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	3,810,413,724		3,810,413,724	3,809,562,902
	Stocks:				
	2.1 Preferred stocks	7,336,924		7,336,924	7,389,131
	2.2 Common stocks	318,353,331		318,353,331	314,411,333
3.	Mortgage loans on real estate:				
	3.1 First liens	987,979,422		987,979,422	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 summaries)				
	4.3 Properties held for sale (less \$				
	encumbrances)				
5.	Cash (\$35,960,542), cash equivalents				
	(\$553,591,771) and short-term				
	investments (\$	714.022.565		714,022,565	463, 125, 060
6.	Contract loans (including \$ premium notes)				151,026,772
7.	Derivatives				532,927,762
8.	Other invested assets				160,589,252
9.	Receivables for securities				316, 164, 809
10.	Securities lending reinvested collateral assets				
11.	Aggregate write-ins for invested assets				
	Subtotals, cash and invested assets (Lines 1 to 11)			7,861,850,000	6,688,218,618
	Title plants less \$ charged off (for Title insurers		,	, , ,	
	only)				
14.	Investment income due and accrued			89,404,102	92,830,961
	Premiums and considerations:				
	15.1 Uncollected premiums and agents' balances in the course of collection		6,035	82,625	255,930
	15.2 Deferred premiums, agents' balances and installments booked but				
	deferred and not yet due (including \$				
	earned but unbilled premiums)	(19,916,806)		(19,916,806)	(16,510,239)
	15.3 Accrued retrospective premiums (\$				
	contracts subject to redetermination (\$)				
16.	Reinsurance:				
	16.1 Amounts recoverable from reinsurers	42,196,045	1,765,994	40,430,051	25,781,891
	16.2 Funds held by or deposited with reinsured companies				
	16.3 Other amounts receivable under reinsurance contracts			5,852,218	5,827,273
17.	Amounts receivable relating to uninsured plans				
	Current federal and foreign income tax recoverable and interest thereon			3,477,332	1,946,617
	Net deferred tax asset			11,753,222	29,633,793
19.	Guaranty funds receivable or on deposit	831,532		831,532	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			225,040	
	Health care (\$) and other amounts receivable				
25.	Aggregate write-ins for other than invested assets			117,439	54,954
26.	Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)			7,994,106,755	
27.	From Separate Accounts, Segregated Accounts and Protected Cell Accounts	1 443 353 784		1,443,353,784	1 809 856 408
28.	Total (Lines 26 and 27)	9,441,323,835	3,863,296	9,437,460,539	8,639,008,340
20.	DETAILS OF WRITE-INS	0,441,020,000	0,000,200	0,407,400,000	0,000,000,040
1101					
1101. 1102.					
1102.					
1103.	Summary of remaining write-ins for Line 11 from overflow page				
1198.	Totals (Lines 1101 through 1103 plus 1198)(Line 11 above)				
	Miscellaneous other assets	117 400		117,439	54,954
	Cash advances to agents		26,232		54,954
2502. 2503.	casii auvances to agents	20,232			
2503. 2598.	Summary of remaining write-ins for Line 25 from overflow page				
	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	143,671			54,954
೭೨೨೮.	TOTALO (LINES 2001 TINOUGH 2000 PIUS 2000)(LINE 20 dD0VE)	140,071	20,202	111,409	J4, JJ4

LIABILITIES, SURPLUS AND OTHER FUNDS

	LIABILITIES, SOITI LOS AND OTTILITI	1100	<u> </u>
		1 Current Statement Date	2 December 31 Prior Year
	Aggregate reserve for life contracts \$3,970,748,466 less \$	3,970,748,466	3,938,942,058
2. 3.	Aggregate reserve for accident and health contracts (including \$ Modco Reserve) Liability for deposit-type contracts (including \$ Modco Reserve)		
	Contract claims: 4.1 Life		
5.	4.2 Accident and health Policyholders' dividends/refunds to members \$ and coupons \$ due		
	and unpaid		
6.	amounts:		
	6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$ Modco)		
	Policyholders' dividends and refunds to members not yet apportioned (including \$		
	Amount provisionally held for deferred dividend policies not included in Line 6		
9.	\$ accident and health premiums Contract liabilities not included elsewhere:	63,851	9,977
	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	241,820139,015,923	314,209
10.	Commissions to agents due or accrued-life and annuity contracts \$, accident and health \$ and deposit-type contract funds \$		
11. 12.	Commissions and expense allowances payable on reinsurance assumed General expenses due or accrued		
	Transfers to Separate Accounts due or accrued (net) (including \$		
14.	Taxes, licenses and fees due or accrued, excluding federal income taxes	666,992	872,292
	Current federal and foreign income taxes, including \$ on realized capital gains (losses)		
16. 17.	Unearned investment income		
18. 19.	Amounts held for agents' account, including \$ agents' credit balances	31.757.639	(15.803.646)
20. 21.	Net adjustment in assets and liabilities due to foreign exchange rates Liability for benefits for employees and agents if not included above		
22.	Borrowed money \$ and interest thereon \$		
23. 24.	Dividends to stockholders declared and unpaid		
	24.01 Asset valuation reserve	1,149,993	
	24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers	32,070,424	32,590,060
	24.05 Drafts outstanding		
	24.07 Funds held under coinsurance		
	24.09 Payable for securities	13,714,485	
	24.10 Payable for securities lending		
25. 26.	Aggregate write-ins for liabilities	522,382,154 6,012,749,214	226,666,086 5,094,114,366
27. 28.	From Separate Accounts Statement	1,443,353,784 7,456,102,998	1,809,856,408 6,903,970,774
29. 30.	Common capital stock Preferred capital stock	2,500,000	2,500,000
31.	Aggregate write-ins for other than special surplus funds		
32. 33.	Surplus notes Gross paid in and contributed surplus	450,276,208	
34. 35.	Aggregate write-ins for special surplus funds	1,528,581,333	1,282,261,358
36.	Less treasury stock, at cost: 36.1 shares common (value included in Line 29 \$		
37.	36.2 shares preferred (value included in Line 30 \$		1,732,537,566
38.	Totals of Lines 29, 30 and 37	1,981,357,541	1,735,037,566
39.	Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3) DETAILS OF WRITE-INS	9,437,460,539	8,639,008,340
2501. 2502.	Derivative collateral		114, 184,729 107,916,666
2503. 2598.	Funds awaiting escheat and other miscellaneous	4,490,267	4,564,691
2599. 3101.	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	522,382,154	226,666,086
3102.			
3103. 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		
3499.	Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)		

SUMMARY OF OPERATIONS

		1	2	3
		Current Year	Prior Year	Prior Year Ended
		To Date	To Date	December 31
	Premiums and annuity considerations for life and accident and health contracts		80,432,747	312,324,893
2. 3.	Considerations for supplementary contracts with life contingencies			2,949,967 326.173.351
3. 4.	Amortization of Interest Maintenance Reserve (IMR)			804.221
5.	Separate Accounts net gain from operations excluding unrealized gains or losses			
6.	Commissions and expense allowances on reinsurance ceded	16,245,060	21,804,487	87,691,312
7.	Reserve adjustments on reinsurance ceded	, , ,		
8.	Miscellaneous Income:			
	8.1 Income from fees associated with investment management, administration and contract			
	guarantees from Separate Accounts.		8,947,922	36,868,518
	8.2 Charges and fees for deposit-type contracts			
_	8.3 Aggregate write-ins for miscellaneous income	410,589	505,592	1,924,233
	Totals (Lines 1 to 8.3)	171,638,920	180,508,172	768,736,495
10.	Death benefits		21,716,847	90,730,503
11.	Matured endowments (excluding guaranteed annual pure endowments)		07 044 004	100.000.054
12.	Annuity benefits	28,040,339	27,041,804	102,802,254
13.			,	
14. 15.	Coupons, guaranteed annual pure endowments and similar benefits		100 665 115	434 , 855 , 750
16.	Group conversions			
17.	Interest and adjustments on contract or deposit-type contract funds	1 248 764		5,659,767
18.	Payments on supplementary contracts with life contingencies	586 918	306,243	1,320,621
19.	Increase in aggregate reserves for life and accident and health contracts	31,806,409	(14,302,873)	(32,489,265)
20.	Totals (Lines 10 to 19)	, ,	146,467,907	603,437,922
21.	Commissions on premiums, annuity considerations, and deposit-type contract funds (direct		, ,	30, 101,022
	business only)	10,965,118	14,404,139	57,335,524
22.	Commissions and expense allowances on reinsurance assumed			
23.	General insurance expenses and fraternal expenses	20,214,169	31,163,576	113,860,905
24.	Insurance taxes, licenses and fees, excluding federal income taxes	3,425,808	4,004,620	11,525,545
25.	Increase in loading on deferred and uncollected premiums		(143,600)	(946,337)
26.	Net transfers to or (from) Separate Accounts net of reinsurance			(153,809,820)
27.	Aggregate write-ins for deductions	(1,472,473)	(1,894,640)	(5,780,816)
28.	Totals (Lines 20 to 27)	180,609,077	160,254,564	625,622,923
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus	(0.070.157)	20 252 600	140 110 570
00	Line 28)	(8,9/0,15/)	20,253,608	143,113,572
30. 31.	Dividends to policyholders and refunds to members			
31.	income taxes (Line 29 minus Line 30)	(8,970,157)	20,253,608	143,113,572
32.	Federal and foreign income taxes incurred (excluding tax on capital gains)	(2,779,017)	3,635,192	19,687,471
33.	Net gain from operations after dividends to policyholders, refunds to members and federal income	(=,,	2,-22,-2	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
00.	taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(6, 191, 140)	16,618,416	123,426,101
34.	Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital			
	gains tax of \$618,878 (excluding taxes of \$629,424			
	transferred to the IMR)	2,014,389	(3,502,750)	(7,795,705)
35.	Net income (Line 33 plus Line 34)	(4,176,751)	13,115,666	115,630,396
	CAPITAL AND SURPLUS ACCOUNT			
36.	Capital and surplus, December 31, prior year	1,735,037,566	1,637,317,539	1,637,317,539
37.	Net income (Line 35)		13,115,666	115,630,396
38.		236,703,711		(23,662,221)
39.	Change in net unrealized foreign exchange capital gain (loss)	(25,750,349)	1,267,754	10,898,939
40.		(5,829,112)		
41.	Change in nonadmitted assets			
42.	Change in liability for reinsurance in unauthorized and certified companies			(2,273,207)
43.	Change in reserve on account of change in valuation basis, (increase) or decrease	0 540 050	0.004.040	/F 040 400\
44.	Change in asset valuation reserve			
45.	Change in treasury stock			
46.	Surplus (contributed to) withdrawn from Separate Accounts during period			
47. 48.	Other changes in surplus in Separate Accounts Statement			
49.	Cumulative effect of changes in accounting principles			
50.	Capital changes:			
55.	50.1 Paid in			
	50.2 Transferred from surplus (Stock Dividend)			
	50.3 Transferred to surplus			
51.	Surplus adjustment:		~ [
	51.1 Paid in			
	51.2 Transferred to capital (Stock Dividend)			
	51.3 Transferred from capital			
	51.4 Change in surplus as a result of reinsurance			
	Dividends to stockholders			
53.	Aggregate write-ins for gains and losses in surplus	(1,668,364)	(1,693,059)	(6,772,238)
	Net change in capital and surplus for the year (Lines 37 through 53)	246,319,976	26,118,098	97,720,027
55.	Capital and surplus, as of statement date (Lines 36 + 54)	1,981,357,541	1,663,435,637	1,735,037,566
	DETAILS OF WRITE-INS	440.000	F07 000	4 000 400
	Revenue sharing			1,933,420
	Miscellaneous	(3,094)	, , ,	(9, 187)
	Cummany of remaining write ing for Line 9.2 from gwerflow page			
	Summary of remaining write-ins for Line 8.3 from overflow page	410,589	505,592	1,924,233
00.399.	Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment			
2/01.	Miscellaneous charges to operations	105 801	(201 521)	(0,772,238) 201 A22
	wiscerraneous 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)	(1,472,473)	(1,894,640)	(5,780,816)
	Reinsurance ceded adjustment	(1,668,364)		
	neriisurance ceueu au justinerit			(0,772,236)
	Summary of remaining write-ins for Line 53 from overflow page			
	Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	(1,668,364)	(1,693,059)	(6,772,238)
		• '1		• • •

CASH FLOW

		1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
	Cash from Operations			
1.	Premiums collected net of reinsurance		81,019,826	293,369,635
2.	Net investment income	.,.,,	84,737,669	335,568,902
3.	Miscellaneous income	25,980,428	33,669,281	132,172,288
4.	Total (Lines 1 to 3)	191,317,298	199,426,776	761,110,825
5.	Benefit and loss related payments		182,259,849	636,337,930
6.	Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts			
7.	Commissions, expenses paid and aggregate write-ins for deductions			205,488,646
8. 9.	Dividends paid to policyholders Federal and foreign income taxes paid (recovered) net of \$ tax on capital			
Э.	gains (losses)			12,170,806
10.	Total (Lines 5 through 9)	172,512,723	210,486,143	700,137,968
11.	Net cash from operations (Line 4 minus Line 10)	18,804,575	(11,059,367)	60,972,857
11.	Net cash nom operations (Line 4 minus Line 10)	10,004,373	(11,039,307)	00,912,031
	Cash from Investments			
12.	Proceeds from investments sold, matured or repaid:			
	12.1 Bonds	204,641,241	130,229,727	909,875,542
	12.2 Stocks			
	12.3 Mortgage loans	20,329,226	19,099,658	88,704,427
	12.5 Other invested assets			
	12.6 Net gains or (losses) on cash, cash equivalents and short-term investments			
	12.7 Miscellaneous proceeds	75,280,112	(17,657,017)	(7,944,396
	12.8 Total investment proceeds (Lines 12.1 to 12.7)	303,506,346	131,558,975	1,039,077,529
13.	Cost of investments acquired (long-term only):			
	13.1 Bonds	, ,	230,065,310	, ,
		133 , 144		2,518,255
	13.3 Mortgage loans			
	13.4 Real estate			00.000.070
	13.5 Other invested assets	4,413,804	4,384,555	30,868,378
	13.6 Miscellaneous applications	(12,737,540)	(13,745,801)	21,636,944
	13.7 Total investments acquired (Lines 13.1 to 13.6)	304,271,290	248,771,419	798,830,94
14.	Net increase (or decrease) in contract loans and premium notes	2,682,500	1,158,487	1,511,026
15.	Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(3,447,444)	(118,370,931)	238,735,562
	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	(7,450,226)	(11,649,548)	(13,733,101
	16.5 Dividends to stockholders			
17	16.6 Other cash provided (applied)	242,990,599	(8,356,816)	(213,854,973
17.	Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	235,540,374	(20,006,364)	(227,588,074
	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)	250,897,505	(149,436,662)	72,120,345
19.	Cash, cash equivalents and short-term investments:			
	19.1 Beginning of year	463, 125, 060	391,004,715	391,004,715
	19.2 End of period (Line 18 plus Line 19.1)	714,022,565	241,568,053	463,125,060
	upplemental disclosures of cash flow information for non-cash transactions:			
20.000	D1. Bond conversions and refinancing		10,717,612	57,616,488 22,578
20.000	D2. Stock conversions	454,000	, .	22,578
	D4. Premium income recognized for group annuity contracts	· · · · · · · · · · · · · · · · · · ·	186,118	614,39
<u>-</u> U.UU	20. The Three-thank thouse payment the Kind builds	103,040	100,116	014,391

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

	DIRECT PREMIUMS AND DEPOSIT-TYPE	CONTRACTS	2 1	•
		1 Current Year	2 Prior Year	3 Prior Year Ended
		To Date	To Date	December 31
1.	Industrial life			
2.	Ordinary life insurance	47,429,126	48,679,711	185, 111, 141
3.	Ordinary individual annuities	247,892,382	346 , 282 , 627	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)	295,321,508	394,962,338	1,573,520,359
12.	Fraternal (Fraternal Benefit Societies Only)			
13.	Subtotal (Lines 11 through 12)	295,321,508	394,962,338	1,573,520,359
14.	Deposit-type contracts			
15.	Total (Lines 13 and 14)	295,321,508	394,962,338	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 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	\$ (4,176,751)	\$	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	\$ (4,176,751)	\$	115,630,396
SURPLUS						
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 1,981,357,541	\$	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	\$ 1,981,357,541	\$	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 three months ended March 31, 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, 51 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. 51 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.

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. 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 quidance.

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.

