QUARTERLY STATEMENT

OF THE

C.M. Life Insurance Company

TO THE

Insurance Department

OF THE

STATE OF

FOR THE QUARTER ENDED JUNE 30, 2019

[X] LIFE AND ACCIDENT AND HEALTH

[] FRATERNAL BENEFIT SOCIETIES

2019



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

QUARTERLY STATEMENT

AS OF JUNE 30, 2019 OF THE CONDITION AND AFFAIRS OF THE

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

Organized under the Laws of	(Current) (Prior) Connecticut	, State of Domicile or Port	of EntryCT
Country of Domicile		United States of America	
Licensed as business type:	Life, Accident &	Health [X] Fraternal Benefit Societies []
Incorporated/Organized	04/25/1980	Commenced Business	05/12/1981
Statutory Home Office	100 Bright Meadow Boulevard		Enfield, CT, US 06082
	(Street and Number)	(City	or Town, State, Country and Zip Code)
Main Administrative Office		1295 State Street (Street and Number)	
	gfield, MA, US 01111	,	413-788-8411
(City or Town,	State, Country and Zip Code)		(Area Code) (Telephone Number)
Mail Address	1295 State Street (Street and Number or P.O. Box)	,(Cit\	Springfield, MA, US 01111 or Town, State, Country and Zip Code)
Primary Location of Books and Reco	,	1295 State Street	
•		(Street and Number)	
	gfield, MA, US 01111 State, Country and Zip Code)		413-788-8411 (Area Code) (Telephone Number)
Internet Website Address	,,,	www.massmutual.com	(
		www.massmutuar.com	
Statutory Statement Contact	Yiji S. Starr (Name)	·	617-695-4651 (Area Code) (Telephone Number)
	02@massmutual.com		413-226-4086
	(E-mail Address)		(FAX Number)
D 11 1 1011 (OFFICERS	
President and Chief Executive Officer	Roger William Crandall	Treasurer	Todd Garett Picken
Secretary	Akintokunbo Akinbajo #	Appointed Actuary	Douglas Wright Taylor
E	N" 5	OTHER	
Elizabeth Ward Chicares, Executi Chief Financial C		bert Fanning, Executive Vice President	Melvin Timothy Corbett, Executive Vice President
	DIR	ECTORS OR TRUSTEES	
Roger William Crandall Michael James O'0	- Chairman	Michael Robert Fanning	Elizabeth Ward Chicares
Michael James O C	<u>Sonnor</u>		-
State of Mas	ssachusetts		
County of H	Hampden SS:		
all of the herein described assets w statement, together with related exhi condition and affairs of the said repo in accordance with the NAIC Annua rules or regulations require different respectively. Furthermore, the scop	ere the absolute property of the said re bits, schedules and explanations therein rting entity as of the reporting period sta Statement Instructions and Accounting coes in reporting not related to accou- e of this attestation by the described of	eporting entity, free and clear from any lie a contained, annexed or referred to, is a futed above, and of its income and deductic by Practices and Procedures manual excepanting practices and procedures, accordicers also includes the related correspon	reporting entity, and that on the reporting period stated above, ens or claims thereon, except as herein stated, and that this ill and true statement of all the assets and liabilities and of the ons therefrom for the period ended, and have been completed to to the extent that: (1) state law may differ; or, (2) that state ng to the best of their information, knowledge and belief, ding electronic filing with the NAIC, when required, that is an analy be requested by various regulators in lieu of or in addition
Roger William Cranda President and Chief Executive		Akintokunbo Akinbajo Secretary	Todd Garett Picken Treasurer
Subscribed and sworn to before me day of	his		dment number

