Book/Adjusted	Book/Adjusted
	Carrying Value	Acquisitions	Dispositions	Non-Trading Activity	Carrying Value	Carrying Value	Carrying Value	Carrying Value
NAIO Designation	Beginning	During	During	During Current Quarter	End of	End of Second Quarter	End of	December 31
NAIC Designation	of Current Quarter	Current Quarter	Current Quarter	Current Quarter	First Quarter	Second Quarter	Third Quarter	Prior Year
BONDS								
1. NAIC 1 (a)	1,969,562,380	750,921,068	535,199,313	(35,812,446)	1,969,562,380	2,149,471,689		1,743,786,704
2. NAIC 2 (a)	1,956,694,562	2,323,827,144	2,399,191,669	(275,346)	1,956,694,562	1,881,054,691		1,936,823,716
3. NAIC 3 (a)	348,570,308	39,764,544	116,643,293	31,884,729	348,570,308	303,576,288		308,790,382
4. NAIC 4 (a)	50,884,530	8,286,914	2,233,010	15,873,053	50,884,530	72,811,487		58,558,695
5. NAIC 5 (a)	138,063,408	5,473,157	1,512,328	(4,526,388)	138,063,408	137,497,849		142 , 100 , 127
6. NAIC 6 (a)	24,700,557	1,336,714	7,496,770	6,805,249	24,700,557	25,345,750		28,919,340
7. Total Bonds	4,488,475,745	3,129,609,541	3,062,276,383	13,948,851	4,488,475,745	4,569,757,754		4,218,978,964
	, , , , ,	-, -, -, -, -	, , , , , , , , , , , , , , , , , , , ,	, , ,	, , -, -	, , . , .		, , , , , ,
PREFERRED STOCK								
8. NAIC 1								2,950,000
9. NAIC 2	2,950,000		1,851,506	18,331	2,950,000	1,116,825		
10. NAIC 3	2,000,000				2,000,000	2,000,000		2,000,000
11. NAIC 4								
12. NAIC 5	2,304,628			(27,547)	2,304,628	2,277,081		2,356,835
13. NAIC 6	82,296				82,296	82,296		82,296
14. Total Preferred Stock	7,336,924		1,851,506	(9,216)	7,336,924	5,476,202		7,389,131
15. Total Bonds and Preferred Stock	4,495,812,669	3,129,609,541	3,064,127,889		4,495,812,669	4,575,233,956		4,226,368,095

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

SCHEDULE DA - PART 1

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	115,302,764	XXX	115,047,165		

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	114,134,338	62,424,277
2.	Cost of short-term investments acquired	195,268,373	280,651,182
3.	Accrual of discount	1, 196, 012	2,092,343
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	1,333	9,256
6.	Deduct consideration received on disposals	195,297,292	231,042,721
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)	115,302,764	114 , 134 , 338
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	115,302,764	114, 134, 338

SCHEDULE DB - PART A - VERIFICATION

	Options, Caps, Floors, Collars, Swaps and Forwards	
1.	Book/Adjusted Carrying Value, December 31, prior year (Line 10, prior year)	(44,084,224)
2.	Cost Paid/(Consideration Received) on additions	2,082,484
3.	Unrealized Valuation increase/(decrease)	173,431,173
4.	SSAP No. 108 adjustments	
5.	Total gain (loss) on termination recognized	11,691,260
6.	Considerations received/(paid) on terminations	14,474,747
7.	Amortization	(14, 168)
8.	Adjustment to the Book/Adjusted Carrying Value of hedged item	
9.	Total foreign exchange change in Book/Adjusted Carrying Value	
10.	Book/Adjusted Carrying Value at End of Current Period (Lines 1+2+3+4+5-6+7+8+9)	128,631,777
11.	Deduct nonadmitted assets	
12.	Statement value at end of current period (Line 10 minus Line 11)	128,631,777
	COUEDINE DE DARTE VERICATION	
	SCHEDULE DB - PART B - VERIFICATION Futures Contracts	
1.		(15,723,529)
1. 2.	Futures Contracts	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year). Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column)	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year) Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column) Add:	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year) Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column) Add: Change in variation margin on open contracts - Highly Effective Hedges	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year) Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column) Add: Change in variation margin on open contracts - Highly Effective Hedges 3.11 Section 1, Column 15, current year to date minus	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	
2.	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year) Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column). Add: Change in variation margin on open contracts - Highly Effective Hedges 3.11 Section 1, Column 15, current year to date minus	
2. 3.1	Futures Contracts Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	

.....116,238,686

......14,369,85914,369,859

(14.369.857)

...(1,353,672)

..(1,353,672)

116.238.686

116.238.686

3.21 Section 1, Column 17, current year to date minus

4.21 Amount used to adjust basis of hedged item

5. Dispositions gains (losses) on contracts terminated in prior year:5.1 Total gain (loss) recognized for terminations in prior year

Statement value at end of current period (Line 6 minus Line 7)

 3.23 Section 1, Column 19, current year to date minus
 (1,353,672)

 3.24 Section 1, Column 19, prior year
 (15,723,530)

4.1 Cumulative variation margin on terminated contracts during the year

5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year

6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)

3.22 Section 1, Column 17, prior year ...
Change in amount recognized

3.25 SSAP No. 108 adjustments

3.3 Subtotal (Line 3.1 minus Line 3.2)

4.22 Amount recognized ...

4.23 SSAP No. 108 adjustments
4.3 Subtotal (Line 4.1 minus Line 4.2)

7. Deduct total nonadmitted amounts .

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

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

SCHEDULE DB - VERIFICATION

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

		Book/Adjusted Carrying Val		
1.	Part A, Section 1, Column 14	128,631,777		
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance			
3.	Total (Line 1 plus Line 2)		128,631,777	
4.	Part D, Section 1, Column 5			
5.	Part D, Section 1, Column 6	(1,116,063,420)		
6.	Total (Line 3 minus Line 4 minus Line 5)		1,353,671	
		Fair Valu	e Check	
7.	Part A, Section 1, Column 16	128,631,777		
8.	Part B, Section 1, Column 13	(1,353,672)		
9.	Total (Line 7 plus Line 8)		127,278,105	
10.	Part D, Section 1, Column 8			
11.	Part D, Section 1, Column 9	(1,116,063,420)		
12	Total (Line 9 minus Line 10 minus Line 11)			
		Potential Exp	osure Check	
13.	Part A, Section 1, Column 21	166,442,074		
14.	Part B, Section 1, Column 20	31,001,600		
15.	Part D, Section 1, Column 11	197,443,674		
16.	Total (Line 13 plus Line 14 minus Line 15)			

SCHEDULE E - PART 2 - VERIFICATION

(Cash Equivalents)

		1	2
		Year To Date	Prior Year Ended December 31
1.	Book/adjusted carrying value, December 31 of prior year	295,281,728	258,600,632
2.	Cost of cash equivalents acquired	5,942,604,706	5,210,188,435
3.	Accrual of discount	3,369,015	4,629,294
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	22,254	21,697
6.	Deduct consideration received on disposals	5,950,132,154	5 , 178 , 158 , 331
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)	291, 145, 549	295,281,728
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	291, 145, 549	295,281,728