Note 3 - Business Combinations and Goodwill - No change

Note 4 - Discontinued Operations - No change

Note 5 - Investments

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

		(1)	(3)					
		Amortized		Re	cogniz	zed		
		Cost Basis			in Loss	S		
		Before	(2a)	(2	b)		Fair Value
		OTTI	Int	erest	Nor	n-interest		1-(2a+2b)
OTTI recognized in the first quarter								
a. Intent to sell	\$	_	\$	_	\$	_	\$	_
b. Inability or lack of intent to retain the investment	·		·		·		·	
in the security for a period of time sufficient to recover the amortized cost basis		0.705.507				400.004		0.040.470
	_	2,725,567				483,094	_	2,242,473
c. Total first quarter	\$	2,725,567	\$		\$	483,094	\$	2,242,473
OTTI recognized in the second quarter								
d. Intent to sell	\$	-	\$	-	\$	-	\$	-
e. Inability or lack of intent to retain the investment in the security for a period of time sufficient to								
recover the amortized cost basis		_		_		_		_
f. Total second quarter	\$		\$		\$		\$	
i. Total occord quartor	<u> </u>		<u> </u>		Ψ		<u> </u>	
OTTI recognized in the third quarter								
g. Intent to sell	\$	-	\$	-	\$	-	\$	-
h. Inability or lack of intent to retain the investment								
in the security for a period of time sufficient to								
recover the amortized cost basis		-				-		-
i. Total third quarter	\$	-	\$	-	\$	-	\$	-

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
Totals	\$ 2.725.567	\$ 2 242 473	\$ (483,094)	\$ 2 242 473	\$ 2 684 493	·

- (4) As of March 31, 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
 \$ (45,755,753)

 2. 12 months or longer
 \$ (11,731,318)

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

 1. Less than 12 months
 \$ 442,087,980

 2. 12 months or longer
 \$ 121,052,735

- (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 March 31, 2020.
- f. Repurchase agreements transactions accounted for as secured borrowing:
 - (1) The Company did not have any repurchase agreements as of March 31, 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 March 31, 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 March 31, 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 March 31, 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 March 31, 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 March 31, 2020.
- o. 5GI Securities:

	Investment	Number of 5G	I Securities	Aggregate	BACV	Aggregate F	air Value						
		Current Year	Prior Year	Current Year	Prior Year	or Year Current Year Pri							
(1)	Bonds - AC	45	43	\$43,002,546	\$44,724,121	\$40,348,294	\$44,671,172						
(2)	LB&SS - AC	1	1	2,368,590	2,435,608	2,271,250	2,291,778						
(3)	Preferred Stock - AC	2	3	2,058,000	2,062,868	3,213,451	3,223,153						
(4)	Preferred Stock - FV	2	1	70,230	66,454	70,230	66,454						
(5)	Total (1+2+3+4)	50	48	\$47,499,366	\$49,289,051	\$45,903,225	\$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:

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 in 2020.

Note 9 - Income Taxes

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security (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 - No change

Note 11 - Debt

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

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

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

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

Note 14 - Liabilities, Contingencies and Assessments

- a. Contingent commitments No change
- b. Assessments No change
- c. Gain contingencies No change
- d. Claims related to extra contractual obligations No change
- e. 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 three months ended March 31, 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:

			March 31, 2020	1	
				Net Asset Value	-
Financial assets:	Level 1	Level 2	Level 3	(NAV)	Total
Bonds:					
Industrial and miscellaneous	\$ -	\$ 5,747,069	\$ 9,867,448	\$ -	\$ 15,614,517
Preferred stocks	-	-	154,768	-	154,768
Common stock - subsidiary and affiliates	-	-	15,032,741	-	15,032,741
Common stock - unaffiliated	626,152	-	3,113,488	-	3,739,640
Derivatives:					
Interest rate swaps	-	1,120,202,098	-	-	1,120,202,098
Options	-	28,531,027	-	-	28,531,027
Currency swaps	-	103,104,775	-	-	103,104,775
Forward contracts	-	5,687,295	-	-	5,687,295
Financial futures	85,548,790	-	-	-	85,548,790
Separate account assets Total financial assets carried	1,443,353,785	<u>-</u>	<u>-</u>	<u>-</u>	1,443,353,785
at fair value	\$ 1,529,528,727	\$ 1,263,272,264	\$ 28,168,445	\$ -	\$ 2,820,969,436
Financial liabilities:					
Repurchase agreements Derivatives:					
Interest rate swaps	\$ -	\$ 1,107,254,126	\$ -	\$ -	\$ 1,107,254,126
Options	-	543,216	-	-	543,216
Currency swaps	-	136,629	-	-	136,629
Forward contracts	-	1,604,555	-	-	1,604,555
Credit default swaps Total financial liabilities carried	-	2,087	-	-	2,087
at fair value	\$ -	\$ 1,109,540,613	\$ -	\$ -	\$ 1,109,540,613
at fail value	Ψ -	ψ 1,103,040,010	Ψ	Ψ -	Ψ 1,100,040,010
			December 31, 20	19	
	Laural 4	11 0	11 0	Net Asset Value	Takal
Financial assets:	Level 1	Level 2	Level 3	(NAV)	Total
i ilialida assets.					
Ronde:					
Bonds:	\$	\$ 4.241.356	\$ 0.205.673	¢ _	¢ 13.537.020
Industrial and miscellaneous	\$ -	\$ 4,241,356	\$ 9,295,673	\$ -	\$ 13,537,029 148,754
Industrial and miscellaneous Preferred stocks	-	\$ 4,241,356 -	\$ 9,295,673 148,754	\$ -	148,754
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates	- 17,122,205	\$ 4,241,356 - -	148,754 -	\$ - -	148,754 17,122,205
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated	-	\$ 4,241,356 - - -		\$ - - -	148,754
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives:	- 17,122,205	- -	148,754 -	\$ - - -	148,754 17,122,205 3,834,806
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps	- 17,122,205	- - 465,963,255	148,754 -	\$ - - -	148,754 17,122,205 3,834,806 465,963,255
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options	- 17,122,205	- - 465,963,255 30,937,928	148,754 -	\$ - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps	- 17,122,205	465,963,255 30,937,928 35,513,162	148,754 -	\$	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts	- 17,122,205 305,512 - - -	- - 465,963,255 30,937,928	148,754 -	\$ - - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets	- 17,122,205	465,963,255 30,937,928 35,513,162	148,754 -	\$ - - - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried	- 17,122,205 305,512 - - - - 1,809,856,410	465,963,255 30,937,928 35,513,162 513,418	148,754 - 3,529,294 - - - -	- - - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets	- 17,122,205 305,512 - - -	465,963,255 30,937,928 35,513,162	148,754 -	\$	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value	- 17,122,205 305,512 - - - - 1,809,856,410	465,963,255 30,937,928 35,513,162 513,418	148,754 - 3,529,294 - - - -	- - - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities:	- 17,122,205 305,512 - - - - 1,809,856,410	465,963,255 30,937,928 35,513,162 513,418	148,754 - 3,529,294 - - - -	- - - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives:	- 17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127	465,963,255 30,937,928 35,513,162 513,418 - \$ 537,169,119	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps	- 17,122,205 305,512 - - - - 1,809,856,410	\$ 561,212,675	148,754 - 3,529,294 - - - -	- - - - - -	148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps Options	- 17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127	\$ 561,212,675 7-2	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967 \$ 561,212,675 7,713,197
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps Options Currency swaps	- 17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127	\$ 561,212,675 7,713,197 4,143,150	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967 \$ 561,212,675 7,713,197 4,143,150
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps Options Currency swaps Forward contracts	- 17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127	\$ 561,212,675 7,713,197 4,143,150 3,938,480	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967 \$ 561,212,675 7,713,197 4,143,150 3,938,480
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps Options Currency swaps Forward contracts Credit default swaps	17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127 \$ - - -	\$ 561,212,675 7,713,197 4,143,150	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967 \$ 561,212,675 7,713,197 4,143,150 3,938,480 4,485
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps Options Currency swaps Forward contracts Credit default swaps Financial futures - long positions	- 17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127	\$ 561,212,675 7,713,197 4,143,150 3,938,480	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967 \$ 561,212,675 7,713,197 4,143,150 3,938,480
Industrial and miscellaneous Preferred stocks Common stock - subsidiary and affiliates Common stock - unaffiliated Derivatives: Interest rate swaps Options Currency swaps Forward contracts Separate account assets Total financial assets carried at fair value Financial liabilities: Derivatives: Interest rate swaps Options Currency swaps Forward contracts Credit default swaps	17,122,205 305,512 - - - 1,809,856,410 \$ 1,827,284,127 \$ - - -	\$ 561,212,675 7,713,197 4,143,150 3,938,480	148,754 - 3,529,294 - - - - - - - - - - -		148,754 17,122,205 3,834,806 465,963,255 30,937,928 35,513,162 513,418 1,809,856,410 \$ 2,377,426,967 \$ 561,212,675 7,713,197 4,143,150 3,938,480 4,485

(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	Trans	sfers ⁽	1)	((Losses) in	(Losses) in						as of
	 01/01/2020	In		Out	1	Net Income	Surplus	-	Purchases	Issuances	Sales	Settlements	3/31/2020
Financial assets:													
Bonds:													
Industrial and miscellaneous	\$ 9,295,673	\$ 1,308,010	\$	(6,381)	\$	548	\$ (772,591)	\$	37,967	\$ 33,666	\$ -	\$ (29,445)	\$ 9,867,447
Preferred stocks	148,754	9,702		-		-	(6,058)		2,370	-	-	-	154,768
Common stocks - affiliated	-	17,122,205		-		-	(2,089,465)		-	-	-	-	15,032,740
Common stocks - unaffiliated	 3,529,294	-		-		128,154	(411,500)		132,450	14	-	(264,924)	3,113,488
Total financial assets	\$ 12,973,721	\$ 18,439,917	\$	(6,381)	\$	128,702	\$ (3,279,614)	\$	172,787	\$ 33,680	\$ -	\$ (294,369)	\$ 28,168,443

⁽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	•			Gains osses) in	Gains Losses) in	_				0-1		0-	***		Balance as of
	 01/01/2019	ın		Out	IN	et Income	Surplus	Р	urchases	ISS	uances	Sal	es	56	ttlements	12	/31/2019
Financial assets:																	
Bonds:																	
Industrial and miscellaneous	\$ 4,289,614	\$ 5,778,836	\$	-	\$	(165,862)	\$ (208,043)	\$	44,766	\$	-	\$ 1	08,894	\$	(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	\$	-	\$ 1	08,894	\$	(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:

_			Marc	ch 31, 2020			
						Net	Not
						Asset	Practicable
	Aggregate	Admitted				Value	(Carrying
	Fair Value	Assets	Level 1	Level 2	Level 3	(NAV)	Value)
Financial assets:							
Bonds:							
U. S. government and agencies	\$ 3,699,319	\$ 3,642,586	\$ -	\$ 3,699,319	\$ -	\$ -	\$ -
All other governments	1,471,183	1,319,297	-	1,471,183	-	-	-
States, territories and possessions	24,653,928	21,410,024	-	24,653,928	-	-	-
Political subdivisions	20,415,243	18,257,943	-	20,415,243	-	-	-
Special revenue	123,218,290	107,634,363	-	123,218,290	-	-	-
Industrial and miscellaneous	3,464,829,452	3,417,812,945	-	1,670,998,873	1,793,830,579	-	-
Parent, subsidiaries and affiliates	252,709,968	240,336,567	-	20,300,000	232,409,968	-	-
Preferred stocks	8,111,895	7,346,078	-	-	8,111,895	-	-
Common stock - subsidiary and affiliates ⁽¹⁾	15,032,741	15,032,741	-	-	15,032,741	-	-
Common stock - unaffiliated	3,739,640	3,739,640	626,152	-	3,113,488	-	-
Mortgage loans - commercial	871,754,926	823,350,119	-	-	871,754,926	-	-
Mortgage loans - residential	165,450,307	164,629,303	-	-	165,450,307	-	-
Cash, cash equivalents and							
short-term investments	714,022,565	714,022,565	35,960,542	678,062,023	-	-	-
Derivatives:							
Interest rate swaps	1,120,202,098	1,120,202,098	-	1,120,202,098	-	-	-
Options	28,531,027	28,531,027	-	28,531,027	-	-	-
Currency swaps	103,104,775	103,104,775	-	103,104,775	-	-	-
Forward contracts	5,687,295	5,687,295	-	5,687,295	-	-	-
Financial futures	85,548,790	85,548,790	85,548,790	-	-	-	-
Separate account assets	1,443,353,785	1,443,353,785	1,443,353,785	-	-	-	-
Financial liabilities:							
Individual annuity contracts	3,786,866,824	3,033,345,153	-	-	3,786,866,824	-	-
Supplementary contracts	74,423,040	73,686,178	-	-	74,423,040	-	-
Derivatives:							
Interest rate swaps	1,107,254,126	1,107,254,126	-	1,107,254,126	-	-	-
Options	543,216	543,216	-	543,216	-	-	-
Currency swaps	136,629	136,629	-	136,629	-	-	-
Forward contracts	1,604,555	1,604,555	-	1,604,555	-	-	-
Credit default swaps	2,087	2,087	-	2,087	-	-	-

⁽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 \$299,580,950

December 31, 2019 Net Not Asset Practicable Admitted Aggregate Value (Carrying Level 2 Fair Value Assets Level 1 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 Options 30,937,928 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 March 31, 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.

						Thre	ee Months Ended
_		M		March 31, 2020			
	Actual	Actual Carrying			Fair		
Alt-A:	Cost		Value		Value		OTTI
a. Residential mortgage-backed securities \$	15,300,850	\$	17,490,853	\$	16,530,398	\$	1,630
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	521,226	\$	635,114	\$	675,431	\$	-
f. Other assets	-		-		-		
g. Total	15,822,076	\$	18,125,967	\$	17,205,830	\$	1,630

^{*} 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.

		Dec	ember 31, 2019	9		Year Ended 27-Nov-98
	Actual		Carrying		Fair	
Alt-A:	Cost		Value		Value	OTTI
a. Residential mortgage-backed securitiesb. Commercial mortgage-backed securities	\$ 12,731,563	\$	14,951,778	\$	16,535,556	\$ 42,030
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 May 15, 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

General nature and characteristics of separate account business:

The Company has nonguaranteed separate accounts that are variable accounts where the benefit is determined by the performance and/or market value of the investments held in the separate account with incidental risk, notional expense and minimum death benefit guarantees.

Information regarding the separate accounts of the Company as of and for the three months ended March 31, 2020 is as follows:

			Index	Nonindexed Guarantee Less than/ Equal to 4%	Nonindexed Guarantee More than 4%	Nonguaranteed Separate Accounts	Total
(1)	Premiums, considerations or deposits for the three months ended March 31, 2020	\$	- \$	- \$	- \$	10,485,133 \$	10,485,133
		<u> </u>	·		·	, , ,	· · ·
	s at March 31, 2020						
(2) a.	For account with assets at:	\$	- \$	- \$	- \$	1,439,952,413 \$	1,439,952,413
а. b.	Nonpolicy liabilities	Ψ	- ψ -	- φ	- ψ -	3,401,371	3,401,371
C.	Amortized cost		_	-	-	-	-
d.	Total Reserves*	\$	- \$	- \$	- \$	1,443,353,784 \$	1,443,353,784
(2)	Du with drawal abarractoristics.						
(3) a.	By withdrawal characteristics: Subject to discretionary						
	withdrawal:	\$	- \$	- \$	- \$	- \$	-
	. With market value adjustment		-	-	-	-	-
2	· At book value without market value	е					
	adjustment and with current surrender charge of 5% or more		_	_	_	_	_
3	. At fair value		-	-	_	1,439,952,413	1,439,952,413
4	· Nonpolicy liabilities		-	-	-	3,401,371	3,401,371
	At book value, without market value adjustment and with current surrender charge of less than 5%		_	_	_	_	
6	Subtotal	\$	- \$	- \$	- \$	1,443,353,784 \$	1,443,353,784
b.	Not subject to discretionary withdrawal		_	-	<u>-</u>	<u>-</u>	-
C.	Total	\$	- \$	- \$	- \$	1,443,353,784 \$	1,443,353,784
(4)	Reserves for Assets Default Risk in Lieu of AVR	\$	- \$	- \$	- \$	- \$	_
		<u> </u>			<u>_</u>	<u> </u>	

^{*}Line 2(d) should equal Line 3(c)

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 the filing of Disclosure of Material Transactions with the State of Domicile, as required by the Model Act?] No [X]	
1.2	.2 If yes, has the report been filed with the domiciliary state?] No []	
2.1	Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity?] No [X]	
2.2	If yes, date of change:								
3.1	Is the reporting entity a member of an Insurance Holding Company is an insurer?						Yes [X]	No []	
3.2	Have there been any substantial changes in the organizational chart since the prior quarter end?] No [X]	
3.3	If the response to 3.2 is yes, provide a brief description of those cha	anges.							
3.4	Is the reporting entity publicly traded or a member of a publicly trade	ed group?					Yes []] No [X]	
3.5	If the response to 3.4 is yes, provide the CIK (Central Index Key) co	ode issued by the SEC for the entity	y/group.						_
4.1	Has the reporting entity been a party to a merger or consolidation of lf yes, complete and file the merger history data file with the NAIC.	uring the period covered by this sta	atement?	?			Yes []] No [X]	
4.2	If yes, provide the name of the entity, NAIC Company Code, and staceased to exist as a result of the merger or consolidation.	ate of domicile (use two letter state	abbrevi	ation) for any entity th	at has				
	1 Name of Entity	2 NAIC Company	y Code	3 State of Domicile					
5.	If the reporting entity is subject to a management agreement, includ in-fact, or similar agreement, have there been any significant chang If yes, attach an explanation.	ling third-party administrator(s), ma es regarding the terms of the agre	anaging (general agent(s), atto r principals involved?	rney- Ye	es [] No [?	X] N/A [
6.1	State as of what date the latest financial examination of the reporting	ng entity was made or is being made	de				12/3	1/2019	
6.2	State the as of date that the latest financial examination report becadate should be the date of the examined balance sheet and not the						12/3	1/2014	
6.3	State as of what date the latest financial examination report became the reporting entity. This is the release date or completion date of the date).	ne examination report and not the o	date of th	ne examination (balan	ce shee	t	05/3	1/2016	
6.4 6.5	By what department or departments? State of Connecticut Insurance Department Have all financial statement adjustments within the latest financial estatement filed with Departments?				Ye	es [] No [] N/A [X	
6.6	Have all of the recommendations within the latest financial examina	ation report been complied with?			Ye	s [X	.] No [] N/A [
7.1	Has this reporting entity had any Certificates of Authority, licenses of revoked by any governmental entity during the reporting period?	or registrations (including corporate	e registra	ution, if applicable) sus	pended	or	Yes []] No [X]	
7.2	If yes, give full information:								
8.1	Is the company a subsidiary of a bank holding company regulated b	by the Federal Reserve Board?					Yes [] No [X]	
8.2	If response to 8.1 is yes, please identify the name of the bank holding	ng company.							
8.3	Is the company affiliated with one or more banks, thrifts or securities	s firms?					Yes [X]] No []	
8.4	If response to 8.3 is yes, please provide below the names and locat regulatory services agency [i.e. the Federal Reserve Board (FRB), t Insurance Corporation (FDIC) and the Securities Exchange Commission	the Office of the Comptroller of the	Currence	cy (OCC), the Federal					
	1	2		3	4	5	6		
	Affiliate Name Baring International Investment Limited	Location (City, St	ale)	FRB (DCC I	FDIC	SEC		
	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 The MassMutual Trust Company, FSB	Springfield, MA Enfield, CT			VEQ		YES		
	THE MASSMULUAT TRUST COMPANY, FOD	Lillielu, VI			I EU				