ASSETS

1 Source		AS	SETS						
Note Access Note Applied Access Note Applied Access Country Country Applied Access Country Applied Access Country Applied Access Country Applied Access Country Applied Applied Access Country Applied A			Current Statement Date						
1. Brodns			·		Net Admitted Assets	Prior Year Net			
2. Sports				Nonadmitted Assets					
2.1 Preferred stocks	1.	Bonds	4, 195, 453, 427		4, 195, 453, 427	4,068,296,877			
27. Common motions 37. First term 39. 594 273 39. 594 274 39. 594	2.								
5. Order trans first irens. 3.00 (194 27) 3.1 First lines. 3.2 (199 and 199									
3.3 Chee from froit livins 4. Real transfer 5.3 Chee from froit livins 4. Properties canagised by the company (test 3 encurribances) 4.1 Properties led for the production of income (jest 8 encurribances) 4.2 Properties led for the production of income (jest 8 encurribances) 4.3 Properties led for sale (test 8 encurribances) 4.3 Properties led for sale (test 8 encurribances) 5. Contract Interes (5 for 18, 55 st), cach equivalents (5 for 17, 78, 53) used about to term investments (6 for 17, 78, 53) used about to term investments (7 for 18, 18, 18, 18, 18, 18, 18, 18, 18, 18,			337,655,648		337,655,648	323,415,457			
3.2 Cities than first lierus. 4.1 Properties conspired by the company (bes 6 announces). 4.2 Properties hold for the production of income (loss announces). 4.3 Properties hold for the production of income (loss announces). 5. Cash (6 — 23, 176, 534), cash equivaents (8 — 112, 323 dt) — 112, 329 dt)	3.								
4. Properties coacyied by the correspy (less \$					939,594,373	921,272,354			
4.1 Properties occupied by the company (sess \$ executives held for the production of income (less \$ 4.3 Properties held for the production of income (less \$ 4.3 Properties held for sale (less \$ 5.4 Properties (less \$ 1.4 Properties (less									
excumbrances) 4.2 Properties held for the production of income (less) 5. encumbrances) 5. Canh 18	4.								
4.2 Proporties held for the production of income (less \$ 4.3 Proporties held for sale (less \$ cant) (\$ 2.5, 178, 524), cash equivalents (\$ 3.7, 178, 526), and short-term investments (\$ 4.1 Proporties (\$ 4.2 17, 178, 526), and short-term investments (\$ 4.1 2, 13, 304) 5. Control tone (including \$ 5. Co									
\$ encumbrances) 4.3 Prepartitions held for safe (less \$ encumbrances) 5. Gash 1\$		•							
4.3 Properties held for sale (less \$ encurtherscoss) 5. Carth (s. 25, 176, 534), cash equivalents (s. 71, 785, 50) and short-term investments (s. 41, 23, 304), 138, 209, 339 138, 209, 339 138, 209, 339 310, 04, 715 149, 239, 309 150, 009, 917 151, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 152, 009, 917 153, 372, 305 154, 372, 305 156, 157, 354 157, 158, 375 158, 375, 305 158, 375, 375 158, 375, 375 158, 375, 375 158, 375, 375 158, 375, 375 158, 375, 3									
encumbrances) 5. Cash (\$\$5, 178, 534), cash equivalents (\$\$71, 786, 520) and short-term investments (\$\$118, 534)		,							
5. Cach (S217, 78, 54) , coch regovalences (S17, 78, 520) and short-term investments (S14, 23, 34) in a short-term investments (S14, 23, 34) in a short-term investment (S14, 23, 34) in a short-term investment (S14, 23, 34) in a short-term investment (S									
Fig. 17.79, 520 3 and short-term 198, 268, 358 198, 268, 358 391, 004, 715 420, 393 77. Contractives 41, 283, 394 198, 288, 358 391, 397 192, 299, 917 192, 299, 917 192, 299, 917 193, 292, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 322, 390 79. 194, 323, 371, 185 79. 194, 323, 371, 185 79. 194, 391, 391, 391, 391, 391, 391, 391, 391									
Investmentin (\$ 4 1,28 3,34)	5.	Cash (\$25, 178,534), cash equivalents							
6. Contract loss (including \$ premium notes) 152,009,917 152,009,9		•							
7. Derivatives									
8. Other invested assets	6.	Contract loans (including \$ premium notes)	152,009,917			149,329,290			
9. Recoivables for securities 10. Securities lending reinvested collateral assets 11. Aggregate write into for invested assets 12. Subtotals, cash and invested assets 10.11 13. Title pints less \$	7.	Derivatives	543,372,965						
10. Securities lending reinvested collateral assets 11. Aggregate write-ins for invested assets 11. Subtotals, cash and invested assets 12. Subtotals, cash and invested assets 13. Title plants less \$	8.								
1.1 Agrogate write-ins for invested assets	9.	Receivables for securities	271,681,370		271,681,370	212,042,387			
12. Subtotals, cash and invested assets (Lines 1 to 11)	10.	Securities lending reinvested collateral assets							
13. Title plants less \$ charged off (for Title insurers only)	11.								
Only) 14. Investment income due and accrued 15. Premiums and considerations: 15.1 Uncollected premiums and agents' balances in the course of collection 15.2 Deterror premiums, agents' balances and installments booked but deferred and not yet due (including \$			6,771,138,741	284,461	6,770,854,280	6,594,224,759			
14. Investment income due and accrued	13.	Title plants less \$ charged off (for Title insurers							
15. Premiums and considerations: 15.1 Uncollected premiums, agents' balances in the course of collection 15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$		**							
15.1 Uncollected premiums and agents' balances in the course of collection 15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums). 15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$) . 16. Reinsurance: 16.1 Amounts recoverable from reinsurers 16.2 Funch shed by or deposited with reinsured companies. 16.3 Other amounts receivable under reinsurance contracts 17. Amounts receivable relating to uninsured plans 18.1 Current federal and foreign income tax recoverable and interest thereon. 18.2 Interest of the desired and solid plant of the contract of t	14.	Investment income due and accrued	104,746,717	1,175,995	103,570,722	94,788,205			
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$	15.								
deferred and not yet due (including \$ earned but unbilled premiums) (30,772,957) (30,772,957) (36,787,510)		15.1 Uncollected premiums and agents' balances in the course of collection	84,912		84,912	527,728			
earned but unbilled premiums) 15.3 Accrued retrospective premiums (\$		15.2 Deferred premiums, agents' balances and installments booked but							
15.3 Accrued retrospective premiums (\$									
Contracts subject to redetermination (\$)			(30,772,957)		(30,772,957)	(36,787,510)			
16. Reinsurance: 16.1 Amounts recoverable from reinsurers		,							
16.1 Amounts recoverable from reinsurers		-							
16.2 Funds held by or deposited with reinsured companies 16.3 Other amounts receivable under reinsurance contracts 5,820,965 5,820,965 5,820,965 5,820,965 8,486,324 11. Amounts receivable relating to uninsured plans 18.1 Current federal and foreign income tax recoverable and interest thereon 9,21,243 9,21,243 11,243,030 18.2 Net deferred tax asset 7,6,130,411 9, Guaranty funds receivable or on deposit 8,74,070 8,74,070 8,74,070 9,14,884 20. Electronic data processing equipment and software 21. Furniture and equipment, including health care delivery assets (\$	16.				40 505 055	10 100 010			
16.3 Other amounts receivable under reinsurance contracts									
17. Amounts receivable relating to uninsured plans 18.1 Current federal and foreign income tax recoverable and interest thereon 18.2 Net deferred tax asset 18.4 Net deferred tax asset 18.5 No. 702,671 18.7 So. 702,671 18.9 So. 702,672 19.9 So. 702,671 19.9		·							
18.1 Current federal and foreign income tax recoverable and interest thereon 921,243 921,243 11,243,030 18.2 Net deferred tax asset 7.6,130,411 50,702,671 25,427,740 23,744,121 19. Guaranty funds receivable or on deposit 874,070 874,070 914,884 20. Electronic data processing equipment and software 21. Furniture and equipment, including health care delivery assets (\$) 92. Net adjustment in assets and liabilities due to foreign exchange rates 276,850 276,850 276,850 268,402 24. Health care (\$) and other amounts receivable 25. Aggregate write-ins for other than invested assets (59,162) (178,065) 118,903 (209,963) 25. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) 8,715,698,896 17,717,813,369,904 1,781,369,904 1,7									
18.2 Net deferred tax asset		9							
19. Guaranty funds receivable or on deposit									
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 24. Health care (\$) and other amounts receivable 25. Aggregate write-ins for other than invested assets 26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) 27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts 28. Total (Lines 26 and 27) 29. Total (Lines 26 and 27) 30. Total (Lines 26 and 27) 30. Total (Lines 26 and 27) 30. Summary of remaining write-ins for Line 11 from overflow page 31. Totals (Lines 1101 through 1103 plus 1198)(Line 11 above) 32. Summary of remaining write-ins for Line 25 from overflow page 33. Summary of remaining write-ins for Line 25 from overflow page 34. Total (Lines 26 and 27) 35. Summary of remaining write-ins for Line 25 from overflow page 36. (181,009) 36. (181,009) 37. (181,009) 38. Summary of remaining write-ins for Line 25 from overflow page 38. Summary of remaining write-ins for Line 25 from overflow page 39. Summary of remaining write-ins for Line 25 from overflow page 39. Summary of remaining write-ins for Line 25 from overflow page 39. Summary of remaining write-ins for Line 25 from overflow page 39. Summary of remaining write-ins for Line 25 from overflow page 39. Summary of remaining write-ins for Line 25 from overflow page									
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 276,850 268,402 24. Health care (\$) and other amounts receivable 25. Aggregate write-ins for other than invested assets (.59,162) (.178,065) .118,903 (.209,963) 26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) .69,715,698,896 27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts 28. Total (Lines 26 and 27) 8,759,789,141 54,734,853 8,705,054,289 8,312,670,613 29. DETAILS OF WRITE-INS 1001. 1102. 1103. 1109. 1109. 1109 plus 1198)(Line 11 above) 2501. Miscell aneous other assets 121,847 2,944 .118,903 (.209,963) 2502. Cash advances to agents (.181,009) (.181,009) 2503. 2598. Summary of remaining write-ins for Line 25 from overflow page. 2503. 2598. Summary of remaining write-ins for Line 25 from overflow page. 2504. 2506. 268,402 276,850 (.178,065) (.178,0									
S									
22. Net adjustment in assets and liabilities due to foreign exchange rates 276,850 268,402 23. Receivables from parent, subsidiaries and affiliates 276,850 268,402 24. Health care (\$) and other amounts receivable (59,162) (178,065) 118,903 (209,963) 25. Aggregate write-ins for other than invested assets (59,162) (178,065) 118,903 (209,963) 26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) 6,978,419,238 54,734,853 6,923,684,385 6,715,698,896 27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts 1,781,369,904 1,781,369,904 1,781,369,904 1,596,971,717 28. Total (Lines 26 and 27) 8,759,789,141 54,734,853 8,705,054,289 8,312,670,613 DETAILS OF WRITE-INS 1101 1102 1103 1198 Summary of remaining write-ins for Line 11 from overflow page 121,847 2,944 118,903 (209,963) 2501. Miscel laneous other assets 121,847 2,944 118,903 (209,963) 2503. 2598. Summary of remaining write-ins for Line 25 from overflow page 121,847 2,944 118,903 (209,963) <td>21.</td> <td></td> <td></td> <td></td> <td></td> <td></td>	21.								
23. Receivables from parent, subsidiaries and affiliates 276,850 268,402 24. Health care (\$) and other amounts receivable 25. Aggregate write-ins for other than invested assets (59,162) (178,065) 118,903 (209,963) 26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) 6,978,419,238 54,734,853 6,923,684,385 6,715,698,896 27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts 1,781,369,904 1,781,369	00								
24. Health care (\$,							
25. Aggregate write-ins for other than invested assets (59, 162) (178,065) 118,903 (209,963) 26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)									
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25). 27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts 28. Total (Lines 26 and 27) 28. Total (Lines 26 and 27) 29. Total Summary of remaining write-ins for Line 11 from overflow page. 1101. 1102. 1103. 1104. 1105. 1106. 1107. 1108. 1109. 110									
Protected Cell Accounts (Lines 12 to 25)			(39, 102)	(170,003)	110,503	(203,303)			
Accounts 1,781,369,904 1,781,369,904 1,596,971,717 28. Total (Lines 26 and 27) 8,759,789,141 54,734,853 8,705,054,289 8,312,670,613 DETAILS OF WRITE-INS 1101. 1102. 1103. 1198. Summary of remaining write-ins for Line 11 from overflow page 1199. Totals (Lines 1101 through 1103 plus 1198)(Line 11 above) 2501. Miscel laneous other assets 121,847 2,944 118,903 (209,963) 2502. Cash advances to agents (181,009) (181,009) 2503. 2598. Summary of remaining write-ins for Line 25 from overflow page	20.	Protected Cell Accounts (Lines 12 to 25)	6,978,419,238	54,734,853	6,923,684,385	6,715,698,896			
28. Total (Lines 26 and 27)	27.	From Separate Accounts, Segregated Accounts and Protected Cell							
DETAILS OF WRITE-INS 1101. 1102. 1103. 1198. Summary of remaining write-ins for Line 11 from overflow page 1199. Totals (Lines 1101 through 1103 plus 1198)(Line 11 above) 2501. Miscellaneous other assets 2502. Cash advances to agents (181,009) (181,009) 2503. 2598. Summary of remaining write-ins for Line 25 from overflow page									
1101	28.		8,759,789,141	54,734,853	8,705,054,289	8,312,670,613			
1102		DETAILS OF WRITE-INS							
1103	1101.								
1198. Summary of remaining write-ins for Line 11 from overflow page	1102.								
1199. Totals (Lines 1101 through 1103 plus 1198)(Line 11 above) 2501. Miscel laneous other assets 121,847 2,944 .118,903 .(209,963) 2502. Cash advances to agents .(181,009) .(181,009) 2503. 2598. Summary of remaining write-ins for Line 25 from overflow page	1103.								
2501. Miscellaneous other assets	1198.								
2502. Cash advances to agents (181,009) 2503. (181,009) 2598. Summary of remaining write-ins for Line 25 from overflow page	1199.	, , , , , , , , , , , , , , , , , , , ,							
2503	2501.					(209,963)			
2598. Summary of remaining write-ins for Line 25 from overflow page	2502.	Cash advances to agents	(181,009)	(181,009)					
	2503.								
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above) (59,162) (178,065) 118,903 (209,963)	2598.	Summary of remaining write-ins for Line 25 from overflow page							
	2599.	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	(59,162)	(178,065)	118,903	(209,963)			