GENERAL INTERROGATORIES

9.1	Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, similar functions) of the reporting entity subject to a code of ethics, which includes the following standards?	conal and professional	. Yes [X] No []
9.11	If the response to 9.1 is No, please explain:		
9.2 9.21	Has the code of ethics for senior managers been amended?		Yes [] No [X]
9.3 9.31	Have any provisions of the code of ethics been waived for any of the specified officers?		. Yes [] No [X]
	FINANCIAL		
10.1 10.2	Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? If yes, indicate any amounts receivable from parent included in the Page 2 amount:		
	INVESTMENT		
11.1 11.2 12. 13. 14.1 14.2	Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or oth use by another person? (Exclude securities under securities lending agreements.) If yes, give full and complete information relating thereto: Letter stock or securities restricted as to sale - excluding deposit with states Amount of real estate and mortgages held in other invested assets in Schedule BA: Amount of real estate and mortgages held in short-term investments: Does the reporting entity have any investments in parent, subsidiaries and affiliates? If yes, please complete the following:		56,861,325
		1 Prior Year-End Book/Adjusted Carrying Value	2 Current Quarter Book/Adjusted Carrying Value
	Bonds SPreferred Stock S		\$240,336,567
	Common Stock S		\$314,613,691
	Short-Term Investments	, ,	\$
	Mortgage Loans on Real Estate		\$
	All Other		\$69,735,021
	Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26)		\$624,685,279
14.28	Total Investment in Parent included in Lines 14.21 to 14.26 above	S	\$
15.1 15.2	Has the reporting entity entered into any hedging transactions reported on Schedule DB?		
16.	For the reporting entity's security lending program, state the amount of the following as of the current statement date	j.	
10.	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, Paris 1 and 2		
	16.3 Total payable for securities lending reported on the liability page		
			··· +

GENERAL INTERROGATORIES

 17. Excluding items in Schedule E - Part 3 - Special Deposits, real estate, mortgage loans and investments held physically in the reporting entity's offices, vaults or safety deposit boxes, were all stocks, bonds and other securities, owned throughout the current year held pursuant to a custodial agreement with a qualified bank or trust company in accordance with Section 1, III - General Examination Considerations, F. Outsourcing of Critical Functions, Custodial or Safekeeping Agreements of the NAIC Financial Condition Examiners Handbook?)[]
		1				2				
	Citibank N A	odian(s)	333 West 3/1t	h Stroot Now	Custodian Addr	ess				
17.2	location and a complete explanation:									
	1 Name(s)	2 Location(s)		(3 Complete Expla	nation(s)			
17.3 17.4	If yes, give full informa						Yes	[] No	[X]	
	1 Old Custo	odian	2 New Custodian	Date	3 of Change		4 Reason			
17.5	make investment deci	sions on behalf of t	vestment advisors, investment mather reporting entity. For assets the ment accounts"; "handle securi	at are manage	ed internally by					
		Name of Firm	or Individual							
	Barings LLC			A						
	17.5097 For those firm designated wi	ns/individuals listed ith a "U") manage i	I in the table for Question 17.5, do more than 10% of the reporting e	o any firms/ind ntity's invested	lividuals unaffi d assets?	liated with the re	eporting entity (i.e.	Yes	[] No	[X]
	17.5098 For firms/inditotal assets u	viduals unaffiliated nder management	with the reporting entity (i.e. desi aggregate to more than 50% of t	gnated with a the reporting e	"U") listed in the ntity's invested	ne table for Que d assets?	stion 17.5, does the	Yes	[] No	[X]
17.6	For those firms or inditable below.	viduals listed in the	e table for 17.5 with an affiliation o	code of "A" (af	filiated) or "U"	(unaffiliated), pr	ovide the information for	the		
	1		2			3	4		5 Investme	ant
	Central Registration								Managem	ent
	Depository Number	Paringo II C	Name of Firm or Individual		Legal Entity	Identifier (LEI)	Registered With		(IMA) File	ed
	162754	IFM Investors Pty	/ Ltd				SEC		NO	
	Have all the filing requ If no, list exceptions: At 03/31/2020, 6 issue	irements of the Pu s for 6 issuers did ne or more of the f	rposes and Procedures Manual c not meet the filing requirements of ollowing: Valid cusip/PPN, audite	of the NAIC Inv	vestment Analy	ysis Office been ures Manual. Th	followed?			
19.	a. Documentation security is not a b. Issuer or obligo c. The insurer has	necessary to permayailable. r is current on all c an actual expecta	porting entity is certifying the follo nit a full credit analysis of the sect contracted interest and principal p tion of ultimate payment of all cor GGI securities?	urity does not ayments.	exist or an NA st and principa	IC CRP credit ra	ating for an FE or PL	Yes	[X] No) []
20.	a. The security was b. The reporting er c. The NAIC Desig on a current priv d. The reporting er	s purchased prior to tity is holding capi nation was derived ate letter rating he tity is not permitted	reporting entity is certifying the fol o January 1, 2018. Ital commensurate with the NAIC of from the credit rating assigned by the insurer and available for to share this credit rating of the PLGI securities?	Designation ro by an NAIC CF r examination PL security w	eported for the RP in its legal of by state insura ith the SVO.	security. capacity as a NF ince regulators.	RSRO which is shown	Vos	[] No	. [Y 1
21.	By assigning FE to a S FE fund: a. The shares were b. The reporting er	Schedule BA non-reparted prior to the purchased prior to the tity is holding capital prior to the prior to th	egistered private fund, the reporti	ng entity is ce	rtifying the follo	owing elements security.	of each self-designated	res	[] NC) [X]
	January 1, 2019 d. The fund only or e. The current repo in its legal capac f. The public credit	predominantly hol orted NAIC Designa city as an NRSRO. rating(s) with annu	ds bonds in its portfolio. ation was derived from the public ual surveillance assigned by an N	credit rating(s	s) with annual s	surveillance assi	igned by an NAIC CRP			
			Schedule BA non-registered priva			he above criteria	a?	Yes	[X] No) []

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	.\$
	1.13 Commercial Mortgages	.\$823,350,118
	1.14 Total Mortgages in Good Standing	.\$987,979,421
	1.2 Long-Term Mortgages In Good Standing with Restructured Terms	
	1.21 Total Mortgages in Good Standing with Restructured Terms.	.\$
	1.3 Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months	
	1.31 Farm Mortgages	.\$
	1.32 Residential Mortgages	.\$
	1.33 Commercial Mortgages	.\$
	1.34 Total Mortgages with Interest Overdue more than Three Months	.\$
	1.4 Long-Term Mortgage Loans in Process of Foreclosure	
	1.41 Farm Mortgages	.\$
	1.42 Residential Mortgages	.\$
	1.43 Commercial Mortgages	.\$
	1.44 Total Mortgages in Process of Foreclosure	.\$
1.5	Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2)	.\$\$
1.6	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	<u> </u>
	2.2 A&H cost containment percent	%
	2.3 A&H expense percent excluding cost containment expenses	%
3.1	Do you act as a custodian for health savings accounts?	Yes [] No [X]
3.2	If yes, please provide the amount of custodial funds held as of the reporting date	.\$
3.3	Do you act as an administrator for health savings accounts?	Yes [] No [X]
3.4	If yes, please provide the balance of the funds administered as of the reporting date	.\$
4.	Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states?	Yes [X] No []
4.1	If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity?	Yes [] No []
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?	
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
NAIC					Type of	Type of		Reinsurer	Certified
NAIC Compan	y ID	Effective		Domiciliary	Reinsurance	Business		Rating	Reinsurer
Code	Number	Date	Name of Reinsurer	Jurisdiction	Ceded	Ceded	Type of Reinsurer	(1 through 6)	Rating
82627	06-0839705	10/29/2019	Swiss Re Life & Health America (SRI3)	MO		XXXL	Authorized		
82627	06-0839705	10/29/2019	Swiss Re Life & Health America (SRI4)	MO		XXXL	Authorized		

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS Current Year To Date - Allocated by States and Territories Direct Business Only Life Contracts Accident and Health Insurance Premiums, Active Including Policy, Membership Total Deposit-Type Contracts Life Insurance Annuity Other Columns Considerations2, 115,805 2 Through 52,717,735 States, Etc and Other Fees Considerations Alabama AL 2. Alaska ΑK 12.256 2.100 14 356 Arizona .753,078 .1, 171, 167 1,924,245 ΑZ 4. Arkansas 109,328 1.302.494 1,411,822 5. California 5.267.538 20.508.470 25.776.008 CA 6. 7. ..2,578,347 Colorado СО 512,167 .3,090,514 Connecticut СТ 1.102.933 7.357.401 8.460.334 48,985 .2,230,078 2,279,063 DE District of Columbia 9. DC 369 628 503 067 872 695 10. Florida 4,953,659 .22,733,541 27,687,200 FL 1, 138, 740 4,544.322 11 Georgia GΑ 5 683 062 12. 1,002,325 Hawaii 556,399 1,558,724 ΗΙ 13. Idaho 61,673 596.496 658, 169 ID 14. Illinois Ш 1.297.018 11.180.471 12.477.489 Indiana 860,776 4,724,099 IN 16. lowa. IΑ 308.493 2.518.043 2.826.536 17. 350, 173 Kansas ..1,397,582 1,747,755 KS 18. Kentucky ΚY 262.943 781.226 1.044.169 4,262,498 19. 346, 162 3.916.336 Louisiana LA 20. Maine ME .85,737 .628,221 713,958 21. Maryland MD 1.635.296 5.171.345 6.806.641 Massachusetts 22 1,239,782 .9,883,592 .11, 123, 374 MΑ 23. Michigan МІ 1 049 793 12 093 141 13 142 934 Minnesota 1,551,506 .4,734,720 ..6,286,226 MN 25. Mississippi 618,410 817,959 1,436,369 MS 26. Missouri . .5. 182. 151 MO .540.673 5.722.824 Montana 93, 194 27. 635,629 728,823 MT 28. Nebraska NE 147 347 1 711 855 1 859 202 .473,056 .604,748 1,077,804 NV 30. New Hampshire NH 307 225 3 008 896 .3.316.121 New Jersey 31. 2,592,461 16,419,148 .19,011,609 NJ 1,308.234 32 New Mexico 105 997 .1,202,237 NM 33. New York NY 1,515,065 .23, 128 1,538,193 34. North Carolina NC 1,577,716 .7,576,265 .9, 153, 981 35. North Dakota ND 7.136 714.120 721.256 1, 115, 122 .8,106,263 9,221,385 OH 37 Oklahoma OK 428 875 282 107 710 982 2,141,262 38. Oregon. 238,859 2,380,121 OR 2,450.876 39 Pennsylvania РΑ 22.470.667 24,921,543 Rhode Island 40. 1.782.299 RI 159.874 1.622.425 41 South Carolina 702,276 2,350,348 3,052,624 42. South Dakota SD 25.834 675.887 701.721 43. 14, 107, 795 898,653 13,209,142 ΤN 44. Texas ΤX 3 823 179 12 948 641 16 771 820 45. Utah. ..1,834,819 398,403 2,233,222 UT 46. Vermont 118,650 .565,839 684.489 47. Virginia . .10.183.142 .11.521.461 VA 1.338.319 48 Washington 673,502 2,785,173 .3,458,675 WA West Virginia 49. WV 166 825 915 777 1 082 602 50. Wisconsin .435, 166 .5,763,212 ..6, 198, 378 W١ 51. Wyoming WY 31 139 176.200 207 339 52. American Samoa AS 53 Guam GŪ 60 60 Puerto Rico 1,063,559 54. 812,608 .250,951 PR 55. U.S. Virgin Islands ۷I .449 56. Northern Mariana Islands MP N 57. CAN .3,284 58. Aggregate Other Aliens ... XXX 14 499 40 002 54 501 OT 247,892,382 59. 46,290,725 294, 183, 107 XXX. 90. Reporting entity contributions for employee benefit Dividends or refunds applied to purchase paid-up 91. XXX additions and annuities. additions and annuities......

Dividends or refunds applied to shorten endowment or premium paying period...

Premium or annuity considerations waived under disability or other contract provisions.... 92. XXX 93. XXX .418,006 418,006 94. Aggregate or other amounts not allocable by State. XXX 95. Totals (Direct Business)... XXX .46,708,731 .247,892,382 .294,601,113 96. Plus Reinsurance Assumed. XXX 97 Totals (All Business)... .247,892,382 46,708,731 294,601,113 XXX Less Reinsurance Ceded......
Totals (All Business) less Reinsurance Ceded 98 31 406 733 181 318 955 212 725 688 15,301,998 99. XXX 66,573,427 81,875,425

94 above)
(a) Active Status Counts:

58001.

58002

58003

58998.

58999

9401

9402

9403.

9498.

9499.

DETAILS OF WRITE-INS

58998)(Line 58 above)

Summary of remaining write-ins for Line 58 from

Summary of remaining write-ins for Line 94 from

Totals (Lines 9401 through 9403 plus 9498)(Line

Totals (Lines 58001 through 58003 plus

ZZZ Other Alien

overflow page

overflow page

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

XXX

54.501

54,501

14 499

14,499

40.002

40,002

R - Registered - Non-domiciled RRGs....

Q - Qualified - Qualified or accredited reinsurer.

PART 1 – ORGANIZATIONAL CHART

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

	Federal Tax ID	NAIC Co Code	State of Domicile
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
	06-1041383	93432	Connecticut
	43-0581430	70416	Connecticut
,	06-1041383		Delaware
	None		India
	None		Netherlands
1	None		Delaware
	None		Delaware
	04-1590850		Delaware
\mathbf{I}	None		Delaware
	47-5322979		Delaware
	None		Delaware
	None		Delaware
,	None		Delaware
	04-1590850		Delaware
	04-1590850		Delaware
$1 - \mathcal{J}$	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
	None		Delaware
	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
	27-0105644		Delaware
	None		Delaware
	None		Delaware
	None		Maryland
	None		Delaware
JFAM GP LP	None		Delaware
	None		Delaware
	None		Delaware
e	None		Delaware
JFIN Revolver Holdings LLC	None		Delaware

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

	Federal Tax ID	NAIC Co Code	State of Domicile
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN High Yield Investments LLC	None		Delaware
JFIN 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-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2018 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019 Ltd.	None		Cayman Islands
JFIN Revolver 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.*	None		Cayman Islands
MassMutual Mortgage Lending LLC	None		Delaware
MassMutual Retirement Services, LLC	04-1590850		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML 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

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

	Federal Tax ID NAIC Co C	ode State of Domicile
MMAF Equipment Finance LLC 2018-A	82-5335801	Delaware
MMAF Equipment Finance LLC 2019-A	83-3722640	Delaware
		Delaware Delaware
MMAF Equipment Finance LLC 2019-B	None	
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
MM Rothesay Holdco US LLC	04-1590850	Delaware
MML Investors Services, LLC	04-1590850	Massachusetts
MML Insurance Agency, LLC	04-1590850	Massachusetts
MMLISI Financial Alliances, LLC	41-2011634	Delaware
LifeScore Labs, LLC	47-1466022	Massachusetts
MM Asset Management Holding LLC	45-4000072	Delaware
Barings LLC	51-0504477	Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271	Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465	Bermuda
Baring Asset Management (Asia) Limited	98-0457463	Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None	Korea
Barings Investment Management (Shanghai) Limited	None	Hong Kong, Special Administrative Region of China
Barings Overseas Investment Fund Management (Shanghai) Limited	None	Hong Kong, Special Administrative Region of China
Baring SICE (Taiwan) Limited	98-0457707	Taiwan ROC
Barings Japan Limited	98-0236449	Japan
Barings Australia Holding Company Pty Ltd	None	Australia
Barings Australia Pty Ltd Barings Australia Pty Ltd	98-0457456	Australia
Barings Finance LLC	80-0875475	Delaware
Daings Finance LLC	00-00/34/3	Delawate

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

	Federal Tax ID	NAIC Co Code	State of Domicile
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
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 Sà.r.1	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 Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund Limited Almack Mezzanine Fund II Limited	None		United Kingdom
Annack Mezzanine Fund it Limited	None		United Kingdom

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Multifamily Capital Holdings LLC	None		Delaware
Barings Multifamily Capital LLC	None		Michigan
Barings Multifamily Capital Corporation	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC*	81-4258759		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
Tamiami 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 Royalty 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	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Capital Investment LLC	None		Maryland
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Babson Global Loan Feeder Management, LLC	None		Delaware
Barings ABIF SLP, LLC	None		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Core Property Fund GP LLC	None		Delaware
Barings Direct Lending GP Ltd.	None		Cayman Islands
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings Multi Asset Income Fund	None		Hong Kong
Barings North American Private Loan Fund Management, LLC	None		Delaware

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

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

	Federal Tax ID	NAIC Co Code	State of Domicile
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
Cornerstone Hotel Fund GP, LLC	None		Delaware
CREF X GP LLC	None		Delaware
CREF VIII GP, LLC	None		Delaware
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Loan Strategies Management LLC	04-1590850		Delaware
Mezzco 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
HarborTech (Asia) Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MML Mezzanine Investor II, LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
Other Affiliates & Funds:			
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
2160 Grand Manager LLC	04-1590850		Delaware
300 South Tryon LLC	04-1590850		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Almack Mezzanine Fund III LP*	None		United Kingdom

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Barings Affordable Housing Mortgage Fund I LLC	82-3468147		Delaware
Barings Affordable Housing Mortgage Fund II LLC	61-1902329		Delaware
Barings Asset-Based Income Fund (US) LP	36-4868350		Delaware
Barings Emerging Markets Corporate Bond Fund	None		Ireland
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
Barings CLO 2019-I	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
Barings CLO 2019-III	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		Luxembourg
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands
Barings Middle Market CLO 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

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

Branus Foorgy Vennues L. L. P.		Federal Tax ID NAIC Co Code	State of Domicile
Benchmark 2018-B2 Moragage Trust	Braemar Energy Ventures I, L.P. *	None	Delaware
Benchmark 2018-B4 Seach	Barings European Core Property Fund SCSp	None	Luxembourg
Benchmark 2018-B8 38-4096530 New York Bariasclom Port ILC 041-509850 Delaware Barings Core Property Fund LP 20-5578089 Delaware Comerstone Real Estate Fund XI LP 27-0547156 Delaware Comerstone Real Estate Fund XI LP 35-2531693 Massachusetts Comerstone Permanent Mortgage Fund III LLC 35-2531693 Massachusetts Comerstone Permanent Mortgage Fund IV LLC 61-1793735 Massachusetts Gateway Mazzanine Partors II LP* 90-0991195 Delaware Great Lakes III, LP. 37-1708623 Delaware Great Lakes III, LP. 37-1708623 Delaware Great Lakes III, LP. 38-4041011; 38-4041012 New York JPMDC Commercial Mortgage Securities Trust 2017-C5 38-4032099 New York KR.P.M. Vector LP 81-1152991 Delaware Marco Hotel LLC 46-4255307 Delaware Miani Douglas Two GP LLC* 46-4255307 Delaware Miani Douglas Two GP LLC* 41-590850 Delaware Miani Douglas Two GP LLC* 45-205222 Delaware	Benchmark 2018-B2 Mortgage Trust	38-4059932	New York
Braselon Point LLC 04-1590850 Delaware Barings Core Property Fund LP 20-5578089 Delaware Cornerstone Real Estate Fund WILLP 45-5423-619 Delaware Cornerstone Fermanent Mortgage Fund III LLC 35-2531693 Massachusetts Cornerstone Permanent Mortgage Fund IV LLC 61-1793735 Massachusetts Gateway Mezzatine Partners II LP* 37-1708633 Delaware Great Lakes III, L.P 37-1708633 Delaware JPMCD Commercial Mortgage Securities Trust 2017-P7 38-4041011; 38-4041012 Nev York JPMDB Commercial Mortgage Securities Trust 2017-C5 38-4032059 Nev York KR-MM Vector LP 82-1512291 Delaware Marce Hotel LLC 46-425307 Delaware Miami Douglas Two GP LLC* 46-190880 Delaware Miami Douglas Two GP LLC* 41-190880 Delaware Miami Douglas Two GP LLC 41-190880 Delaware Miami Douglas Two GP LLC 41-190880 Delaware Miami Douglas Two GP LLC 41-290800 Delaware Miami Douglas Two GP LLC 81-300420 Delaware<	Benchmark 2018-B4	None	New York
Barings Core Property Fund LP 20.5578089 Delaware Cornerstone Real Estate Fund X LP 46.5432619 Delaware Cornerstone Pean Estate Fund X LP 46.5432619 Massenbuests Cornerstone Permanent Mortgage Fund III LLC 51.753169 Massenbuests Cornerstone Permanent Mortgage Fund IV LLC 61.1793735 Massenbuests Gateway Mezanine Patners IL LP* 90.0991195 Delaware Great Lakes III, LP. 37.1708623 Delaware JPMDC Commercial Mortgage Securities Trust 2017-IP7 38.40401011 New York JPMDE Commercial Mortgage Securities Trust 2017-C5 38.402059 New York KRR-MM Vector LP 46.4255307 Delaware Marco Hotel LLC 46.4255307 Delaware Marco Hotel LLC 46.4255307 Delaware Miami Douglas One GP LLC* 41.500850 Delaware Miami Douglas Two GP LLC* 41.500850 Delaware Miami Douglas Two GP LLC 45.3623362 Delaware Miami Douglas Two GP LLC 41.500850 Delaware RB Apartments LLC 82.4411267 Delaware </td <td>Benchmark 2018-B8</td> <td>38-4096530</td> <td>New York</td>	Benchmark 2018-B8	38-4096530	New York
Comerstone Real Estata Fund VIII LP 27-04/156 Delaware Comerstone Permanent Mortgage Fund III LLC 35-231/693 Massachusetts Comerstone Permanent Mortgage Fund IV LLC 61-1793/735 Massachusetts Gateway Mezzanine Partners II LP* 90-090/1955 Delaware Gata Lakes III, L.P. 37-1708623 Delaware JPMCC Commercial Mortgage Securities Trust 2017-JP7 38-401/011; 38-404/012 New York JPMDB Commercial Mortgage Securities Trust 2017-C5 38-403/039 New York KKR-MM Vector LP 82-1512591 Delaware KKR-MM Vector LP 46-4255307 Delaware Marco Hotel LLC 46-4255307 Delaware Miami Douglas Two GP LLC* 41-590850 Delaware Miami Douglas Two GP LLC* 49-1590850 Delaware Mimim Douglas Two GP LLC 45-3632262 Delaware Mimim Douglas Two GP LLC 45-3632262 Delaware Mimim Douglas Two GP LLC 41-590850 Delaware Mimim Douglas Two GP LLC 41-200820 Delaware Mim Debt Farticipations LLC 81-300420 Delaware </td <td>Braselton Point LLC</td> <td>04-1590850</td> <td>Delaware</td>	Braselton Point LLC	04-1590850	Delaware
Comerstone Real Estata Fund VIII LP 27-04/156 Delaware Comerstone Permanent Mortgage Fund III LLC 35-231/693 Massachusetts Comerstone Permanent Mortgage Fund IV LLC 61-1793/735 Massachusetts Gateway Mezzanine Partners II LP* 90-090/1955 Delaware Gata Lakes III, L.P. 37-1708623 Delaware JPMCC Commercial Mortgage Securities Trust 2017-JP7 38-401/011; 38-404/012 New York JPMDB Commercial Mortgage Securities Trust 2017-C5 38-403/039 New York KKR-MM Vector LP 82-1512591 Delaware KKR-MM Vector LP 46-4255307 Delaware Marco Hotel LLC 46-4255307 Delaware Miami Douglas Two GP LLC* 41-590850 Delaware Miami Douglas Two GP LLC* 49-1590850 Delaware Mimim Douglas Two GP LLC 45-3632262 Delaware Mimim Douglas Two GP LLC 45-3632262 Delaware Mimim Douglas Two GP LLC 41-590850 Delaware Mimim Douglas Two GP LLC 41-200820 Delaware Mim Debt Farticipations LLC 81-300420 Delaware </td <td>Barings Core Property Fund LP</td> <td>20-5578089</td> <td>Delaware</td>	Barings Core Property Fund LP	20-5578089	Delaware
Cornestone Permanent Mortgage Fund III LLC 35.2531693 Massachusetts Cornestone Permanent Mortgage Fund IV LLC 61-1793735 Massachusetts Gateway Mezzanine Parmers II LP* 90-0991195 Delaware Great Lakes III, L.P. 37-1708623 Delaware IPMDC Commercial Mortgage Securities Trust 2017-IP7 38-40-1011; 38-4041011 New York IPMDB Commercial Mortgage Securities Trust 2017-C5 38-40-2059 New York KRR-MM Vector LP 46-4255307 Delaware Marco Hotel LLC 46-4255307 Delaware Marno Hotel LLC 46-1590850 Delaware Miami Douglas Two GP LLC* 04-1590850 Delaware Miami Douglas Two GP LLC* 45-562362 Delaware HB Naples Golf Owner LLC 45-562362 Delaware HB Naples Golf Owner LLC 45-362362 Delaware RB Apartments LLC 82-4411267 Delaware Reston Arboretum LLC 35-290160 Delaware Rookall CLO B.V. None United Kingdom Rookall CLO B.V. None United Kingdom Rookall		27-0547156	Delaware
Comerstone Permanent Mortgage Fund IV LLC 61-1793735 Massachusetts Gateway Mezanine Patters II LP* 37-1708623 Delaware Grest Lakes III, LP. 37-1708623 Delaware JPMCC Commercial Mortgage Securities Trust 2017-DP7 38-4041011; 38-4041012 New York JPMDB Commercial Mortgage Securities Trust 2017-CS 38-4041011; 38-4041012 New York KKR-MM Vector LP 82-1512591 Delaware KKR-MM Vector LP 46-4255007 Delaware Miami Douglas One GP LLC* 04-1590850 Delaware Miami Douglas Two GP LLC* 04-1590850 Delaware Mami Douglas Two LP* 04-1590850 Delaware MB Naples Golf Owner LLC 04-1590850 Delaware MB Det Participations LLC 81-300420 Delaware Reston Arboretum LLC 75-290161 Delaware Reston Arboretum LLC 75-290161 Delaware Rockall CLO B.V. None United Kingdom Rockall CLO B.V. None United Kingdom Somerest Special Opportunities Fund L.P.* 20-8856877 Delaware	Cornerstone Real Estate Fund X LP	46-5432619	Delaware
Gateway Mezzanine Partners II LP* 90-0991195 Delaware Great Lakes III, LP. 37-1708623 Delaware JPMCC Commercial Mortgage Securities Trust 2017-JP7 38-4041011; 38-4041012 New York JPMDE Commercial Mortgage Securities Trust 2017-C5 38-4032059 New York KRR-MM Vector LP 42-1512591 Delaware Marco Hotel LLC 46-4255307 Delaware Mamin Douglas One GP LLC* 04-1590850 Delaware Miami Douglas Two GP LLC* 04-1590850 Delaware Miami Douglas Two GP LLC 04-1590850 Delaware HB Naples Golf Owner LLC 04-1590850 Delaware HB Naples Golf Owner LLC 81-3000420 Delaware HB Naples Golf Owner LLC 81-3000420 Delaware RB Apartments LLC 81-3000420 Delaware RB Apartments LLC 75-2901061 Delaware Rockall CLO B.V. None United Kingdom Rockall CLO B.V. None United Kingdom Rockall CLO B.V. None United Kingdom Rockall CLO B.V. None	Cornerstone Permanent Mortgage Fund III LLC	35-2531693	Massachusetts
Great Lakes III, L.P. 37-1708623 Delaware IPMCC Commercial Mortgage Securities Trust 2017-DF3 38-4041011; 38-4041012 New York IPMDE Commercial Mortgage Securities Trust 2017-C5 38-4032059 New York KKR-MM Vector LP 42-1512591 Delaware Miarm Douglas One GP LLC* 46-4255307 Delaware Miami Douglas Two GP LLC* 04-1590850 Delaware Miami Douglas Two GP LLC 45-3623262 Delaware Miami Douglas Two GP LLC 81-3000420 Delaware MB Debt Participations LLC 81-3000420 Delaware RB Apartments LLC 82-4411267 Delaware RB Apartments LLC 82-4411267 Delaware Rockville Town Center LLC 52-901061 Delaware Rockville Town Center LLC 52-2058778 Virginia South-Point Industrial LLC 92-8856877 Delaware Tower Square Capit	Cornerstone Permanent Mortgage Fund IV LLC	61-1793735	Massachusetts
Great Lakes III, LP. 37.1708623 Delaware IPMCC Commercial Mortgage Securities Trust 2017-P7 38.4041011; 38.4041012 New York IPMDB Commercial Mortgage Securities Trust 2017-C5 38.4032059 New York KKR-MM Vector LP 82.1512591 Delaware Miami Douglas One GP LLC* 64.425307 Delaware Miami Douglas Two GP LLC* 04.1590850 Delaware Miami Douglas Two GP LLC 04.1590850 Delaware Miami Douglas Two GP LLC 04.1590850 Delaware MM Debt Participations LLC 81.3000420 Delaware MB Apartments LLC 82.4411267 Delaware RB Apartments LLC 82.4411267 Delaware Rockvill Town Center LLC 52.901061 Delaware Rockvill Town Center LLC 54.2055778 Virginia SouthPoint Industrial LLC 92.8856877 Delaware SouthPoint Industrial LL		90-0991195	Delaware
PMDB Commercial Mortgage Securities Trust 2017-C5 38.4032059 New York KKR-MM Vector LP		37-1708623	Delaware
PMDB Commercial Mortgage Securities Trust 2017-C5 Save Mork KKR-MM Vector LP	JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012	New York
KR-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 HB Naples Golf Owner LLC 81-3000420 Delaware RB Apartments LLC 81-3000420 Delaware RB Apartments LLC 81-3000420 Delaware Rest on Arboretum LLC 75-2901061 Delaware Rockall CLO B.V. None United Kingdom Rockall CLO B.V. None <		38-4032059	New York
Marco Hotel LLC 46-4255307 Delaware Miami Douglas Two GP LLC* 041590850 Delaware Miami Douglas Two LP* 041590850 Delaware Miami Douglas Two LP* 041590850 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.* 54-2055778 Delaware SouthPointe Industrial LLC 94-1590850 Delaware SouthPointe Industrial LLC 35-2553915 Delaware Tower Square Capital Partners II, L.P.* 30-0336246 Delaware Tower Square Capital Partners III, L.P. 30-0336246 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital		82-1512591	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 Rockrill Fown Center LLC 54.2055778 Virgina Somerset Special Opportunities Fund L.P.* 20.8856877 Delaware SouthPointe Industrial LLC 04.1590850 Delaware Ten Fan Pier Boulevard LLC 30.0336246 Delaware Tower Square Capital Partners II, L.P.* 30.0336246 Delaware Tower Square Capital Partners III, L.P. 41.2280127 Delaware Tower Square Capital Partners III, L.P. 41.2280127 Delaware Tower Square Capital Partners IVA, L.P. 41.2280129 Delaware Tower Square Capital Partners IVA, L.P. 41.2280129 Delaware Tower Square Capital Partners IVA, L.P. 41.2280129 Delaware <td>Marco Hotel LLC</td> <td></td> <td>Delaware</td>	Marco Hotel LLC		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 Rockrill Fown Center LLC 54.2055778 Virgina Somerset Special Opportunities Fund L.P.* 20.8856877 Delaware SouthPointe Industrial LLC 04.1590850 Delaware Ten Fan Pier Boulevard LLC 30.0336246 Delaware Tower Square Capital Partners II, L.P.* 30.0336246 Delaware Tower Square Capital Partners III, L.P. 41.2280127 Delaware Tower Square Capital Partners III, L.P. 41.2280127 Delaware Tower Square Capital Partners IVA, L.P. 41.2280129 Delaware Tower Square Capital Partners IVA, L.P. 41.2280129 Delaware Tower Square Capital Partners IVA, L.P. 41.2280129 Delaware <td>Miami Douglas One GP LLC*</td> <td>04-1590850</td> <td>Delaware</td>	Miami Douglas One GP LLC*	04-1590850	Delaware
HB Naples Golf Owner LLC 45-3623262 Delaware MM Debt Participations LLC 81-300420 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 35-2553915 Delaware Ten Fan Pier Boulevard LLC 35-2553915 Delaware Tower Square Capital Partners II, L.P.* 30-0336246 Delaware Tower Square Capital Partners III, L.P. 32-0160190 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners III, A.P. 41-2280127 Delaware Tower Square Capital Partners III, A.P. 41-2280129 Delaware Tower Square Capital Partners III, A.P. 41-2280129 Delaware Washington Gateway Two LLC* 83-032574 De			Delaware
HB Naples Golf Owner LLC 45-3623262 Delaware MM Debt Participations LLC 81-300420 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 SouthPoint Industrial LLC 35-2553915 Delaware Ten Fan Pier Boulevard LLC 35-2553915 Delaware Tower Square Capital Partners II, L.P.* 30-0336246 Delaware Tower Square Capital Partners III, L.P. 32-0160190 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners III, A.P. 80-0920367 Delaware Trailside MM Member LLC* 81-302574 Delaware Washington Gateway Two LLC* 83-1325764 Delaware Washington Gateway Three LLC* 05-1590850 Delaware	Miami Douglas Two LP*	04-1590850	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 II, L.P.* 30-0336246 Delaware Tower Square Capital Partners III, L.P. 32-0160190 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners IIIA, L.P. 41-2280127 Delaware Tower Square Capital Partners IIIA, L.P. 80-0920367 Delaware Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Twashington Gateway Two LLC* 83-1325764 Delaware Washington Gateway Two LLC* 32-0574045 Delaware West 46th Street Hotel LLC 32-0574045 Delaware West 46th Street Hotel LLC 51-590850 Delawar		45-3623262	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 II, L.P.* 30-0336246 Delaware Tower Square Capital Partners III, L.P. 32-0160190 Delaware Tower Square Capital Partners IIII, L.P. 41-2280127 Delaware Tower Square Capital Partners IIIA, L.P. 41-2280127 Delaware Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Washington Gateway Two LLC* 83-1325764 Delaware Washington Gateway Two LLC* 32-0574045 Delaware West 46th Street Hotel LLC 32-0574045 Delaware West 46th Street Hotel LLC 51-590850 Delawar		81-3000420	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 II, L.P.* 30-0336246 Delaware Tower Square Capital Partners II-A, L.P. 41-2280129 Delaware Tower Square Capital Partners III, L.P. 41-2280129 Delaware Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Washington Gateway Two LLC* 80-0920367 Delaware Washington Gateway Two LLC* 81-325764 Delaware Washington Gateway Three LLC* 32-0574045 Delaware West 46th Street Hotel LLC 05-1590850 Delaware West 46th Street Hotel LLC None Ireland		82-4411267	Delaware
Rockville Town Center LLC Somerset Special Opportunities Fund L.P.* Somerset Special Opportunities Fund L.P.* SouthPointe Industrial LLC Od-1590850 Delaware SouthPointe Industrial LLC	Reston Arboretum LLC	75-2901061	Delaware
Rockville Town Center LLC Somerset Special Opportunities Fund L.P.* Somerset Special Opportunities Fund L.P.* SouthPointe Industrial LLC Od-1590850 Delaware SouthPointe Industrial LLC	Rockall CLO B.V.	None	United Kingdom
Somerset Special Opportunities Fund L.P.* 20-8856877 Delaware SouthPointe Industrial LLC 04-190880 Delaware Ten Fan Pier Boulevard LLC 35-2553915 Delaware Tower Square Capital Partners II, L.P.* 30-0336246 Delaware Tower Square Capital Partners III, L.P. 32-0160190 Delaware Tower Square Capital Partners III, L.P. 41-2280127 Delaware Tower Square Capital Partners IIV-A, L.P. 41-2280129 Delaware Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Trailside MM Member LLC* 80-0920367 Delaware Washington Gateway Two LLC* 83-1325764 Delaware Washington Gateway Three LLC* 32-0574045 Delaware West 46th Street Hotel LLC 05-1590850 Delaware Affiliates & Funds: Teland None Ireland	Rockville Town Center LLC	54-2055778	
Ten Fan Pier Boulevard LLC Tower Square Capital Partners II, L.P.* Tower Square Capital Partners II, L.P.* Tower Square Capital Partners II-A, L.P. Tower Square Capital Partners III-A, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners IIIA, L.P. Tower Square Capital Partners III-A, L.P. Tower Square Capital Partners IV-A, L.P. Trailside MM Member LLC* Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Three LLC* West 46th Street Hotel LLC West 46th Street Hotel LLC West 46th Street Hotel LLC Mone Mone Mone Ireland	Somerset Special Opportunities Fund L.P.*	20-8856877	
Tower Square Capital Partners II, L.P.* Tower Square Capital Partners II-A, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners IIIIA, L.P. Tower Square Capital Partners IIIIA, L.P. Tower Square Capital Partners IIIA, L.P. Tower Square Capital Partners IV-A, L.P. Trailside MM Member LLC* Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Three LLC* West 46th Street Hotel LLC West 46th Street Hotel LLC Barings Emerging Markets Debt Short Duration Fund None Ireland	SouthPointe Industrial LLC	04-1590850	Delaware
Tower Square Capital Partners II-A, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners IIIA, L.P. Tower Square Capital Partners IIIA, L.P. Tower Square Capital Partners IIIA, L.P. Bo-0920367 Delaware Trailside MM Member LLC* Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Two LLC* West 46th Street Hotel LLC West 46th Street Hotel LLC Mest 46th Street Hotel LLC Barings Emerging Markets Debt Short Duration Fund None Ireland	Ten Fan Pier Boulevard LLC	35-2553915	Delaware
Tower Square Capital Partners III, L.P. Bu-laware 41-2280129 Delaware 80-0920367 Delaware Polaware Polaware Polaware Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Three LLC* West 46 th Street Hotel LLC West 46 th Street Hotel LLC Barings Emerging Markets Debt Short Duration Fund None Ireland	Tower Square Capital Partners II, L.P.*	30-0336246	Delaware
Tower Square Capital Partners III, L.P. Tower Square Capital Partners III, L.P. Tower Square Capital Partners IIIA, L.P. Tower Square Capital Partners IV-A, L.P. Tower Square Capital Partners IV-A, L.P. Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Two LLC* Washington Gateway Three LLC* West 46 th Street Hotel LLC West 46 th Street Hotel LLC Affiliates & Funds: Barings Emerging Markets Debt Short Duration Fund None Ireland	Tower Square Capital Partners II-A, L.P.	32-0160190	Delaware
Tower Square Capital Partners IIIA, L.P. Tower Square Capital Partners IV-A, L.P. 80-0920367 Delaware Partiliside MM Member LLC* Washington Gateway Two LLC* Washington Gateway Three LLC* Washington Gateway Three LLC* Washington Gateway Three LLC* Delaware West 46 th Street Hotel LLC Affiliates & Funds: Barings Emerging Markets Debt Short Duration Fund 41-2280129 Delaware Polaware 10-4-1590850 Delaware 10-5-1590850 Delaware		41-2280127	Delaware
Tower Square Capital Partners IV-A, L.P. Trailside MM Member LLC* Washington Gateway Two LLC* Washington Gateway Three LLC* Washington Gateway Three LLC* Washington Gateway Three LLC* West 46 th Street Hotel LLC Most Speed Speed Short Duration Fund None Brings Emerging Markets Debt Short Duration Fund Belaware Delaware Delaware Delaware Delaware Delaware Delaware Delaware Delaware None Ireland		41-2280129	Delaware
Washington Gateway Two LLC* Washington Gateway Three LLC* West 46 th Street Hotel LLC West 46 th Street Hotel LLC Affiliates & Funds: Barings Emerging Markets Debt Short Duration Fund 83-1325764 Delaware 05-1590850 Delaware None Ireland		80-0920367	Delaware
Washington Gateway Three LLC* West 46 th Street Hotel LLC Affiliates & Funds: Barings Emerging Markets Debt Short Duration Fund S2-0574045 Delaware Delaware None Ireland	Trailside MM Member LLC*	04-1590850	Delaware
Washington Gateway Three LLC* West 46 th Street Hotel LLC Affiliates & Funds: Barings Emerging Markets Debt Short Duration Fund S2-0574045 Delaware Delaware None Ireland	Washington Gateway Two LLC*	83-1325764	Delaware
Affiliates & Funds: Barings Emerging Markets Debt Short Duration Fund None Ireland		32-0574045	Delaware
Barings Emerging Markets Debt Short Duration Fund None Ireland	West 46 th Street Hotel LLC	05-1590850	Delaware
	Affiliates & Funds:		
Babson Capital Loan Strategies Master Fund LP None Cayman Islands	Barings Emerging Markets Debt Short Duration Fund	None	Ireland
	Babson Capital Loan Strategies Master Fund LP	None	Cayman Islands