LIABILITIES, SURPLUS AND OTHER FUNDS

		Current Statement Date	December 31 Prior Year
1.	Aggregate reserve for life contracts \$	3,934,206,473	3,976,890,479
2.	Aggregate reserve for accident and health contracts (including \$		
3. 4.	Liability for deposit-type contracts (including \$ Modco Reserve)		
	4.1 Life		17,795,753
5.	Policyholders' dividends/refunds to members \$ and coupons \$ due		
6.	and unpaid		
	6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$		
	6.2 Policyholders' dividends and refunds to members not yet apportioned (including \$		
	6.3 Coupons and similar benefits (including \$ Modco)		
7. 8.	Amount provisionally held for deferred dividend policies not included in Line 6		
0.	\$ discount; including \$ accident and health premiums		3.129
9.	Contract liabilities not included elsewhere:		,
	9.1 Surrender values on canceled contracts		
	9.2 Provision for experience rating refunds, including the liability of \$ accident and health experience rating refunds of which \$ is for medical loss ratio rebate per the Public Health		
	Service Act		
	9.3 Other amounts payable on reinsurance, including \$ assumed and \$146,085		
	ceded	146,085	172, 104
	9.4 Interest Maintenance Reserve	52,061,106	
10.	Commissions to agents due or accrued-life and annuity contracts \$, accident and health \$, and deposit-type contract funds \$		
11.	Commissions and expense allowances payable on reinsurance assumed		
12.	General expenses due or accrued	1.099	
13.	Transfers to Separate Accounts due or accrued (net) (including \$(4,535,037) accrued for expense		
	allowances recognized in reserves, net of reinsured allowances)		
14.	Taxes, licenses and fees due or accrued, excluding federal income taxes		
	Current federal and foreign income taxes, including \$ on realized capital gains (losses) Net deferred tax liability		
16.	Unearned investment income		
17.	Amounts withheld or retained by reporting entity as agent or trustee		
18.	Amounts held for agents' account, including \$ agents' credit balances		
19.	Remittances and items not allocated		
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.	Dividends to stockholders declared and unpaid		
24.	Miscellaneous liabilities:	140 500 000	100 010 117
	24.01 Asset valuation reserve		
	24.03 Funds held under reinsurance treaties with unauthorized and certified (\$		
	24.04 Payable to parent, subsidiaries and affiliates	67,893,121	52,658,547
	24.05 Drafts outstanding		
	24.06 Liability for amounts held under uninsured plans		
	24.07 Funds held under coinsurance 24.08 Derivatives		
	24.09 Payable for securities		14,998,971
	24.10 Payable for securities lending		
	24.11 Capital notes \$		
25. 26.	Aggregate write-ins for liabilities	373,445,331 5,207,807,468	408,787,455 5,078,381,357
27.	From Separate Accounts Statement	1 781 369 904	1,596,971,716
28.	Total liabilities (Lines 26 and 27)		6,675,353,074
29.	Common capital stock		2,500,000
30.	Preferred capital stock		
31. 32.	Aggregate write-ins for other than special surplus funds		
33.	Gross paid in and contributed surplus		
34.	Aggregate write-ins for special surplus funds		
35.	Unassigned funds (surplus)	1,263,100,709	1, 184, 541, 331
36.	Less treasury stock, at cost:		
	36.1 shares common (value included in Line 29 \$		
37.	Surplus (Total Lines 31+32+33+34+35-36) (including \$ in Separate Accounts Statement)		1,634,817,539
38.	Totals of Lines 29, 30 and 37	1,715,876,917	1,637,317,539
39.	Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	8,705,054,289	8,312,670,613
	DETAILS OF WRITE-INS	454 000 000	70 044 040
2501. 2502.	Derivative collateral		72,041,219 234,404,238
2502. 2503.	Derivative accrued interest		98,576,620
2598.	Summary of remaining write-ins for Line 25 from overflow page		3,765,378
2599.	Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	373,445,331	408,787,455
3101.			
3102. 3103.			
3103. 3198.	Summary of remaining write-ins for Line 31 from overflow page		
3199.	Totals (Lines 3101 through 3103 plus 3198)(Line 31 above)		
3401.			
3402.			
3403. 3498.	Summary of remaining write-ins for Line 34 from overflow page		
	Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)		