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Barings Global High Yield Fund	47-3790192		Massachusetts
Barings Total Return Bond Fund	47-3734770		Massachusetts
Barings U.S. High Yield Fund	47-3801860		Massachusetts
CCIC Fund	None		Peoples Republic of China
Great Lakes II LLC*	71-1018134		Delaware
Barings Real Estate Affiliates & Funds:			
Wood Creek Venture Fund LLC	04-1590850		Delaware
50 Liberty LLC*	36-4823011		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
Budapester Strasse LLC	81-4382111		Delaware
Calgary Railway Holding LLC*	82-2285211		Delaware
Cornbrook PRS Holdings LLC	82-3307907		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
CREA Madison Member LLC	81-0890084		Delaware
CCB Montford Park LLC*	82-1563809		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
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
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center LLC*	27-2977720		Delaware
Spain Avalon Holding LLC	04-1590850		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Twenty Two Liberty LLC*	35-2484550		Massachusetts
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
Ygnatio Valley Funding	20-5481477		Delaware
MassMutual Premier Funds:			
MassMutual Barings Dynamic Allocation Fund	45-3168892		Massachusetts
MassMutual Premier Focused International Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fund	51-0529328		Massachusetts

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

	Federal Tax ID	NAIC Co Code	State of Domicile
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Premier Value Fund	04-3277550		Massachusetts
MassMutual Select Funds:			
MassMutual Select Diversified International Fund	14-1980900		Massachusetts
MassMutual Select Diversified Value Fund	01-0821120		Massachusetts
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Large Cap Value Fund	04-3513019		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
MML Series Investment Funds:			
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
MML Series II Asset Momentum Fund	47-3517233		Massachusetts
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MML Series II Special Situations Fund	47-3559064		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual RetireSMART Conservative Fund	45-1618155		Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222		Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464		Massachusetts
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 Schedule Y Part 1A for the ownership and percentage information.

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

				PA	KI I	A - DE I AI	L OF INSURANC	, E i	10LL	ING COMPANY	SISIEIVI				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				_	_						Type	If			
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											(Ownership,	is		ls an	1
						Name of Securities			Relation-		Board,	Owner-		SCA	1
						Exchange		Domi-	ship		Management,	ship		Filing	1
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	'
Group		Company	ID	Federal		(U.S. or	Parent. Subsidiaries	Loca-		Divastly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	'
	Outside Name				Olle				Reporting	Directly Controlled by					
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	
0405	Noncolous Ada Nod Life Las Co	05005	04 4500050	3848388			Massachusetts Mutual Life Insurance Company	MA	LIDD	Massachusetts Mutual Life Insurance	0h:	100,000	1011 10		1
0435	Massachusetts Mut Life Ins Co	65935	04-1590850	3848388			(MMLIC)	MA	UDP	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0435	CM Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	RE	Company	Ownership	100.000	MMLIC		'
	MML Baystate Life Ins Co	70416	43-0581430				MML Bay State Life Insurance Company	CT		C.M. Life Insurance Company	Owner ship	100.000	MMLIC		
0000	mine Daystate Life ilis to) 04 10	06-1041383				CML Mezzanine Investor III, LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
0000			00-1041303				CML Special Situations Investor LLC	DE	DS	C.M. Life Insurance Company	Ownership.	100.000	MMLIC		
							One opecial ortuations investor LEO			Massachusetts Mutual Life Insurance	owner strip.		- INITE TO		
0000							CML Global Capabilities LLC	DE	DS	Company	Ownership	100.000	MMLIC		'
										Massachusetts Mutual Life Insurance					
0000		l	l	l	l		MM Global Capabilities LLC	DE	DS	Company	Ownership	100.000	MMLIC		1'
							MassMutual Global Business Services India			Massachusetts Mutual Life Insurance					
0000							LLP	IND	DS	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							MM Global Capabilities (Netherlands) B.V	NLD	DS	Company	Ownership	100.000	MMLIC		<u> </u>
							·			Massachusetts Mutual Life Insurance					'
000Ω							MM Global Capabilities II LLC	DE	DS	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					'
0000							MM Global Capabilities III LLC	DE	DS	Company	Ownership	100.000			
										Massachusetts Mutual Life Insurance					1
000Q							MML Special Situations Investor LLC	DE	NI A	Company	Ownership	100.000	. MMLIC		
										Massachusetts Mutual Life Insurance					'
0000			47-5322979				Timberland Forest Holding LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLC	DE	NI A	Wood Creek Capital Management LLC	Management		- MMLIC		
0000							Lyme Adirondack Forest Company, LLC	DE	NI A	Timberland Forest Holding LLC	Ownership	100.000	. MMLIC		
0000							Lyme Adirondack Timberlands I, LLC Lyme Adirondack Timberlands II, LLC	DE	NI A NI A	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		·
0000							Lyme Adirondack Timberlands II, LLC	UE	NIA	Timberland Forest Holding LLC	Ownership	100.000	_ MMLIC		
0000			04-1590850				Berkshire Way LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		'
0000			04-1090600				Derksitte way LLC		NI A	Massachusetts Mutual Life Insurance	Owner Simp		. MINILIO		
0000			04-1590850				MSP-SC, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		'
0000			04-1030000				Moi -50, LLC	DL		Massachusetts Mutual Life Insurance	Owner strip				
0000							EM Opportunities LLC	DE	NIA	Company	Ownership	100.000	MMLIC		1
							Spportunition EEO			Massachusetts Mutual Life Insurance					T
0000							MassMutual MCAM Insurance Company. Inc.	VT	NIA	Company	Ownership	100.000	MMLIC		1
							and company, mor			Massachusetts Mutual Life Insurance	/ p				[
000Q			04-1590850				Insurance Road LLC	DE	NI A	Company	Ownership	100.000	MMLIC		<u> </u>
0000			04-1590850				MassMutual Trad Private Equity LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Intellectual Property LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		1
0000							Trad Investments I LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					'
0000			27-0105644				Jefferies Finance LLC	DE	NI A	Company	Ownership	50.000	MMLIC		1
				I	I					Massachusetts Mutual Life Insurance					1
0000							MassMutual Mortgage Lending LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000							Apex Credit Partners LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	. MMLIC		·
0000							Jefferies Credit Management LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	. MMLIC		·
0000							Jefferies Private Credit GP LLC	DE	NI A	Jefferies Credit Management LLC	Ownership	100.000	. MMLIC		·
0000							Jefferies Private Credit Fund LP	DE	NIA	Jefferies Private Credit GP LLC	Ownership	100.000	. MMLIC		
0000							Jefferies Private Credit BDC Inc.	MD	NI A	Jefferies Finance LLC	Ownership	100.000	- MMLIC		·
0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		ļ
0000							JFIN Fund III LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		· · · · · · · · · · · · · · · · · · ·
0000							JFIN Asset Management LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		·
0000							JFAM GP LLC	UE	NIA	JFIN Asset Management, LLC	Ownership	100.000	_ MMLIC		.1

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

	PART TA - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM														
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											Туре	If			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NIAIO					N		- 1-						
_		NAIC				if Publicly Traded	Names of	ciliary	to	5 6	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							JFAM GP LP	DE	NI A	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000							Jefferies Direct Lending Fund C LP	DE	NI A	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000							Jefferies DLF C Holdings LLC	DE	NI A	Jefferies Direct Lending Fund C LLC	Ownership	100.000	MMLIC		
0000							Jefferies Direct Lending Fund C SPE LLC	DE	NI A	Jefferies DLF C Holdings LLC	Ownership	100.000	. MMLIC		
0000							JFIN Revolver Holdings LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver Holdings II LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100,000	MMLIC		
							JFIN Europe GP, S.a.r.I.	LUX	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Jefferies Finance Europe, SCSp	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000			1				Jefferies Finance Business Credit LLC	DE	NI A.	Jefferies Finance LLC	Ownership	100.000	MMLIC		1
0000							JFIN Business Credit Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000		1	1				JFIN High Yield Investments LLC	DE	NIA	Jefferies Finance LLC	Ownership.	100.000	MMLIC		1
0000							JFIN LC Fund LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000		-					JFIN Revolver CLO Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership.	100.000	MMLIC		1
0000							JFIN CLO 2012 Ltd	CYML	NIA	Jefferies Finance LLC	Ownership.	100.000	MMLIC		
0000							JFIN CLO 2012 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN CLO 2013 Etd.	CYML	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
							JFIN CLO 2014-11 Ltd	CYM	NIA	Jefferies Finance LLC	Ownership	44.000	MMLIC		
											******		MMLIC		
0000							JFIN CLO 2015 Ltd.	CYML	NI A	Apex Credit Partners LLC	Ownership	56.000			
0000							JFIN Revolver Fund, L.P.	DE	NI A	Jefferies Finance LLC	Ownership	58.000	. MMLIC		
0000							Apex Credit CLO 2015-II Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	33.000	- MMLIC		
0000							Apex Credit CLO 2015-II Ltd.	CYM	NI A	Apex Credit Partners LLC	Ownership	53.000	. MMLIC		
0000							JFIN Revolver CLO 2014 Ltd.	CYML	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2015 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2017 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2017-II Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2017-III Ltd	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2018 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2019 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2019-II Ltd	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Apex Credit CLO 2016 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Apex Credit CLO 2017 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Apex Credit CLO 2017-II Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	. MMLIC		
0000							Apex Credit CLO 2019-II Ltd.	CYM	NI A	Apex Credit Partners LLC	Ownership	74.000	MMLIC		
-		1	1	1						Massachusetts Mutual Life Insurance	1	1			1
0000		.	04-1590850				MassMutual Retirement Services, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
			1							Massachusetts Mutual Life Insurance					
0000		1	04-1590850				MM Copper Hill Road LLC	DE	NIA	Company	Ownership	100.000	MMLIC	1	
			1000000				This copper that hour LEC			Massachusetts Mutual Life Insurance	omor on p				1
0000		1	04-3356880				MML Distributors LLC	MA	NI A	Company	Ownership	99.000	MMLIC	1	
.0000		-	04-3356880				MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership.	1.000	MMLIC		1
0000			04-3330000				WINE DISTITIBUTORS ELO	IWA	NI /	Massachusetts Mutual Life Insurance	Owner Sirrp		LIG		
0000							MML Investment Advisers, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
							WINE THEST HELD	UL	NI /	Massachusetts Mutual Life Insurance	Owner Sirrp	100.000	. mmL10		
.0000			46-3238013				MML Strategic Distributors, LLC	DE	NIA		Ownership	100.000	MMLIC		
نانانانو			3230013				www. otrategic Distributors, LLC	DE	NIA	Company	Owner 91116		. mmL10		1
0000		1	06-1563535	2001445			The Manellutual Trust Company FCD	CT	NII A	Massachusetts Mutual Life Insurance	O	100,000	MMLIC	v	
			UO-1303535	2881445			The MassMutual Trust Company, FSB		NI A	Company	Ownership	100.000	MMLIU	Ү	
0000		1	00 0070044					D=		Massachusetts Mutual Life Insurance	l	00.000	IIII 10	1	
			26-0073611				MassMutual Asset Finance LLC	DE	NI A	Company	Ownership	99.600	. MMLIC		
			26-0073611				MassMutual Asset Finance LLC	DE	NI A	C.M. Life Insurance Company	Ownership	0.400	MMLIC	-	
0000			90-1005837				MMAF Equipment Finance LLC 2013-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			36-4785301				MMAF Equipment Finance LLC 2014-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			38-3969560				MMAF Equipment Finance LLC 2015-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	_ MMLIC		
0000			32-0489588				MMAF Equipment Finance LLC 2016-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		