SUMMARY OF OPERATIONS

		1	2	3
		Current Year	Prior Year	Prior Year Ended
_	Premiums and annuity considerations for life and accident and health contracts	To Date	To Date 156,684,963	December 31
1. 2.	Considerations for supplementary contracts with life contingencies	2 039 212		330,683,668 1,391,827
3.				289,809,577
4.	Amortization of Interest Maintenance Reserve (IMR)	1,919,583		6,603,760
5.	Separate Accounts net gain from operations excluding unrealized gains or losses			
6.	Commissions and expense allowances on reinsurance ceded	44,489,236	37,542,228	89,736,253
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.	18 125 163	18 750 014	37,495,020
	8.2 Charges and fees for deposit-type contracts		10,700,014	, 1,400,020
	8.3 Aggregate write-ins for miscellaneous income		1,139,521	2,296,928
9.	Totals (Lines 1 to 8.3)	361,165,858	370,340,285	758,017,033
10.	Death benefits	41,188,693	57,265,718	96,123,759
11.	Matured endowments (excluding guaranteed annual pure endowments)			
12.	Annuity benefits	50,574,669	55,438,984	108,620,247
13.	Disability benefits and benefits under accident and health contracts		305,437	562,526
14.	Coupons, guaranteed annual pure endowments and similar benefits	000 505 000	047 004 440	400 405 540
15.	Surrender benefits and withdrawals for life contracts		217,321,410	438,495,510
16. 17.	Group conversions	3 370 273	1 978 234	5.075.304
18.	Payments on supplementary contracts with life contingencies	608 475	732,226	1,301,510
19.	Increase in aggregate reserves for life and accident and health contracts		(37,004,269)	(32,446,171)
20.	Totals (Lines 10 to 19)		296,037,740	617,732,685
21.	Commissions on premiums, annuity considerations, and deposit-type contract funds (direct	, , , , ,	, ,	, ,
	business only)		26,733,984	60,290,026
22.	Commissions and expense allowances on reinsurance assumed		47.616.16	440.000.000
23.	General insurance expenses and fraternal expenses	57,591,974	47,642,100	116,989,200
24.	Insurance taxes, licenses and fees, excluding federal income taxes	(360, 330)	5,393,737	12,100,190
25. 26.	Increase in loading on deferred and uncollected premiums			(1,145,809) (134,557,960)
26. 27.	Aggregate write-ins for deductions		(3,287,366)	(6,522,072)
28.	Totals (Lines 20 to 27)	311,257,418	308, 129, 675	664,886,260
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus	011,207,110	000, 120,010	001,000,200
	Line 28)	49,908,440	62,210,610	93,130,773
30.	Dividends to policyholders and refunds to members			
31.	Net gain from operations after dividends to policyholders, refunds to members and before federal			
	income taxes (Line 29 minus Line 30)		62,210,610	93, 130, 773
32.	Federal and foreign income taxes incurred (excluding tax on capital gains)	9,472,987	10,307,954	6,752,986
33.	Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	40,435,453	51,902,656	86,377,787
34.	Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital		01,002,000	
0 1.	gains tax of \$561,551 (excluding taxes of \$172,759			
	transferred to the IMR)	(6,207,855)	(13,382,192)	675,716
35.	Net income (Line 33 plus Line 34)	34,227,598	38,520,464	87,053,503
	CAPITAL AND SURPLUS ACCOUNT			
36.	Capital and surplus, December 31, prior year	1,637,317,539	1,573,159,890	1,573,159,890
37.	Net income (Line 35)		38,520,464	87,053,503
38.	Change in net unrealized capital gains (losses) less capital gains tax of \$(60,862)	53,618,345	(188,847)	26,123,215
39.	Change in net unrealized foreign exchange capital gain (loss)	(10,597,626)	(12,810,907)	(24,330,875)
40.	Change in net deferred income tax			
41.	Change in nonadmitted assets			
42.	Change in liability for reinsurance in unauthorized and certified companies			1,005,500 (8,700,000)
43. 44.	Change in reserve on account of change in valuation basis, (increase) or decrease	(0 684 812)	1/13 20/	
45.	Change in treasury stock			
46.	Surplus (contributed to) withdrawn from Separate Accounts during period			
47.	Other changes in surplus in Separate Accounts Statement			
48.	Change in surplus notes			
49.	Cumulative effect of changes in accounting principles			
50.	Capital changes:			
	50.1 Paid in			
	50.2 Transferred from surplus (Stock Dividend)			
F.4	50.3 Transferred to surplus	 		L
51.	Surplus adjustment: 51.1 Paid in			
	51.1 Paid in			
	51.2 Transferred to capital (Stock Dividend) 51.3 Transferred from capital			
	51.4 Change in surplus as a result of reinsurance			
52.	Dividends to stockholders			
53.	Aggregate write-ins for gains and losses in surplus	(3,386,119)	(3,767,151)	
54.	Net change in capital and surplus for the year (Lines 37 through 53)		16,676,813	64, 157, 649
55.	Capital and surplus, as of statement date (Lines 36 + 54)	1,715,876,917	1,589,836,703	1,637,317,539
	DETAILS OF WRITE-INS	Ι		
	Revenue sharing			2,275,276
	Miscellaneous	(2,093)	,	21,652
	Common of remaining write ing fay Ling 9.2 from growth we are			
	Summary of remaining write-ins for Line 8.3 from overflow page	1,062,508	1,139,521	2,296,928
	Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) Reinsurance ceded adjustment			
	Miscellaneous charges to operations			
	miscerialieous charges to operations			1,012,220
	Summary of remaining write-ins for Line 27 from overflow page			
	Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	(2,864,757)	(3,287,366)	(6,522,072)
				(7,534,298)
	Summary of remaining write-ins for Line 53 from overflow page		(0.707.454)	
5399.	Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	(3,386,119)	(3,767,151)	(7,534,298)

CASH FLOW

	Net investment income Miscellaneous income Total (Lines 1 to 3) Benefit and loss related payments Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts Commissions, expenses paid and aggregate write-ins for deductions Dividends paid to policyholders Federal and foreign income taxes paid (recovered) net of \$ 1,677,693 tax on cappains (losses) Total (Lines 5 through 9) Net cash from operations (Line 4 minus Line 10) Cash from Investments Proceeds from investments sold, matured or repaid: 12.1 Bonds 12.2 Stocks	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
	Cash from Operations	. o sato	10 24.0	2000
1.	Premiums collected net of reinsurance	153,553,246	165,691,893	339,484,396
2.	Net investment income	, ,	139,052,900	294,309,782
3.	Miscellaneous income	67,155,986	57,078,002	130,120,565
4.	Total (Lines 1 to 3)	351,911,491	361,822,795	763,914,743
5.	Benefit and loss related payments		330,613,411	645,347,415
6.	Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(70 , 124 , 760)	(64,258,755)	(135,915,913
7.	Commissions, expenses paid and aggregate write-ins for deductions	78,669,469	90,481,784	179, 198, 656
8.	Dividends paid to policyholders			
9.	Federal and foreign income taxes paid (recovered) net of \$			
	gains (losses)	(114,491)	15,433,012	31,434,914
10.	Total (Lines 5 through 9)	365,914,435	372,269,452	720,065,072
11.	Net cash from operations (Line 4 minus Line 10)	(14,002,944)	(10,446,657)	43,849,671
	Cash from Investments			
12.	Proceeds from investments sold, matured or repaid:			
	12.1 Bonds	351,504,946	389,973,677	764, 131,226
	12.2 Stocks	(4,000,716)	3,252,277	13,568,723
	12.3 Mortgage loans		41,038,630	
	12.4 Real estate			
	12.5 Other invested assets	9,956,176	36,242,498	70,661,555
	12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(2,648,468)	172,601	3,348,291
	12.7 Miscellaneous proceeds	3,597,429	(34,526,677)	(5,535,923
	12.8 Total investment proceeds (Lines 12.1 to 12.7)	413,395,227	436, 153,006	925,849,803
13.	Cost of investments acquired (long-term only):			
	13.1 Bonds	487,956,058		740,037,314
	13.2 Stocks		974,929	4,030,709
	13.3 Mortgage loans		20,759,267	66,936,238
		_,,,	, ,	
	13.5 Other invested assets		26.149.636	44,334,994
	13.6 Miscellaneous applications	17,827,884	(13,689,114)	(11,531,445)
	13.7 Total investments acquired (Lines 13.1 to 13.6)	591,630,342	372,564,840	843,807,810
14.	Net increase (or decrease) in contract loans and premium notes	2,678,717	(2,767,380)	1,353,482
15.	Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(180,913,832)	66,355,546	80,688,511
	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	11,649,315	6,332,015	3,261,248
	16.5 Dividends to stockholders			
	16.6 Other cash provided (applied)	(69,468,896)	(95,220,039)	(41, 122, 997)
17.	Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	(57,819,581)	(88,888,024)	(37,861,749
	RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS	(050 700 057	(00.070.105)	00.070.455
18.	Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(252,736,357)	(32,979,135)	86,676,433
19.	Cash, cash equivalents and short-term investments:	004 004 745	224 222 222	204 200 200
	19.1 Beginning of year		304,328,282	304,328,282
	19.2 End of period (Line 18 plus Line 19.1)	138,268,358	271,349,147	391,004,715
	upplemental disclosures of cash flow information for non-cash transactions:			
	D1. Bond conversions and refinancing		8,783,470 201,877	24,538,265 749,549
	D3. Stock conversions	398,874	1,307,260	1,307,260
20.000			0 400 704	40 000 004
20.000	04. Bank loan rollovers		9,162,721 66.422	10,083,261 329,480

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

	DIRECT PREMIUMS AND DEPOSIT-TYPE	CONTRACTS		
		1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1.	Industrial life			
2.	Ordinary life insurance	94,134,287	106,351,383	206,419,533
3.	Ordinary individual annuities	702,456,378	571,028,355	1,381,046,253
4.	Credit life (group and individual)			
5.	Group life insurance	22,525	25,520	635,822
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)	796,613,190	677,405,258	1,588,101,608
12.	Fraternal (Fraternal Benefit Societies Only)			
13.	Subtotal (Lines 11 through 12)	796,613,190	677,405,258	1,588,101,608
14.	Deposit-type contracts			
15.	Total (Lines 13 and 14)	796,613,190	677,405,258	1,588,101,608
	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

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 #		2019	_	2018
NET INCOME							
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$	34,227,598	\$	87,053,503
(2) State prescribed practices that increase/(decrease) NAI SAP:	C N/A	N/A	N/A		-		-
(3) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		<u>-</u>	_	<u>-</u>
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	\$	34,227,598	\$_	87,053,503
SURPLUS							
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$	1,715,876,917	\$	1,637,317,539
(6) State prescribed practices that increase/(decrease) NAI SAP:	C N/A	N/A	N/A		-		-
(7) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	<u>-</u>	_	<u>-</u> _
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	\$	1,715,876,917	\$_	1,637,317,539

- Use of estimates in the preparation of the financial statements No change
- Accounting policy:

(1-5) No change

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

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

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

(7-14) No change

Going concern:

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

Note 2 - Accounting Changes and Corrections of Errors

For the six months ended June 30, 2019, the Company did not record any corrections of prior years' errors.