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											Type	If			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence.	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Group Harrio	0000	35-2590691	11000	Oiix	intomationary	MMAF Equipment Finance LLC 2017-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC	(1/14)	
0000			32-0546197				MMAF Equipment Finance LLC 2017-B	DE	NI A.	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			82-5335801				MMAF Equipment Finance LLC 2018-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000			83-3722640				MMAF Equipment Finance LLC 2019-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	. MMLIC		
0000							MMAF Equipment Finance LLC 2019-B		NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0000							Rozier LLC	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	. MMLIC		
							MML Private Placement Investment Company I,			Massachusetts Mutual Life Insurance					
0000			04-1590850				LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			0.4 4500050				MM D : 4 E :4 E 11 4 210	DE		Massachusetts Mutual Life Insurance		400.000	IIII 10		
0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIANIA	Baring Asset Management Limited	Management	100.000	MMLIC		·
0000			04-1090800				MM Private Equity Intercontinental LLC	UE	NI A	Massachusetts Mutual Life Insurance	Owner Ship		NIME IC		
0000			45-2738137				Pioneers Gate LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
0000			45-2750157				I Tolleer's date LLO	UL	NI 7	Massachusetts Mutual Life Insurance	owner strip		. mmL10		
0000			04-2854319	2392316			MassMutual Holding LLC	DE	NI A	Company	Ownership.	100.000	MMLIC	γ	
0000			06-1597528	2002010			MassMutual Assignment Company	NC	NIA	MassMutual Holding LLC	Ownership		MMLIC		
.0000			37-1732913				Fern Street LLC	DE	NI A	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000							Sleeper Street LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			46-2252944				Haven Life Insurance Agency, LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Capital Partners LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures Holding LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	. MMLIC		
0000							Crane Venture Partners LLP	GBR	NI A	MassMutual Holding LLC	Ownership		. MMLIC		
0000							MassMutual Ventures Management LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	. MMLIC		
0000							MassMutual Ventures SEA Management Private	DE		W W A T H T P T T A T A T A T A T A T A T A T A T	0 1:	400 000	IIII 10		
0000							Limited	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures Southeast Asia I LLC MassMutual Ventures Southeast Asia II LLC	DE	NI A NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures UK LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			47-1296410				MassMutual Ventures US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			17 1200110				MassMutual Ventures US II LLC	DE	NI A	MassMutual Holding LLC	Ownership.	100.000	MMLIC		
0000			04-1590850				MM Rothesay Holdco US LLC	DE	NI A.	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			47-1466022				LifeScore Labs, LLC	MA	NI A	MassMutual Holding LLC	Ownership	100.000	. MMLIC		
0000			04-1590850				MML Investors Services, LLC	MA	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MML Insurance Agency, LLC	MA	NI A	MML Investors Services, LLC	Ownership	100.000	MMLIC		
0000			41-2011634				MMLISI Financial Alliances, LLC	DE	NI A	MML Investors Services, LLC	Ownership	100.000	MMLIC		ļ
0000			45-4000072				MM Asset Management Holding LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	- MMLIC		
0000			51-0504477				Barings LLC	DE	NI A	MassMutual Asset Management Holding LLC	Ownership	100.000	- MMLIC		ļ
0000			00 0504074				Baring Asset Management (Asia) Holdings	HI/O	NIA	Paringe II C	Ownership	100 000	IMM 10		
0000			98-0524271				Limited Baring International Fund Managers (Bermuda)	HKG	NI A	Barings LLC Baring Asset Management (Asia) Holdings	Ownership	100.000	MMLIC		
0000			98-0457465				limited	BMU	NIA	Limited	Ownership	100.000	MMLIC		
0000		-	30-0401403				Limitou	DWQ	NI /	Baring Asset Management (Asia) Holdings	omici sitip				
0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Limited	Ownership	100.000	MMLIC		
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	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
			1				Barings Overseas Investment Fund Management								
0000							(Shanghai) Limited	HKG	NI A	Baring Asset Management (Asia) Limited	Ownership	100.000	_ MMLIC		
										Baring Asset Management (Asia) Holdings					
0000			98-0457707				Baring SICE (Taiwan) Limited	TWN	NI A	Limited	Ownership	100.000	MMLIC		ļ
0000			00 0000110					ID:	N: -	Baring Asset Management (Asia) Holdings		400 000	IIII 10		
_0000			98-0236449				Barings Japan Limited	JPN	NI A	Limited	Ownership	100.000	MMLIC		.

Code Group Name Code Number RSSD CIK International) O. Affiliations Single Section City City					SISILIVI	THE COME AND	IOLD	·LI	IL OF INSURANC	A - DE I AI						
Name	15	14		If	Type	11	10	9	8	7	6	5	4	3	2	1
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Course C	SCA			Owner-			Relation-			Name of Securities						
Code Corporation Code Company Company Code C	Filing							Domi-								
Company Comp	Re-								Names of					NAIC		
Code Group Marne Code Number RSSD CIK International D.A. Millatides Into Entity Composition Composition		Ultimate Controlling				Directly Controlled by						Federal	ID	_		Group
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Decomposition Decompositio																
December December													80-0875475			
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Company Comp		·	. MMLIU .		Owner Sirrp.	Ballings I mance LLC	NI /	DL								0000
December December		3	MMLIC	100.000	Ownership.	Barings Finance LLC	NI A	IRL								0000
													04-3238351			
Description Barrings fasts Reagement Seal in S. ESP Milk Barrings Europe Limited Outcomprising 100 000 Milk C													98-0437588			
Barrings State S. F. If N. Ni. Sarrings Engrey Linited Conserting 100 0.00 Ma. C																
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Baring Real Estate Advisers Europe LIP GR NA Baring Real Estate (M boldings Limited Ownership 100.000 ML IC																
		<i>;</i>	MMLIC	100.000	Ownership	Barings Real Estate UK Holdings Limited	NI A	GBR					98-0654388			0000
		6	100 10	100,000	Ownership	Davings Deal Cotate IIV Heldings Limited	NII A	CDD					00 0054410			0000
Barrings European Direct Lending 1 GP LLP																
Description Section																
Description		C	. MMLIC .		Ownership		NI A	GBR	Barings Global Advisors Limited				98-1012393			0000
Baring International Investment Management Baring Asset Management Limited Baring Asset Management W. Holdings Limited Baring Asset Management W. Holdings Limited Baring Asset Management W. Holdings Limited DeU NIA Baring Asset Management W. Holdings Limited Deurship. 100.000 MM. IC Deutship Deutshi																
Description		;	_ MMLIC	100.000	Ownership	Baring Asset Management Limited	NI A	GBR					98-0457328			0000
Description		•	100 10	100 000		B : A A H A A I : : A I	NII A	ODD					00 0457507			0000
Decision		<i>;</i>	- MMLIC .	100.000	Uwnersnip		NI A	GBH	Holdings				98-045/58/			0000
Deciding Deciding		e.	MML IC	100 000	Ownershin		NIA	GRR	Baring Asset Management LK Holdings Limited				98-0457576			0000
December December		·			1				But mg nooce management of horarings Emilion				00 0101010			5000
Description		<u> </u>	MMLIC	100.000	Ownership		NI A	DEU	Baring Asset Management GmbH				98-0465031			0000
Baring Asset Management Switzerland Sàrl					i i	Baring Asset Management UK Holdings Limited										
Description		;	_ MMLIC	100.000	Ownership		NI A	IRL	Limited				98-0524272			0000
Description		^		100.000	1	Baring Asset Management UK Holdings Limited		0.15								0000
Description		<i>,</i>	- MMLIC	100.000	Uwnersnip	Paring Asset Management IV Haldings I :-: 1-1	NI A	UHE	baring Asset Management Switzerland Sarl							0000
Description		î.	WM IC	100 000	Ownership	Dailing Asset Management UN Holdings Limited	NIA	FRΛ	Baring France SAS				98_0/97550			0000
.0000 98-0457574 Baring Pension Trustees Limited .0BR .NIA Baring Asset Management Limited .0wnership .100.000 .0wnership .100.000						Baring Asset Management Limited										
DODO Barings Core Fund Feeder GP S.à.r.l LUX NIA Baring Asset Management Limited Ownership 100.000 MMLIC																
					Ownership											
0000																
			MMLIC .	100.000	Ownership	Baring Asset Management Limited Baring Asset Management Limited	NIA	LUX GBR	PREIF Holdings Limited Partnership							0000
0000		C	MMLIC	100.000				GBR	Almack Mezzanine Fund Limited							0000
0000 Almack Mezzanine Fund II Limited		·	MMLIC	100.000	Ownership			GBR								

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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?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
	Group Name	Code		กออบ	CIN	miemational)					/			(T/IN)	
0000			98-0432153				Barings (U.K.) Limited	GBR	NI A	Barings Guernsey Limited	Ownership	100.000	MMLIC		
0000							Barings Multifamily Capital Holdings LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Multifamily Capital LLC	MI	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Multifamily Capital Corporation	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	CA	NI A	Barings Real Estate Advisers LLC	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			81-2244465				Chassis Acquisition Holding LLC	DE	NI A	Company	Ownership/Influence	30.000	MMLIC		
0000			81-2244465				Chassis Acquisition Holding LLC	DE	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance				1	1
0000		1	81-4258759		1		CRA Aircraft Holding LLC	DE	NIA	Company	Ownership/Influence	40.000	MMLIC	1	1
0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC	-	1
			01-4250153				On Anotal Holding LLO			Massachusetts Mutual Life Insurance			IIIIIL10	-	
0000			00 0500400					DE			0 1:	00.000	188 10		
0000			83-0560183				Aland Royalty Holdings LP	DE	NI A	Company	Ownership	26.000	MMLIC		
0000			83-0560183				Aland Royalty Holdings LP	UE	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							ASM SIP, LP	CYM	NI A	Company	Ownership	13.200	MMLIC		
0000							ASM SIP, LP	CYM	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-2344300				Intermodal Holdings II LLC	DE	NI A	Company	Ownership	18.000	MML1C		
0000			47-3055009				Milestone Acquisition Holding, LLC.	DE	NI A	MassMutual Holding LLC	Ownership/Influence	18.300	MMLIC		
.0000			47-3055009				Milestone Acquisition Holding, LLC.	DE	NIA	Barings LLC	Influence		MMLIC		
			47 0000000				mirrostoric Adquisition florumg, ELO.	DL		Massachusetts Mutual Life Insurance	IIII I dolloo		I IIIILI O		
0000							Novation Companies, Inc.	MD	NIA	Company	Ownership	20.700	MMLIC		
							Novation companies, inc.	MD	NI A	Massachusetts Mutual Life Insurance	Owner Strip	20.700	MMLIC		
			40 540000				B					04 500			
0000			46-5460309				Red Lake Ventures, LLC	DE	NI A	Company	Ownership/Influence	31.500	MMLIC		
0000			46-5460309				Red Lake Ventures, LLC	DE	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Company	Ownership/Influence	66.700	MMLIC		
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Tamiami Citurus, LLC	DE	NI A	Company	Ownership	15.700	MML1C		
0000							Teaktree Acquisition, LLC	DE	NI A	MassMutual Holding LLC	Ownership/Influence	14.700	MMLIC		
.0000							Teaktree Acquisition, LLC	DE	NI A	Barings LLC	Influence		MMLIC		
							TOURTION ACQUISITION, LEO			Massachusetts Mutual Life Insurance	TITI TUCITOC.		l mmL10		
0000							Techquity, LP	DE.	NIA	Company	Ownership	37.500	MMLIC		
							Techquity, LP	DE	NIA	Barings LLC	Influence	37 . 300	MMLIC		
0000							recirquity, LF		NI A		IIII ruerice		MINILIU		
			40 0007005		1					Massachusetts Mutual Life Insurance	I., .			1	1
0000			46-0687392				US Pharmaceutical Holdings I, LLC	DE	NI A	Company	Management		MMLIC		
		1	İ		1					Massachusetts Mutual Life Insurance			1	1	1
0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NI A	Company	Ownership/Influence	42.400	MMLIC		
0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NI A	Barings LLC	Influence	<u>.</u>	MMLIC		
		1	İ		1					Massachusetts Mutual Life Insurance			1	1	1
0000							EIP Holdings I, LLC	DE	NI A	Company	Ownership/Influence	29.000	MMLIC	[
0000							EIP Holdings I, LLC	DE	NIA	Barings LLC	Management		MMLIC		
									[Massachusetts Mutual Life Insurance					T
.0000					1		Validus Pharmaceuticals LLC	DE	NIA	Company	Ownership/Influence	70.000	MMLIC	1	1
.0000							VGS Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	33.300	MMLIC		1
												აა.ასს			
0000							VGS Acquisition Holding, LLC	DE	NI A	Barings LLC	Management	400 000	MMLIC		
0000							Aland Royalty GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
							Alaska Future Fund GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							BAI Funds SLP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Alternative Investments SLP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		

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						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	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 Investment Series LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC	(1,11)	
0000							Barings Capital Investment LLC	MD	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Emerging Generation Fund GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
							Barings Global Investment Funds (U.S.)								
0000			04-1590850				Management LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000		-					Babson Global Loan Feeder Management, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings ABIF SLP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings CLO Investment Partners GP, LLC Barings Core Property Fund GP LLC	DE DE	NIA	Barings LLC	Ownership Ownership	100.000	MMLIC		
0000							Barings Direct Lending GP Ltd.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Barings Global Energy Infrastructure	UIWL	NI A	Dai mys LLC	Owner SITP		. mmL10		
0000							Advisors, LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		
0000							Barings Multi Asset Income Fund	HKG	NIA	Barings LLC	Management		MMLIC		
							Barings North American Private Loan Fund			54go 220					
0000							Management, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
							Barings North American Private Loan Fund				·				
0000							Management II, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Global Real Assets Fund GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings/LAZ Parking Fund GP LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings Small Business Fund LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000			98-0536233				Benton Street Advisors, Inc.	CYM	NI A	Barings LLC	Ownership	100.000	- MMLIC		
0000							BRECS VII GP LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							CCM Fund REIT Manager LLC	DE	NI A NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							CHY Venture GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Cornerstone Hotel Fund GP. LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							CREF X GP LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		
0000							CREF VIII GP. LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Great Lakes III GP, LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		
0000							Lake Jackson LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Loan Strategies Management LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000			02-0767001				Mezzco II LLC	DE	NI A	Barings LLC	Ownership	98.400	MMLIC		
0000			41-2280126				Mezzco III LLC	DE	NI A	Barings LLC	Ownership	99.300	MMLIC		
0000			80-0920285				Mezzco IV LLC	DE	NI A	Barings LLC	Ownership	99.300	MMLIC		
0000							Mezzco Australia II LLC	DE DE	NIA	Barings LLC	Ownership Ownership	100.000	MMLIC		
0000			04-1590850				SBNP SIA II LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000		-	04-1090000				SBNP SIA III LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Somerset Special Opportunities Management LLO	C	NI /	Dai ingo LEO				[
0000		1	04-1590850	J	1			DE	NI A	Barings LLC	Ownership	100.000	MMLIC		l
0000			04-1590850				SouthPointe Industrial LLC	DE	NI A.	Barings LLC	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Invesco Ltd.	BMU	NIA	Company	Ownership	15.700	MMLIC	Y	
			1							Massachusetts Mutual Life Insurance				1	
0000		-	04-3313782				MassMutual International LLC	DE	NI A	Company	Ownership	100.000	MMLIC	Y	
0000		-					MassMutual Solutions LLC	DE	NI A	MassMutual International LLC	Ownership	100.000	- MMLIC		ļ
0000		-					HarborTech (Asia) Limited	HKG	NI A	MassMutual International LLC	Ownership	100.000	MMLIC		
0000		-					Yunfeng Financial Group Limited	HKG	NI A	MassMutual International LLC	Ownership	24.900	MMLIC		·
0000			04-2443240				MML Management Corporation	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	v	
0000			04-2443240				MassMutual International Holding MSC, Inc	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC	· [†]	1
0000			04-3341767				MassMutual Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
			01 0041/0/				massimatear floraring moo, file.			Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Mezzanine Investor II, LLC	DE	NI A	Company	Ownership	100.000	MMLIC	1	
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						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
	•					·			,	Massachusetts Mutual Life Insurance	,		1 ' ' '		1
0000			04-1590850				MML Mezzanine Investor III. LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-3576835				MassMutual External Benefits Group LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			2. 00.0000				macomataa: Extorna: Sonori to areap EEO			Massachusetts Mutual Life Insurance					1
0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
							100 11. 010 011001 220			Massachusetts Mutual Life Insurance					1
0000			04-1590850				2160 Grand Manager LLC	DE	NIA	Company	Ownership	98.100	MMLIC		
			01 1000000				2 100 di did managor EEO			Massachusetts Mutual Life Insurance	omior on p		mile 10		
0000			82-2432216				300 South Tryon Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			02 2402210				doo douth frydii floter EE0	UL		Massachusetts Mutual Life Insurance	owner arrip		MINETO		
0000			04-1590850				300 South Tryon LLC	DE	NIA	Company	Ownership.	100.000	MMLIC	1	
0000			04-1030000				OOO OOUTH TIYOH LLO	UĽ	NI 7	Massachusetts Mutual Life Insurance		100.000	mmL I V	-	1
0000							Almack Mezzanine Fund I LP	GBR	NIA	Company	Ownership/Influence	41,400	MMLIC		
0000							Almack Mezzanine Fund I LP	GBR	NIA	C.M. Life Insurance Company	Ownership	4.600	MMLIC		
0000							Almack Mezzanine Fund I LP	JBH	NI A	Massachusetts Mutual Life Insurance	Uwnersnip	4.600			
0000								opp			0 1: // (1	70.000	188.10		
0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NI A	Company	Ownership/Influence	72.900	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Almack Mezzanine Fund III LP	GBR	NI A	Company	Ownership/Influence	34.200			
0000							Almack Mezzanine Fund III LP	GBR	NI A	C.M. Life Insurance Company	Ownership	3.800	. MMLIC		
0000							Almack Mezzanine Fund III LP	GBR	NI A	Barings (U.K.) Limitied	Management		MMLIC		
							Barings Affordable Housing Mortgage Fund I			Massachusetts Mutual Life Insurance					
0000							LLC	DE	NI A	Company	Ownership	98.700	MMLIC		
							Barings Affordable Housing Mortgage Fund I								
0000							LLC	DE	NI A	Barings LLC	Management		MMLIC		
							Barings Affordable Housing Mortgage Fund II			Massachusetts Mutual Life Insurance					
0000			61-1902329				LLC	DE	NI A	Company	Ownership	99.600			
							Barings Affordable Housing Mortgage Fund II								
0000			61-1902329				LLC	DE	NI A	Barings LLC	Management	·····	. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NI A	Company	Ownership/Influence	11.300	MMLIC		
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NI A	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NI A	Barings LLC	Management		. MMLIC		
			l				Barings Emerging Markets Corporate Bond Fund			Massachusetts Mutual Life Insurance				1	
0000		.						IRL	NI A	Company	Ownership/Influence	77.900		.	
			l				Barings Emerging Markets Corporate Bond Fund							1	
0000		.						IRL	NI A	Barings LLC	Management		. MMLIC	.	
							Babson Capital Global Special Situation			Massachusetts Mutual Life Insurance					
0000		.	98-1206017				Credit Fund 2	DE	NI A	Company	Ownership/Influence	22.300	MMLIC		
							Babson Capital Global Special Situation								
0000			98-1206017				Credit Fund 2	DE	NI A	C.M. Life Insurance Company	Ownership	1.400	MMLIC		
			1				Babson Capital Global Special Situation			. ,					
0000			98-1206017				Credit Fund 2	DE	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Company	Ownership/Influence	75.800	MMLIC		
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NI A	C.M. Life Insurance Company	Ownership	3.800	MMLIC		1
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NI A	Barings LLC	Management_		MMLIC		T
			0, 1000+1/				Daboon oup ital Louis ottatogres i uilu, L.I			Massachusetts Mutual Life Insurance	munugomont				1
0000		1	Ì				Barings US High Yield Bond Fund	IRL	NIA	Company	Ownership/Influence	53.800	MMLIC	1	
0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC	-	1
0000		-					Babson CLO Ltd. 2013-1	CYM	NIA	Barings LLC	Influence		MMLIC	-	3
0000							Babson CLO Ltd. 2013-1	CYM	NIA	Barings LLC	Influence		MMLIC	-	
		-						CYML	NIA		Influence	-	MMLIC	-	2
0000		-					Babson CLO Ltd. 2015-I	CYM		Barings LLC			MMLIC	-	4
0000							Babson CLO Ltd. 2015-II	UYM	NI A	Barings LLC	Influence	-	MMLIU		J5