For the six months ended June 30, 2018, corrections of prior years' errors were recorded in capital and surplus, net of tax:

			Increa	ase (Decrease) to:	
		Prior		Current	Asset
	Y	ears'		Year	or Liability
	Net	Income		Surplus	Balances
				(In Millions)	
Partnership and limited liability companies		-		(1,959,401)	(1,959,401)
Deferred income taxes	\$	=	\$	(15,913,941)	\$ (15,913,941)
Total	\$	=	\$	(17,873,342)	

Of the \$17,873,342 decrease to surplus for prior years' errors, \$15,913,941 was recorded as a change in deferred taxes and \$1,959,401 was recorded as a change in unrealized capital (losses) gains, net of tax in the Summary of Operations.

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 plans to adopt these revisions to SSAP No. 51R using the 3-year phased in approach by no later than January 1, 2020. The Company currently uses formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company will be required to hold the higher of (a) the reserve using prescribed factors and (b) the PBR reserve which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. The modifications are not expected to have a material effect on the Company's total life reserves and surplus in the financial statements.

In October 2018, the NAIC issued modifications to SSAP No. 86, Derivatives, effective January 1, 2019. This guidance permits the use of the Overnight Index Swap (OIS) rate based on Secured Overnight Financing Rate as a U.S. benchmark interest rate for hedge accounting purposes under ASC Topic 815 in addition to the U.S. Treasury rate, the LIBOR swap rate, the OIS rate based on the Fed Funds Effective Rate, and the SIFMA Municipal Swap Rate. The Company has not elected to apply hedge accounting, therefore adoption of this guidance did not have an impact on the Company's financial statements.

In November 2018, the NAIC issued SSAP No. 30R, Unaffiliated Common Stock, effective January 1, 2019. These clarifications applies to unaffiliated common stock including Securities Exchange Commission registered investment companies, such as closedend mutual funds and unit investments trusts. The modification also includes public stock warrants, while nonpublic stock warrants would be classified as derivative instruments. The modifications did not have a material effect on the Company's financial statements.

Note 3 - Business Combinations and Goodwill - No change

Note 4 - Discontinued Operations - No change

Note 5 - Investments

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

			(1)	(2)					(3)		
						ОТ					
			Amortized				ınized				
			Cost Basis			in L					
			Before		(2a)		(2b)		Fair Value		
			OTTI	l	nterest		Non-interest		1-(2a+2b)		
ОТТ	I recognized in the first quarter										
a.	Intent to sell	\$		\$	_	\$		\$			
b.	Inability or lack of intent to retain the investment	Ψ	-	Ψ		Ψ	-	Ψ	_		
υ.	in the security for a period of time sufficient to										
	recover the amortized cost basis		1,165,596		_		9,831		1,155,765		
C.	Total first quarter	\$	1,165,596	\$		\$	9,831	\$	1,155,765		
		÷		÷		÷		÷	,,		
OTT	I recognized in the second quarter										
d.	Intent to sell	\$	_	\$	-	\$	-	\$	-		
e.	Inability or lack of intent to retain the investment										
	in the security for a period of time sufficient to										
	recover the amortized cost basis		1,163,829		_		182,972		980,857		
f.	Total second quarter	\$	1,163,829	\$		\$	182,972	\$	980,857		
ОТТ	Flore and the state of the stat										
	If recognized in the third quarter Intent to sell	Φ		Φ		\$		ው			
g. h.	Inability or lack of intent to retain the investment	\$	-	Ъ	-	Ф	-	Ф	-		
11.	in the security for a period of time sufficient to										
	recover the amortized cost basis		_		_		_		_		
i.	Total third quarter	\$	<u>_</u>	\$		\$		\$	<u>_</u>		
٠.	rotal tillia quartei	Ψ		Ψ		Ψ		Ψ			
OTI	TI recognized in the fourth quarter										
į.	Intent to sell	\$	=	\$	_	\$	-	\$	=		
k.	Inability or lack of intent to retain the investment										
	in the security for a period of time sufficient to										
	recover the amortized cost basis										
I.	Total fourth quarter	\$		\$		\$		\$			
	Accord comments total					_	400.000				
m.	Annual aggregate total			\$		\$	192,803				

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
61750MAB1	\$ 586	\$ 548	\$ (38)	\$ 548	\$ 554	March 31, 2019
65106FAG7	12,643	11,714	(929)	11,714	343	March 31, 2019
761118FM5	390,110	385,210	(4,900)	385,210	388,296	March 31, 2019
57643QAE5	755,970	754,768	(1,201)	754,768	790,386	March 31, 2019
US74951PBV94	6,287	3,525	(2,763)	3,525	6,872	March 31, 2019
61750MAB1	587	544	(42)	544	483	June 30, 2019
65106FAG7	12,476	11,547	(929)	11,547	60	June 30, 2019
761118FM5	404,545	392,163	(12,382)	392,163	415,195	June 30, 2019
57643QAE5	739,790	572,935	(166,855)	572,935	772,080	June 30, 2019
US74951PBV94	6,431	3,668	(2,763)	3,668	5,873	June 30, 2019
Totals	\$ 2,329,424	\$ 2,136,622	\$ (192,803)	\$ 2,136,622	\$ 2,380,143	

- As of June 30, 2019, 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:
 - The aggregate amount of unrealized losses:

1. Less than 12 months \$ (2,542.265)2. 12 months or longer \$ (2,730,883)

The aggregate related fair value of securities with unrealized losses:

1. Less than 12 months \$ 283.890.778 2. 12 months or longer \$ 112,263,740

- (5) No change
- Dollar repurchase agreements and/or securities lending transactions: The Company did not have any dollar repurchase agreements and/or securities lending transactions.
- Repurchase agreements transactions accounted for as secured borrowing: f.
 - (1) The Company has entered into repurchase agreements whereby the Company sells securities and simultaneously agrees to repurchase the same or substantially the same securities. These repurchase agreements are accounted for as collateralized borrowings with the proceeds from the sale of the securities recorded as a liability and the underlying securities continue to be recorded as an investment by the Company. Earnings on these investments are recorded as investment income and the difference between the proceeds and the amount at which the securities will be subsequently reacquired is amortized as interest expense. Repurchase agreements are used as a tool for overall portfolio management to help ensure the Company maintains adequate assets in order to provide yield, spread and duration to support liabilities and other corporate needs.

The Company provides collateral, as dictated by the repurchase agreements, to the counterparty in exchange for a loan. If the fair value of the securities sold becomes less than the loan, the counterparty may require additional collateral.

The carrying value, which is at cost, reported in the Company's liabilities as repurchase agreements approximates the fair value.

(2) Type of Repo Trades Used

	1	2	3	4
	FIRST	SECOND	THIRD	FOURTH
	QUARTER	QUARTER	QUARTER	QUARTER
a. Bilateral (YES/NO)	YES	YES	-	-
b. Tri-Party (YES/NO)	NO	NO	=	8

(3) Original (Flow) & Residual Maturity

	FIRST QUARTER									SECOND QUARTER							
			1		2		3		4		5		6		7		8
							AVERAGE								AVERAGE		
							DAILY		ENDING						DAILY		ENDING
			MINIMUM		MAXIMUM		BALANCE		BALANCE		MINIMUM		MAXIMUM		BALANCE		BALANCE
a.	Open – No Maturity	\$	-	\$	-	\$	=	\$	-	\$	=	\$	-	\$	-	\$	-
b.	Overnight	\$	E	\$	=	\$	=	\$	-	\$	=	\$	=	\$	E.	\$	Ξ
c.	2 Days to 1 Week	\$	=	\$	-	\$	=	\$	-	\$	=	\$	=	\$	=	\$	=
d.	> 1 Week to 1 Month	\$	-	\$	=	\$	-	\$	-	\$	18,270,000	\$	18,270,000	\$	1,405,385	\$	=
e.	> 1 Month to 3 Months	\$	E	\$	=	\$	=	\$	-	\$	69,212,500	\$	173,425,000	\$	104,050,962	\$	69,562,500
f.	> 3 Months to 1 Year	\$	232,599,715	\$	291,668,315	\$	237,266,613	\$	232,756,100	\$	40,432,000	\$	232,756,100	\$	60,960,500	\$	40,432,000
g.	> 1 Year	\$	=	\$	=	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

			THIRD C	UARTER			FOURTH (QUARTER	
		9	10	11	12	13	14	15	16
				AVERAGE				AVERAGE	
				DAILY	ENDING			DAILY	ENDING
		MINIMUM	MAXIMUM	BALANCE	BALANCE	MINIMUM	MAXIMUM	BALANCE	BALANCE
a.	Open – No Maturity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b.	Overnight	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
c.	2 Days to 1 Week	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
d.	> 1 Week to 1 Month	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
e.	> 1 Month to 3 Months	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
f.	> 3 Months to 1 Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
g.	> 1 Year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

- (4) The company did not have any repurchase agreements where securities sold and/or acquired resulted in default as of June 30, 2019.
 (5) Securities "Sold" Under Repo Secured Borrowing

			FIRST C	UARTER		SECOND QUARTER					
		1	2	3	4	5	6	7	8		
				AVERAGE				AVERAGE			
				DAILY	ENDING			DAILY	ENDING		
		MINIMUM	MAXIMUM	BALANCE	BALANCE	MINIMUM	MAXIMUM	BALANCE	BALANCE		
a.	BACV	XXX	XXX	XXX	\$ 232,756,100	XXX	XXX	XXX	\$ 109,994,500		
b.	Nonadmitted - Subset of BACV	XXX	XXX	XXX	\$ -	XXX	XXX	XXX	\$ -		
c.	Fair Value	\$ 232,599,715	\$ 291,668,315	\$ 237,266,613	\$ 232,756,100	\$ 109,644,500	\$ 232,493,600	\$ 166,416,846	\$ 109,994,500		

			THIRD C	UARTER			FOURTH (QUARTER	
		9	10	11	12	13	14	15	16
				AVERAGE				AVERAGE	
				DAILY	ENDING			DAILY	ENDING
		MINIMUM	MAXIMUM	BALANCE	BALANCE	MINIMUM	MAXIMUM	BALANCE	BALANCE
a.	BACV	XXX	XXX	XXX	\$ -	XXX	XXX	XXX	\$ -
b.	Nonadmitted - Subset of BACV	XXX	XXX	XXX	\$ -	XXX	XXX	XXX	\$ -
c.	Fair Value		\$ -	\$ -		-	- \$	\$ -	\$ -

(6) Securities Sold Under Repo – Secured Borrowing by NAIC Designation

ENDING BALANCE

		1	2	3	4	5	6	7	8 NON-
		NONE	NAIC 1	NAIC 2	NAIC 3	NAIC 4	NAIC 5	NAIC 6	ADMITTED
a.	Bonds - BACV	\$ -	\$ 109,994,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b.	Bonds - FV	=	109,994,500	=	=	=	Ξ.	Ξ:	Ξ.
c.	LB & SS - BACV	=	=	=	=	=	Ξ.	Ξ:	Ξ.
d.	LB & SS - FV	-	-	=	=	=	=	=	=
e.	Preferred Stock - BACV	-	-	=	=	=	=	=	=
f.	Preferred Stock - FV	-	-	=	=	=	=	=	=
g.	Common Stock	-	-	=	=	=	=	=	=
h.	Mortgage Loans - BACV	-	-	=	=	=	=	=	=
i.	Mortgage Loans - FV	-	-	=	=	=	=	=	=
j.	Real Estate - BACV	=	=	=	=	-	=	=	-
k	Real Estate - FV	=	=	=	=	-	=	=	-
I.	Derivatives - BACV	=	=	=	=	-	=	=	=
m.	Derivatives - FV	=	=	=	=	-	=	=	-
n.	Other Invested Assets - BACV	=	=	=	=	-	=	=	-
o.	Other Invested Assets - FV	-	-	-	-	-	-	-	-
p.	Total Assets - BACV	\$ -	\$ 109,994,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
q.	Total Assets - FV	\$ -	\$ 109,994,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

p=a+c+e+g+h+j+l+n a=b+d+f+a+i+k+m+o

(7) Collateral Received – Secured Borrowing

				FIRST C	QUA	RTER			SECOND QUARTER							
		1		2		3		4		5		6		7		8
						AVERAGE								AVERAGE		
						DAILY ENDING								DAILY		ENDING
		MINIMUM	MAXIMUM		BALANCE		BALANCE		MINIMUM		MAXIMUM		BALANCE		BALANCE	
a.	Cash	\$ 1,488,000	\$	1,887,000	\$	1,837,125	\$	1,887,000	\$	700,000	\$	1,887,000	\$	937,400	\$	700,000
b.	Securities (FV)	\$ 174,010,752 \$ 234,298,502				228,947,372	\$	233,978,670	\$	109,848,655	\$	234,099,732	\$	166,821,292	\$	110,236,314

		THIRD C	UARTER			FOURTH (QUARTER	
	9	10	11	12	13	14	15	16
			AVERAGE				AVERAGE	
			DAILY	ENDING			DAILY	ENDING
	MINIMUM	MAXIMUM	BALANCE	BALANCE	MINIMUM	MAXIMUM	BALANCE	BALANCE
a. Cash	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Securities (FV)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

(8) Cash & Non-Cash Collateral Received – Secured Borrowing by NAIC Designation

ENDING BALANCE

		1	2	3		4	5	6	7	8 DOES NOT QUALIFY AS
-		NONE	NAIC 1	NAIC 2	-	NAIC 3	NAIC 4	NAIC 5	NAIC 6	ADMITTED
a.	Cash	\$ 700,000	\$ =	\$ -	\$	=	\$ -	\$ -	\$ -	\$ -
b.	Bonds - FV	-	110,236,314	-		-	-	-	-	-
c.	LB & SS - FV	-=	-	-		=	=	=	=	=
d.	Preferred Stock - FV	-	-	-		-	-	-	-	-
e.	Common Stock	-	-	-		-	-	-	-	-
f.	Mortgage Loans - FV	=	=	-		=	=	=	=	=
g.	Real Estate - FV	-	-	-		-	-	-	-	-
h.	Derivatives - FV	-	-	-		-	-	-	-	-
i.	Other Invested Assets - FV	=	-	-		=	=	=	=	=
j.	Total Collateral Assets - FV (Sum of a through i)	\$ 700,000	\$ 110,236,314	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -

(9) Allocation of Aggregate Collateral by Remaining Contractual Maturity

		F	AIR VALUE
a.	Overnight and Continuous	\$	-
b.	30 Days or Less	\$	=
c.	31 to 90 Days	\$	109,994,500
d.	> 90 Days	\$	-

(10) The company did not have any repurchase agreements where cash collateral received was reinvested as of June 30, 2019.