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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?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Group Name	Code	Number	HOOD	OIN	international)	Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence	lage	MMLIC	(1/11)	
0000							Babson CLO Ltd. 2016-1	CYM	NI A	Barings LLC	Influence		MMLIC		
0000							Barings CLO Ltd. 2017-1	CYM	NIA	Barings LLC	Influence		MMLIC		
0000							Barings CLO 2018-III	CYM	NI A.	Barings LLC	Influence		MMLIC		
0000							Barings CLO 2018-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
0000							Barings CLO 2019-1	CYM	NI A	Barings LLC	Influence.		MMLIC		
0000			98-1473665				Barings CLO 2019-II	CYM	NI A	Barings LLC	Influence		MMLIC		
0000							Barings CLO 2019-III	CYM	NI A	Barings LLC	Influence		MMLIC		
0000							Barings CLO 2019-IV	CYM	NI A	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2014-I BV	NLD	NI A	Barings LLC	Influence		MMLIC		
0000		-					Babson Euro CLO 2014-II BV	NLD	NI A	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2015-I BV	NLD	NI A	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2016-I BV	NLD	NI A	Barings LLC	Influence		MMLIC		
0000			36-037260H				Babson Euro CLO 2019-I BV	IRL	NI A	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2019-II BV	IRL	NI A	Barings LLC	Influence		MMLIC		
								DE		Massachusetts Mutual Life Insurance		20.000			
0000			81-0841854 81-0841854				Barings CLO Investment Partners LP	DE	NI A NI A	Company	Ownership/Influence	99.300	MMLIC		
0000			81-0841854				Barings CLO Investment Partners LP Barings Real Estate European Value Add I SCSp		NI A	Massachusetts Mutual Life Insurance	Management		MMLIC		
0000							barings Real Estate European value Aud I 505p	GBR	NIA	Company	Ownership/Influence	44.800	MMLIC		
0000							Barings Real Estate European Value Add SCSp	ubn	NIA	Company	. Towner Sirrp/ Hirr ruence	44.000	MMLIC		
0000							Dai ings near Estate European varue Aud 1 300p	GBR	NIA	C.M. Life Insurance Company	Ownership	5.000	MMLIC		
							Barings Real Estate European Value Add I SCSp			C.W. Erre mourance company	- Owner Sirip		MINICIO		
0000							Dai ingo nour Estate European varue nua i coop	GBR	NI A	Barings LLC	Management		MMLIC		
0000			82-5330194				Barings Global Em. Markets Equity Fund	NC	NI A	Barings LLC	Management		MMLIC		
							Barings Global Energy Infrastructure Fund I			Massachusetts Mutual Life Insurance					
0000			98-1332384				LP	CYM	NI A	Company	Ownership/Influence	94.300	MMLIC		
							Barings Global Energy Infrastructure Fund I								
0000			98-1332384				LP	CYM	NI A	Baring Asset Management Limited	Management		MMLIC		
0000							Barings Global Inv. Grade Strat Fund	IRL	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Barings Global Private Loan Fund	LUX	NI A	Company	Ownership/Influence	12.200	MMLIC		
0000							Barings Global Private Loan Fund	LUX	NI A	Barings LLC	Management		MMLIC		
0000			00 0007745				Denimer Olekel Deal Accede Found ID	סר	NII A	Massachusetts Mutual Life Insurance	0h: /l-fl	40, 400	MMLIC		1
0000			82-3867745 82-3867745				Barings Global Real Assets Fund LP Barings Global Real Assets Fund LP	DE	NIA	Company	Ownership/Influence	43.100 7.600	MMLIC		
0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	Barings LLC	Management	000	MMLIC		
0000			02-300//45				Barings Global Special Situations Credit Fund		INI A	Massachusetts Mutual Life Insurance	manayenent		mmLIV		1
0000			I				3	IRL	NIA	Company	Ownership/Influence	19.800	MMLIC		1
0000							Barings Global Special Situations Credit Fund			Company	- Tomici dirip/ Illi Idolice		mmLIV		
0000			I				3	IRL	NIA	Barings LLC	Management		MMLIC		1
0000							Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NI A	Barings LLC	Influence		MMLIC		
0000							Barings Middle Market CLO 2018-1	CYM	NI A	Barings LLC	Influence		MMLIC		
0000							Barings Middle Market CLO 2019-1	CYM	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			38-4010344				Barings North American Private Loan Fund LP .	DE	NI A	Company	Ownership/Influence	45.600	MMLIC		ļ
0000			38-4010344				Barings North American Private Loan Fund LP .	DE	NI A	Baring Asset Management Limited	Management		MMLIC		
1			L							Massachusetts Mutual Life Insurance					1
0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NI A	Company	Ownership/Influence	34.300	MMLIC		
0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NI A	Baring Asset Management Limited	Management		MMLIC		ļ
0000			00 4440700					DE	N11 4	Massachusetts Mutual Life Insurance		0.700	188.10		1
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NI A	Company	Ownership/Influence	9.700	MMLIC		
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NI A	Baring Asset Management Limited	Management		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.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)	*
	•									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	NI A	C.M. Life Insurance Company	Ownership	1.300	MMLIC		
0000			-				Braemar Energy Ventures I, L.P.	DE	NI A	Barings LLC	Management	40.500	MMLIC		
0000							Barings European Core Property Fund SCSp	LUX	NI A	MassMutual Holding LLC	Ownership/Influence	12.500	MMLIC		
0000							Barings European Core Property Fund SCSp	LUX	NI A	C.M. Life Insurance Company	Ownership	0.800	MMLICMMLIC		
0000			38-4059932				Barings European Core Property Fund SCSp Benchmark 2018-B2 Mortgage Trust	LUX NY	NIA	Barings Real Estate Advisers LLC Barings LLC	Management		MMLIC		
0000			. 30-403932				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	NI A	MassMutual Holding LLC	Ownership/Influence	15.700	MMLIC		
0000			20-5578089				Barings Core Property Fund LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NI A	Company	Ownership/Influence	24.800	MMLIC		
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NI A	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		
										Massachusetts Mutual Life Insurance					
0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC .	MA	NI A	Company	Ownership/Influence	98.600	MMLIC		
0000			04 4700705				0 1 5 1 1 1 5 1 1 1 1 1 0		NII 4	Massachusetts Mutual Life Insurance		00.000	IIII 10		
0000			61-1793735				Cornerstone Permanent Mortgage Fund IV LLC	MA	NI A	Company Massachusetts Mutual Life Insurance	Ownership	98.600	- MMLIC		
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NI A	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		
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NI A	Barings LLC	Management		MMLIC		
		-					datona, mozzanilo i artifolo i i zi			Massachusetts Mutual Life Insurance	- India agonorit				
0000			37-1708623				Great Lakes III, L.P.	DE	NI A	Company	Ownership/Influence	41.200	MMLIC		
0000			37-1708623				Great Lakes III, L.P.	DE	NI A	Barings LLC	Management		MMLIC		
							JPMCC Commercial Mortgage Securities Trust								
0000			38-4041011				2017-JP7	NY	NIA	Barings LLC	Influence		MMLIC		
							JPMDB Commercial Mortgage Securities Trust								
0000			38-4032059				2017-C5	NY	NI A	Barings LLC	Influence		MMLIC		
0000			00 4540504				KKR-MM Vector LP	DE	NII A	Massachusetts Mutual Life Insurance	0	00 500	MM 10		
0000			82-1512591				NNH-MM Vector LP	UE	NI A	Company Massachusetts Mutual Life Insurance	Ownership/Influence	62.500	_MMLIC		
0000		1	46-4255307				Marco Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			10 4200007				maroo notor LLO			Massachusetts Mutual Life Insurance	0 mior 0/11 p		IIII I		İ
0000		1	04-1590850				Miami Douglas One GP LLC	DE	NIA	Company	Ownership		MMLIC		
0000			04-1590850				Miami Douglas One GP LLC	DE	NI A	C.M. Life Insurance Company	Ownership.	5.500	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			_ 04-1590850				Miami Douglas Two GP LLC	DE	NI A	Company	Ownership	0.000	. MMLIC		
0000			. 04-1590850				Miami Douglas Two GP LLC	DE	NI A	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 04-1590850				Miami Douglas Two LP	DE	NI A	Company	Ownership	89.900	- MMLIC		
0000			_ 04-1590850				Miami Douglas Two LP	DE	NI A	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
0000		1	4E 000000				HB Naples Golf Owner LLC	DE	NIA	Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			45-3623262				nd wapies Golf Owner LLC	UE	NI A	Company Massachusetts Mutual Life Insurance	uwnersnip	100.000	MMLIC		
0000		1	81-3000420				MM Debt Participations LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
0000		-	81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management	100.000	MMLIC		
		-	0 1-0000420				mini bobi i al trorpationo LLO	UL	NI 7	Massachusetts Mutual Life Insurance	managonent		mmL10		
0000		1	82-4411267				RB Apartments LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
]							Massachusetts Mutual Life Insurance					
0000			75-2901061				Reston Arboretum LLC	DE	NI A	Company	Ownership	100.000	MMLIC		<u> </u>

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											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	1
						Exchange		Domi-	ship		Management,	ship		Filing	1
		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						,	Rockall CLO B.V.	GBR	NIA	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			54-2055778				Rockville Town Center LLC	VA	NI A	Company	Ownership	100.000	MMLIC		
0000			00 0050077					DE		Massachusetts Mutual Life Insurance		50,000	188 10		
0000			20-8856877				Somerset Special Opportunities Fund L.P Somerset Special Opportunities Fund L.P	DE	NIA NIA	Company C.M. Life Insurance Company	Ownership/Influence	59.000	MMLIC		
0000			. 20-0000011				Somerset Special Opportunities Fund L.F	VE	NI A	Massachusetts Mutual Life Insurance	- Owner Strip	2.900	. MMLIC		
0000			35-2553915				Ten Fan Pier Boulevard LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
			2000010							Massachusetts Mutual Life Insurance					
0000			30-0336246				Tower Square Capital Partners II, L.P.	DE	NI A	Company	Ownership/Influence	22.400	MMLIC		
0000			30-0336246				Tower Square Capital Partners II, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.900	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			32-0160190				Tower Square Capital Partners II-A, L.P	DE	NI A	Company	Ownership/Influence	85.000	- MMLIC		
0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA NIA	Barings LLC	Management	40.000	MMLIC		
0000			41-2280127				Tower Square Capital Partners III, L.P	UE	NI A	MassMutual Holding LLC	Ownership/Influence	18.000	- MMLIC		
0000			41-2280129				Tower Square Capital Partners IIIA, L.P	DE	NIA	Company	Ownership/Influence	92.100	MML1C		1
0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
							Tonor oquare oup turn are more trivil, 2007			Massachusetts Mutual Life Insurance	managomon c				
0000			80-0920367				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	NI A	C.M. Life Insurance Company	Ownership	7.400	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			83-1325764 83-1325764				Washington Gateway Two LLC Washington Gateway Two LLC	DE	NIA NIA	Company	Ownership		MMLIC		
0000			03-1323/04				washington dateway two LLC	VE	NI A	Massachusetts Mutual Life Insurance	_ Owner Strip	9.700	. MMLIC		
0000			32-0574045				Washington Gateway Three LLC	DE	NIA	Company	Ownership	83.600	MMLIC		
0000			32-0574045				Washington Gateway Three LLC	DE	NI A	C.M. Life Insurance Company	Ownership.	11.400	MMLIC		
							,			Massachusetts Mutual Life İnsurance					
0000			04-1590850				West 46th Street Hotel LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
							Barings Emerging Markets Debt Short Duration								
0000							Fund	IRL	NI A	Barings LLC	Management	-	MMLIC		
0000							Babson Capital Loan Strategies Master Fund LP	0)/14	NIA	Barings LLC	Management		MMLIC		
0000			47-3790192				Barings Global High Yield Fund	CYM MA	NIA	Barings LLC	Management_		MMLIC		
0000			47-3734770				Barings Total Return Bond Fund	MA	NIA	Barings LLC	Management.		MMLIC		
0000			47-3801860				Barings U.S. High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
0000							CCIC Fund	CHN	NIA	Barings LLC	Influence.		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			71-1018134				Great Lakes II LLC	DE	NI A	Company	Ownership	11.200	. MMLIC		
0000			71-1018134				Great Lakes II LLC	DE	NI A	C.M. Life Insurance Company	Ownership	1.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 04–1590850				Wood Creek Venture Fund LLC	DE	NI A	Company	Ownership	40.000	- MMLIC		}
0000			36-4823011				50 Liberty LLC	DE	NIA	Massachusetts Mutual Life Insurance	Ownership	59.100	MMLIC		
0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MMLIC		
							2.23, (, 220			Massachusetts Mutual Life Insurance					
0000			80-0948028				One Harbor Shore LLC	DE	NI A	Company	Ownership	61.000	MMLIC		
0000			80-0948028				One Harbor Shore LLC	DE	NI A	C.M. Life Insurance Company	Ownership.	6.000	MMLIC		1
										Massachusetts Mutual Life Insurance					
0000			81-4382111				Budapester Strasse LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance	L		I		
0000			82-2285211				Calgary Railway Holding LLC	DE	NI A	Company	Ownership	90.000	MMLIC		1

1 2 3 4 5 6 7 8 8 9 10 11 12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Order of Company Code (U.S. or Parent, Subsidiaries U.C. or National U.C.	13 If Control is Owner- ship Provide Percen- tage10.000	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing	16
Name of Securities Exchange Predict Pr	is Owner- ship Provide Percen- tage	Ultimate Controlling	SCA Filing	i
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Group Code	Percen- tage 10.000	Ultimate Controlling		,
Code Group Name Code Number RSSD CIK International Or Affiliates tion Entity (Name of Entity/Person) Other)	tage 10.000	Ultimate Controlling	Re-	,
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DOOD 92-307907 Corrbrook PRS Holdings LLC	100.000	MMLIC		!
	100.000	188 10		,
DOOD 95-4207717 Cornerstone California Mortgage Fund LLC CA NIA Company Consensing Cornerstone California Mortgage Fund LLC CA NIA Company Company Company Cornerstone California Mortgage Fund LLC CA NIA Company Com		MMLIC		
Dood 95-4207717 Cornerstone California Mortgage Fund II LLC CA NIA Massachusetts Mutual Life Insurance Company Donership	100.000	MMLIC		,
Description	100.000			
Cornerstone California Mortgage Fund III LLC CA NIA Company Comership Cornerstone Fort Pierce Development LLC DE NIA Company Comership Cornership Cornerstone Fort Pierce Development LLC DE NIA Company Comership Cornership Corners	100.000	MMLIC		,
Description Description				
D000	100.000	MMLIC		
D000				,
D000	84.100	MMLIC		
D000	5.900	MMLIC		!
D000	00 000	MMLIC		,
Cornerstone Permanent Mortgage Fund II	98.300	MMLIC		
Cornerstone Permanent Mortgage Fund II		MIMILIO	-	
Cornerstone Permanent Mortgage Fund II	98.500	MMLIC		,
.000		MMLIC	-	
.0000				
Description	100.000	MMLIC		
0000 82-1563809 CCB Montford Park LLC DE NIA Company Ownership	90.000	MMLIC		!
				,
	75.200	MMLIC		!
	4.800	MMLIC		
	100.000	MMLIC		,
	100.000	MINILIO		
	59.200	MMLIC		,
	5.600	MMLIC	-	
Massachusetts Mutual Life Insurance				
	100.000	MMLIC		!
Massachusetts Mutual Life Insurance				,
	51.000	MMLIC		
Massachusetts Mutual Life Insurance	05.000	100		ŀ
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	100.000	mmLIU	-	
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Salomon Brothers Commercial Mortgage Trust				
	- -	MMLIC	.	
Massachusetts Mutual Life Insurance				ŀ
	84.200	MMLIC	.	!
	15.800	MMLIC	-	!
Massachusetts Mutual Life Insurance	400.000	100		,
	100.000	MMLIC	-	
	95.100			ŀ
Double Fill Office Hotaling LC U.E. Mike Colipany United Ship Massachusetts Mutual Life Insurance	30.100			
	65.000	MMLIC		ŀ
, 2000 35-2484550 Twenty Two Liberty LLC MA NIA C.M. Life Insurance Company Ownership	35.000	MMLIC		
Massachusetts Mutual Life Insurance				
0000				