(11) Liability to Return Collateral – Secured Borrowing (Total)

			FIRST QUARTER SECOND QUARTER												
		1		2		3		4		5		6	7		8
						AVERAGE							AVERAGE		
						DAILY		ENDING					DAILY		ENDING
		MINIMUM		MAXIMUM		BALANCE		BALANCE		MINIMUM		MAXIMUM	BALANCE		BALANCE
a.	Cash (Collateral – All)	\$ 1,488,000	\$	1,887,000	\$	1,837,125	\$	1,887,000	\$	700,000	\$	1,887,000	\$ 937,400	\$	700,000
b.	Securities Collateral (FV)	174,010,752		234,298,502		228,947,372		233,978,670	\$	109,848,655		234,099,732	166,821,292		110,236,314

			THIRD C	UARTER		FOURTH QUARTER						
		9	10	11	12	13	14	15	16			
				AVERAGE				AVERAGE				
				DAILY	ENDING			DAILY	ENDING			
		MINIMUM	MAXIMUM	BALANCE	BALANCE	MINIMUM	MAXIMUM	BALANCE	BALANCE			
a.	Cash (Collateral – All)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
b.	Securities Collateral (FV)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			

- 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.
- h. Repurchase agreements transactions accounted for as a sale: The Company did not have any repurchase agreements transactions accounted for as a sale.
- 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.
- 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.
- 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.
- o. Structured notes:

A structured note is a direct debt issuance by a corporation, municipality, or government entity, ranking pari-passu with the issuer's other debt issuance of equal seniority where either: (a) the coupon and/or principal payments are linked, in whole or in part, to prices or payment streams from index or indices, or assets deriving their value from other than the issuer's credit quality, or (b) the coupon and/or principal payments are leveraged by a formula that is different from either a fixed coupon, or a non-leveraged floating rate coupon linked to an interest rate index, including but not limited to the London Interbank Offered Rate (LIBOR) or the prime rate. As structured notes are issuer obligations without a trust, they are within the scope of SSAP No. 26, "Bonds, Excluding Loan-backed and Structured Securities". Structured notes are different than the asset backed structured securities, which are accounted for under SSAP No. 43R, "Revised - Loan-Backed and Structured Securities", as they lack either a trust or assets backing them. The disclosure below allows regulators to assess the volume of activity in structured notes and to determine whether additional accounting or reporting revisions, such as valuation and risk-based capital, are needed. To satisfy this request, the Company is required to separately identify structured notes, on a CUSIP basis and provide information by CUSIP for actual cost, fair value, book/adjusted carrying value, and whether the structured note is a mortgage-referenced security. The following sets forth the actual cost, fair value and carrying value of structured notes as of June 30, 2019:

CUSIP Identification	Actual Cost	Fair Value	Book / Adjusted Carrying Value	Mortgage- Referenced Security (YES/NO)
391164AF7	\$ 444,402	\$ 427,168	\$ 421,208	NO
Total	\$ 444,402	\$ 427,168	\$ 421,208	XXX

p. 5GI Securities:

	Investment	Number of 5G	I Securities	Aggregate	BACV	Aggregate F	air Value
		Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year
(1)	Bonds - AC	57	72	\$66,646,395	\$78,560,516	\$66,482,628	\$77,588,228
(2)	LB&SS - AC	-	-	-	-	-	-
(3)	Preferred Stock - AC	3	4	2,275,572	2,345,872	3,298,206	3,085,079
(4)	Preferred Stock - FV	-	-	-	-	-	-
(5)	Total (1+2+3+4)	60	76	\$68,921,967	\$80,906,388	\$69,780,834	\$80,673,307

AC - Amortized Cost FV - Fair Value

- q. Short Sales The Company does not engage in short sale transactions.
- r. Prepayment Penalty and Acceleration Fees:

	 Six Months Ended June 30, 2019							
	 General Account	Separate Account						
1. Number of CUSIPS	19		N/A					
2. Aggregate Amount of Investment Income	\$ 4,277,874		N/A					

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

Note 7 - Investment Income - No change

Note 8 - Derivative Instruments - No change

Note 9 - Income Taxes - No change

Note 10 - Information Concerning Parent, Subsidiaries and Affiliates - No change

Note 11 - Debt

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

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

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

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

Note 14 - Liabilities, Contingencies and Assessments

- Contingent commitments No change
- b. Assessments - No change
- Gain contingencies No change c.
- d. Claims related to extra contractual obligations - No change
- Joint and several liabilities No change e.
- All other contingencies: f.

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

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

- Transfers of receivables reported as sales No change
- Transfer and servicing of financial assets:
 - No change (1)
 - (2)The Company did not have any servicing assets or liabilities in 2019 or 2018.
 - (3)No change
 - (4)The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2019 or 2018.
 - (5-7) No change
- Wash sales
 - (1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days to enhance the Company's yield on its investment portfolio.
 - (2)The Company did not sell any securities with the NAIC Designation 3 or below, or unrated, through the six months ended June 30, 2019 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

- 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:

				Ju	ne 30, 2019		
						Net Asset	
	Level 1		Level 2		Level 3	(NAV)	Total
Financial assets:							
Bonds:							
Special revenue	-		749,963		-	-	749,963
Industrial and miscellaneous	\$ -	\$	5,736,349	\$	7,751,780	\$ -	\$ 13,488,129
Preferred stocks	346,860		-		55,090	-	401,950
Common stock - subsidiary and							
affiliates	16,532,297		=		=	=	16,532,297
Common stock - unaffiliated	290,103		-		3,354,737	-	3,644,840
Derivatives:							
Interest rate swaps	-		447,322,402		-	-	447,322,402
Options	-		23,872,409		-	-	23,872,409
Currency swaps	=		43,344,536		=	=	43,344,536
Forward contracts	-		1,340,725		-	-	1,340,725
Financial futures	27,492,895		-		-	-	27,492,895
Separate account assets	1,781,366,979		2,925		-	-	1,781,369,904
Total financial assets carried							
at fair value	\$ 1,826,029,134	\$	522,369,309	\$	11,161,607	\$ -	\$ 2,359,560,050
Financial liabilities:							
Repurchase agreements							
Derivatives:							
Interest rate swaps	\$ -	\$	532,343,069	\$	=	\$ =	\$ 532,343,069
Options	-		3,848,317		-	-	3,848,317
Currency swaps	-		7,543,708		-	-	7,543,708
Forward contracts	=		1,847,468		-	-	1,847,468
Credit default swaps	=		9,130		=	=	9,130
Financial futures	98,449						98,449
Total financial liabilities carried							
at fair value	\$ 98,449	\$_	545,591,692	\$	<u>-</u>	\$ 	\$ 545,690,141

For the period ended June 30, 2019, there were no significant transfers between Level 1 and Level 2 and the Company does not have any financial instruments that were carried at NAV as a practical expedient.

			December 31, 20	118	
				Net Asset Value	
	Level 1	Level 2	Level 3	(NAV)	Total
Financial assets:					
Bonds:					
Special revenue	\$ -	\$ 755,723	\$ -	\$ -	\$ 755,723
Industrial and miscellaneous	-	326,177	4,289,616	-	4,615,793
Parent, subsidiaries and affiliates	-	2,110,729	6,384,097	-	8,494,826
Preferred stocks	362,670	-	31,996	-	394,666
Common stock - subsidiary and affiliates	10,868,152	-	=	-	10,868,152
Common stock - unaffiliated	116,099	-	2,499,354	-	2,615,453
Derivatives:					
Interest rate swaps	-	249,516,085	-	-	249,516,085
Options	-	13,957,901	-	-	13,957,901
Currency swaps	-	35,305,329	-	-	35,305,329
Forward contracts	-	3,471,843	-	-	3,471,843
Financial futures - short positions	-	94,647	-	-	94,647
Financial futures - long positions	-	32,025,337	-	-	32,025,337
Separate account assets	1,596,964,984	6,732	-	-	1,596,971,716
Total financial assets carried					
at fair value	\$ 1,608,311,905	\$ 337,570,503	\$ 13,205,063	\$ -	\$ 1,959,087,471
Financial liabilities:					
Derivatives:					
Interest rate swaps	\$ -	\$ 374,936,861	\$ -	\$ -	\$ 374,936,861
Options	-	407,364	-	-	407,364
Currency swaps	-	7,762,334	-	-	7,762,334
Forward contracts	-	570,442	-	-	570,442
Credit default swaps	-	12,710	-	-	12,710
Total financial liabilities carried					
at fair value	\$ -	\$ 383,689,711	\$ -	\$ -	\$ 383,689,711

For the year ended December 31, 2018, there were no significant transfers between Level 1 and Level 2.