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										Type	If			
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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-	
Craun		Company	ID	Federal	(U.S. or	Parent, Subsidiaries			Directly Controlled by	Influence,	Percen-	Liltimata Cantrallina	quired?	
Group	Owner Name					Or Affiliates	Loca-	Reporting	Directly Controlled by			Ultimate Controlling		
Code	Group Name	Code	Number	RSSD CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person) Massachusetts Mutual Life Insurance	Other)	tage	Entity(ies)/Person(s)	(Y/N)	
0000			45-5401109			Washington Gateway Apartments Venture LLC	DE	NI A	Company	Ownership	96.300	MMLIC		
0000			45-5401109			Washington Gateway Apartments Venture LLC	DE	NI A	C.M. Life Insurance Company	Ownership	3.700	MMLIC		
0000			10 0101100			mashington dateway Apartments venture LLO	UL		Massachusetts Mutual Life Insurance	owner strip.	g.700			
0000			20-5481477			Ygnatio Valley Funding	DE	NI A	Company	Ownership	90.000	MMLIC		
			20 0 10 1 11 1 11			- gracio rarroy randrig			Massachusetts Mutual Life Insurance	oo.				
0000			45-3168892			MassMutual Barings Dynamic Allocation Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
						, , , , , , , , , , , , , , , , , , ,			Massachusetts Mutual Life Insurance					
0000			51-0529328	0000927972	0Q	MassMutual Premier Main Street Fund	MA	NI A	Company	Ownership	65.100	MMLIC		
						MassMutual Premier Strategic Emerging Markets			Massachusetts Mutual Life Insurance	-				
0000			26-3229251	0000927972	0Q	Fund	MA	NI A	Company	Ownership	2.100	MMLIC		.
									Massachusetts Mutual Life Insurance					
0000			04-3277550	0000927972	0Q	MassMutual Premier Value Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		
						MassMutual Select Diversified International			Massachusetts Mutual Life Insurance					
000Ω			14-1980900	0000916053	00	Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		-ll
									Massachusetts Mutual Life Insurance					
0000			01-0821120	0000916053	00	MassMutual Select Diversified Value Fund	MA	NI A	Company	Ownership	0.800	- MMLIC		
									Massachusetts Mutual Life Insurance					
0000			04-3512593	0000916053	0Q	MassMutual Select Fundamental Growth Fund	MA	NI A	Company	Ownership	0.000	- MMLIC		4
0000			04 0540040	0000040050	00	W W + 101 +1 0 V + 5 1			Massachusetts Mutual Life Insurance	0 1:	0.000	188.10		
0000			04-3513019	0000916053	^{0Q}	MassMutual Select Large Cap Value Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
0000			42-1710935	0000916053	00	Manakhitual Calant Mid Com Value Fund	MA	NI A	Massachusetts Mutual Life Insurance	O	16 700	MAIL LC		
0000			42-1/10935	0000910003	04	MassMutual Select Mid-Cap Value Fund MassMutual Select Small Capital Value Equity	MA	NI A	Company	Ownership	16.700	MMLIC		1
0000			02-0769954	0000916053	00	Fund	MA	NI A	Company	Ownership	0.000			
			02 0700004		ou	T unu			Massachusetts Mutual Life Insurance	owner strip.		mile 10		1
0000			04-3584140	0000916053	00	MassMutual Select Small Company Value Fund	MA	NIA	Company	Ownership	5.600	. MMLIC		
						MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3347422	0000916053	oq	2005 Fund	MA	NI A	Company	Ownership	6.900	MMLIC		
						MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3355639	0000916053	0Q	2010 Fund	MA	NI A	Company	Ownership	0.000			
						MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3382389	0000916053	0Q	2015 Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		
						MassMutual Select T. Rowe Price Retirement		l	Massachusetts Mutual Life Insurance					
0000			82-3396442	0000916053	00	2020 Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		·
						MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3417420	0000916053	00	2025 Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		·····
0000			00 0400000	0000040050	00	MassMutual Select T. Rowe Price Retirement	ш	NI A	Massachusetts Mutual Life Insurance	O	0.000	100 10		
0000			82-3430358	0000916053	vu	2030 Fund	MA	NI A	Company	Ownership	0.000	MMLIC		·
0000			82-3439837	0000916053	00	2035 Fund	MA	NIA		Ownership.	0.000	MMLIC		
0000			02-3439037	0000910003	···	MassMutual Select T. Rowe Price Retirement	MA	NI A	Company	owner strip	0.000	NIMLIC		
0000			82-3451779	0000916053	00	2040 Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
0000			02 0401770			MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance	owner strip.		MINETO		
0000			82-3472295	0000916053	00	2045 Fund	MA	NI A	Company	Ownership.	0.000	MMLIC		
						MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance					
0000			82-3481715	0000916053	0Q	2050 Fund	MA	NI A	Company	Ownership	0.000	MMLIC		<u> </u>
						MassMutual Select T. Rowe Price Retirement			Massachusetts Mutual Life Insurance	1				
0000			82-3502011	0000916053	OQ	2055 Fund	MA	NI A	Company	Ownership	0.000	MMLIC		ļl
						MassMutual Select T. Rowe Price Retirement		1	Massachusetts Mutual Life Insurance]
0000			82-3525148	0000916053	0Q	2060 Fund	MA	NI A	Company	Ownership	0.000	. MMLIC		
						MassMutual Select T. Rowe Price Retirement		1	Massachusetts Mutual Life Insurance					
0000			82-3533944	0000916053	0Q	Balanced Fund	MA	NI A	Company	Ownership	0.000	MMLIC		<u> </u>

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	If			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board.	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary			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)	*
	•					,			Ĭ	Massachusetts Mutual Life Insurance	,	Ĭ	• • • • • • • • • • • • • • • • • • • •	1) (
0000			46-4257056				MML Series International Equity Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			47-3517233				MML Series II Asset Momentum Fund	MA	NI A	Company	Ownership	100.000	MML1C		
										Massachusetts Mutual Life Insurance					
0000			47-3529636				MML Series II Dynamic Bond Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
							•			Massachusetts Mutual Life Insurance					
0000			47-3544629				MML Series II Equity Rotation Fund	MA	NI A	Company	Ownership	95.000	MMLIC		
							. ,			Massachusetts Mutual Life Insurance					
0000			47-3559064				MML Series II Special Situations Fund	MA	NI A	Company	Ownership	97.200	MMLIC		
							·			Massachusetts Mutual Life Insurance					
0000			27-1933828		0000916053	0Q	MassMutual RetireSMART 2015 Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-1933389		0000916053	0Q	MassMutual RetireSMART 2035 Fund	MA	NI A	Company	Ownership	4.500	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			27-1932769		0000916053	0Q	MassMutual RetireSMART 2045 Fund	MA	NI A	Company	Ownership	10.200	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-3289207		0000916053	0Q	MassMutual RetireSMART 2055 Fund	MA	NI A	Company	Ownership	30.900	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			47-5326235		0000916053	0Q	MassMutual RetireSMART 2060 Fund	MA	NI A	Company	Ownership	65.800	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			45-1618155		0000916053	0Q	MassMutual RetireSMART Conservative Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			45-1618222		0000916053	0Q	MassMutual RetireSMART Growth Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance	·			1	
0000		.	03-0532464		0000916053	0Q	MassMutual RetireSMART In Retirement Fund	MA	NI A	Company	Ownership	1.600	MMLIC		
										Massachusetts Mutual Life Insurance					
0000		.	45-1618262		0000916053	0Q	MassMutual RetireSMART Moderate Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000		.	45-1618046		0000916053	00	MassMutual RetireSMART Moderate Growth Fund _	MA	NI A	Company	Ownership	0.000	MMLIC		
														1	

Explanation
ebt of Jefferies Finance LLC
nd, 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.

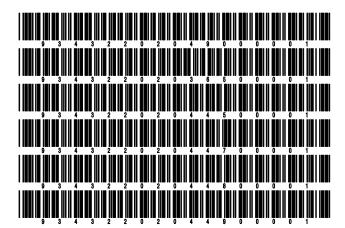
	_	Response
	Maller T. J. 10. J. Old and C. J. Charles and C.	NO
1.	Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO NO
2.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3.	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.	N/A

Explanation:

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

Bar Code:

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



Doononoo

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 yilk ya		
7.	Deduct current year's other than temporary impair ent recommendation zed		
8.	Deduct current year's depreciation		
9.	Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)		
10.	Deduct total nonadmitted amounts		
11.	Statement value at end of current period (Line 9 minus Line 10)		

SCHEDULE B - VERIFICATION

Mortgage Loans

		1	2
			Prior Year Ended
		Year to Date	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	77,848,168	87,202,430
	2.2 Additional investment made after acquisition	2, 187, 364	9,788,601
3.	2.1 Actual cost at time of acquisition 2.2 Additional investment made after acquisition Capitalized deferred interest and other	349,652	1,273,315
4.	Accrual of discount	146,285	200,504
5.	Unrealized valuation increase (decrease)		
6.	Total gain (loss) on disposals Deduct amounts received on disposals	1,490	(76,590)
7.	Deduct amounts received on disposals	20,329,226	88,704,427
8.	Deduct amortization of premium and mortgage interest points and commitment fees	133,010	793,688
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest	(5,112,898)	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)	987,979,422	933,021,597
12.	Total valuation allowance		
13.	Subtotal (Line 11 plus Line 12)	987,979,422	933,021,597
14.	Deduct total nonadmitted amounts		
15.	Statement value at end of current period (Line 13 minus Line 14)	987,979,422	933,021,597

SCHEDULE BA - VERIFICATION

Other Long-Term Invested Assets

	· ·	1	2
			Prior Year Ended
		Year to Date	December 31
1.	Book/adjusted carrying value, December 31 of prior year	160,933,329	168,637,463
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition		
	2.2 Additional investment made after acquisition	3,693,658	27,077,512
3.	Capitalized deferred interest and other		
4.	Accrual of discount		
5.	Unrealized valuation increase (decrease)	1,855,372	33,437,351
6.	Total gain (loss) on disposals	1,070,298	199,230
7.	Deduct amounts received on disposals	3,279,496	70,570,514
8.	Deduct amortization of premium and depreciation	2,716	11,578
9.	Total foreign exchange change in book/adjusted carrying value	(115,082)	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)	164,875,509	160,933,329
12.	Deduct total nonadmitted amounts	331,753	344,077
13.	Statement value at end of current period (Line 11 minus Line 12)	164,543,756	160,589,252

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		703,389,159
3.	Accrual of discount	966,437	3,719,248
4.	Unrealized valuation increase (decrease)	2,368,354	(12,209,679)
5.	Total gain (loss) on disposals	3,433,740	945,783
6.	Deduct consideration for bonds and stocks disposed of	207,566,485	985,342,446
7.	Deduct amortization of premium	494,239	1,947,812
8.	Total foreign exchange change in book/adjusted carrying value	(27,502,149)	10,796,856
9.	Deduct current year's other than temporary impairment recognized	3,438,509	11,691,399
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees	666,726	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, 136, 103, 979	4, 131, 363, 369
12.	Deduct total nonadmitted amounts		
13.	Statement value at end of current period (Line 11 minus Line 12)	4,136,103,979	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

	1	2	3	4	5	6	7	8
	Book/Adjusted Carrying Value	Acquisitions	Dispositions	Non-Trading Activity	Book/Adjusted Carrying Value	Book/Adjusted Carrying Value	Book/Adjusted Carrying Value	Book/Adjusted Carrying Value
	Beginning	During	Dispositions	During	End of	End of	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)	1.743.786.704	614.864.539	363,823,837	(25, 265, 026)	1,969,562,380			1,743,786,704
2. NAIC 2 (a)	, , ,	3,088,947,411	3,063,271,831	(5,804,734)	1,956,694,562			1,936,823,716
		75.096.087	45.505.789	. , , ,	348,570,308			308,790,382
3. NAIC 3 (a)	, . , .	, ,		, , ,	, ,			, ,
4. NAIC 4 (a)		432,343	6,787,201	(1,319,307)	50,884,530			58,558,695
5. NAIC 5 (a)		3,094,840	7, 129,802	, , ,	138,063,408			142, 100, 127
6. NAIC 6 (a)	28,919,340	69,025	2,668,048	(1,619,760)	24,700,557			28,919,340
7. Total Bonds	4,218,978,964	3,782,504,245	3,489,186,508	(23,820,956)	4,488,475,745			4,218,978,964
PREFERRED STOCK								
8. NAIC 1	2.950.000			(2.950.000)				2,950,000
9. NAIC 2	, , ,			2,950,000	2,950,000			2,000,000
				2,950,000	, ,			2 000 000
10. NAIC 3					2,000,000			2,000,000
11. NAIC 4								
12. NAIC 5		4,069	55,053	(1,223)	2,304,628			2,356,835
13. NAIC 6	82,296				82,296			82,296
14. Total Preferred Stock	7,389,131	4,069	55,053	(1,223)	7,336,924			7,389,131
15. Total Bonds and Preferred Stock	4,226,368,095	3,782,508,314	3,489,241,561	(23,822,179)	4,495,812,669			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	124,470,252	XXX	124,010,905		

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	105 , 150 , 423	280,651,182
3.	Accrual of discount	585,491	2,092,343
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals		9,256
6.	Deduct consideration received on disposals	95,400,000	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)	124,470,252	114 , 134 , 338
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	124,470,252	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	976,945
3.	Unrealized Valuation increase/(decrease)	192,537,140
4.	SSAP No. 108 adjustments	
5.	Total gain (loss) on termination recognized	
6.	Considerations received/(paid) on terminations	6,908,012
7.	Amortization	
8.	Adjustment to the Book/Adjusted Carrying Value of hedged item	(14,168)
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)	147,984,581
11.	Deduct nonadmitted assets	
12.	Statement value at end of current period (Line 10 minus Line 11)	147,984,581

	SCHEDULE DB - PART Futures Contra		RIFICATIO	N	
1.	Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)				(15,723,529)
2.	Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumu	ılative Cash Cha	ange column)		
3.1	Add:				
	Change in variation margin on open contracts - Highly Effective Hedges				
	3.11 Section 1, Column 15, current year to date minus				
	3.12 Section 1, Column 15, prior year				
	Change in variation margin on open contracts - All Other				
	3.13 Section 1, Column 18, current year to date minus	85,548,791			
	3.14 Section 1, Column 18, prior year	15,723,530)	101,272,321	101,272,321	
3.2	Add:				
	Change in adjustment to basis of hedged item				
	3.21 Section 1, Column 17, current year to date minus				
	3.22 Section 1, Column 17, prior year				
	Change in amount recognized				
	3.23 Section 1, Column 19, current year to date minus	85,548,791			
	3.24 Section 1, Column 19, prior year	15,723,530)			
	3.25 SSAP No. 108 adjustments		101,272,321	101,272,321	
3.3	Subtotal (Line 3.1 minus Line 3.2)				
4.1	Cumulative variation margin on terminated contracts during the year		30,214,356		
4.2	Less:				
	4.21 Amount used to adjust basis of hedged item				
	4.22 Amount recognized	30,214,356			
	4.23 SSAP No. 108 adjustments		30,214,356		
4.3	Subtotal (Line 4.1 minus Line 4.2)				
5.	Dispositions gains (losses) on contracts terminated in prior year:				
	5.1 Total gain (loss) recognized for terminations in prior year				
	5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year				69,825,262
6.	Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)				(85,548,791)
7.	Deduct total nonadmitted amounts				
8.	Statement value at end of current period (Line 6 minus Line 7)				(85,548,791)

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

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

SCHEDULE DB - VERIFICATION

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

		Book/Adjusted Carrying \	/alue Check
1.	Part A, Section 1, Column 14.	147,984,581	
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance		
3.	Total (Line 1 plus Line 2)		147,984,581
4.	Part D, Section 1, Column 5	1,343,073,985	
5.	Part D, Section 1, Column 6	(1,109,540,614)	
6.	Total (Line 3 minus Line 4 minus Line 5)		(85,548,791)
		Fair Value Che	ck
7.	Part A, Section 1, Column 16	147,984,581	
8.	Part B, Section 1, Column 13	85,548,791	
9.	Total (Line 7 plus Line 8)	······································	233,533,372
10.	Part D, Section 1, Column 8	1,343,073,985	
11.	Part D, Section 1, Column 9	(1,109,540,614)	
12	Total (Line 9 minus Line 10 minus Line 11)		
		Potential Exposure	Check
13.	Part A, Section 1, Column 21	169,586,281	
14.	Part B, Section 1, Column 20	40,322,700	
15.	Part D, Section 1, Column 11	209,908,981	
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	3,442,629,051	5,210,188,435
3.	Accrual of discount	2,220,992	4,629,294
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals		21,697
6.	Deduct consideration received on disposals	3, 186, 540, 000	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)	553,591,771	295,281,728
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	553,591,771	295,281,728