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

	Balance as of	Tran	sfers	S ⁽¹⁾	Gains (Losses) in	Gains (Losses) in							Balance as of
	01/01/2019	In		Out	Net Income	Surplus	Purchases	Issuances	Sa	ales	S	Settlements	6/30/2019
Financial assets:													
Bonds:													
Industrial and miscellaneous	\$ 4,289,614	\$ 3,971,703	\$	-	\$ (306,023)	\$ (202,454)	\$ 1,630	\$ - \$	3	(2,191)	\$	(499)	\$ 7,751,780
Parent, subsidiaries and affiliates	6,384,098	-		(6,384,098)	-	-	-	=		-		-	-
Preferred stocks	31,996	-		-	-	23,094	-	=		-		-	55,090
Common stocks - unaffiliated	 2,499,354	=		(131)	120,749	755,642	145,018	-		-		(165,896)	3,354,736
Total financial assets	\$ 13,205,062	\$ 3,971,703	\$	(6,384,229)	\$ (185,274)	\$ 576,282	\$ 146,648	\$ - \$	3	(2,191)	\$	(166,395)	\$ 11,161,606

⁽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	ers ⁽⁾		(L	Gains osses) in	(1	Gains Losses) in										Balance as of
	01/01/2018	In		Out	N	et Income		Surplus	Р	Purchases	ls	ssuances	Sales		S€	ettlements	•	2/31/2018
Financial assets:																		
Bonds:																		
Industrial and miscellaneous	\$ 2,213,347	\$ 3,546,000	\$	-	\$	(295,001)	\$	(500,164)	\$	6,289	\$	152,258	\$	-	\$	(833,115)	\$	4,289,614
Parent, subsidiaries and affiliates	6,740,295	-		-		-		(356,197)		-		-		-		-		6,384,098
Preferred stock	167,887	-		(167,887)		-		(28,743)		-		60,739		-		-		31,996
Common stock - unaffiliated	3,274,658	-		-		647,982		(404,676)		51,618		1,600,312		-		(2,670,540)		2,499,354
Currency Swaps	 49,359	=		(49,359)		-		-		_		-		-		-		
Total financial assets	\$ 12,445,546	\$ 3,546,000	\$	(217,246)	\$	352,981	\$	(1,289,780)	\$	57,907	\$	1,813,309	\$	-	\$	(3,503,655)	\$	13,205,062

⁽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.
- The Company provides additional fair value information in Note 21. "Other Items".

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

			June	e 30, 2019			
						Net	Not
	A	A -l :44l				Asset	Practicable
	Aggregate	Admitted	Lavald	1 1 0	11 0	Value	(Carrying
-	Fair Value	Assets	Level 1	Level 2	Level 3	(NAV)	Value)
Financial assets:							
Bonds:	Ф. 440.407.070	Ф. 440.000.F00	•	Ф. 440.407.070	Φ.	•	•
	\$ 149,187,879	\$ 148,966,536	\$ -	\$ 149,187,879	\$ -	\$ -	\$ -
All other governments States, territories and	1,420,796	1,344,529	-	1,420,796	-	-	-
possessions	32,238,290	29,017,805	-	32,238,290	-	-	-
Political subdivisions	20,481,342	18,232,081	-	20,481,342	-	-	-
Special revenue	142,321,232	126,027,267	-	142,321,232	-	-	-
Industrial and miscellaneous	3,881,255,332	3,662,874,952	-	1,947,348,977	1,933,906,355	-	-
Parent, subsidiaries and affiliates	214,294,051	208,990,257	-	2,199,952	212,094,099	-	-
Preferred stocks	28,823,822	26,964,432	20,207,858	-	8,615,964	-	-
Common stock - subsidiary and affiliates ⁽¹⁾	16,532,297	16,532,297	16,532,297	-	-	-	-
Common stock - unaffiliated	3,644,839	3,644,839	290,102	-	3,354,737	-	-
Mortgage loans - commercial	869,931,958	827,637,307	-	-	869,931,958	=	=
Mortgage Ioans - residential	109,767,449	111,957,065	-	-	109,767,449	-	-
Cash, cash equivalents and							
short-term investments	138,268,358	138,268,358	25,178,534	113,089,824	-	-	-
Derivatives:							
Interest rate swaps	447,322,402	447,322,402	-	447,322,402	-	=	=
Options	23,872,409	23,872,409	-	23,872,409	-	=	=
Currency swaps	43,344,536	43,344,536	-	43,344,536	-	-	-
Forward contracts	1,340,725	1,340,725	-	1,340,725	-	-	-
Financial futures	27,492,895	27,492,895	-	27,492,895	-	-	-
Separate account assets	1,781,369,904	1,781,369,904	1,781,366,979	2,925	-	-	-
Financial liabilities:							
Repurchase agreements	109,994,500	109,994,500	-	109,994,500	-	-	-
Individual annuity contracts	3,293,421,331	2,981,083,665	-	-	3,293,421,331	-	-
Supplementary contracts	80,940,878	80,139,483	-	-	80,940,878	-	-
Derivatives:							
Interest rate swaps	532,343,069	532,343,069	-	532,343,069	-	=	-
Options	3,848,316	3,848,316	-	3,848,316	-	-	-
Currency swaps	7,543,708	7,543,708	-	7,543,708	-	-	-
Forward contracts	1,847,468	1,847,468	-	1,847,468	-	-	-
Credit default swaps	9,130	9,130	-	9,130	-	-	-
Financial futures	98,449	98,449	-	98,449	-	-	-

⁽¹⁾ Common stock - subsidiary and affiliates does not include MML Bay State, which had a statutory carrying value of \$307,543,396.

December 31, 2018 Net Not Asset Practicable Admitted Aggregate Value (Carrying Fair Value Level 3 Assets Level 1 Level 2 (NAV) Value) Financial assets: Bonds: 274,697,980 274,697,980 273,487,919 U. S. government and agencies \$ \$ All other governments 1.371.069 1.361.038 1.371.069 29,374,590 States, territories and possessions 31,599,211 31,599,211 Political subdivisions 18.242.094 19.316.604 19.316.604 Special revenue 127.598.639 120,045,284 127,598,639 Industrial and miscellaneous 3,399,664,608 3,412,083,826 1,627,276,647 1,772,387,962 250.536.677 245.918.985 24.628.918 225.907.759 Parent, subsidiaries and affiliates Preferred stocks 25,135,684 26,560,290 17,237,100 7,898,583 Common stock - subsidiary and affiliates(1) 10.868.152 10.868.152 10.868.152 2.499.354 Common stock - unaffiliated 2.615.453 2.615.453 116.099 Mortgage loans - commercial 828,977,237 812,186,687 828,977,237 102.878.134 109.085.667 102.878.134 Mortgage Ioans - residential Cash, cash equivalents and 391,004,715 391,004,715 69,979,806 321,024,909 short-term investments Derivatives: 249.516.083 Interest rate swaps 249.516.083 249.516.083 13,957,901 13,957,901 Options 13,957,901 35,305,329 35,305,329 35,255,970 49,359 Currency swaps Forward contracts 3 471 843 3 471 843 3 471 843 32,119,985 32,119,985 32,119,985 Financial futures 1,596,971,716 1,596,964,984 1,596,971,716 6,732 Separate account assets Financial liabilities: 232,277,500 232,277,500 232,277,500 Repurchase agreements 3,312,409,604 2,995,402,794 3,312,409,604 Individual annuity contracts Supplementary contracts 91,166,848 90.264.206 91.166.848 Derivatives: 374.936.862 374.936.862 374.936.862 Interest rate swaps Options 407.363 407.363 407,363 Currency swaps 7,762,334 7,762,334 7,762,334 570.442 570.442 570.442 Forward contracts Credit default swaps 12,710 12,710 12.710

d. As of June 30, 2019 and December 31, 2018, 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 2018 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.

⁽¹⁾ Common stock - subsidiary and affiliates does not include MML Bay State, which had a statutory carrying value of \$295,306,366.

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

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

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

Currency exchange risk

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

Political Uncertainties

Political events, domestically or internationally, may directly or indirectly trigger or exacerbate the risk factors described above. Whether those underlying risk factors are driven by politics or not, the Company's dynamic approach to managing risks enables management to utilize the mitigating actions described above to attempt to reduce the potential impact of each underlying risk factor on the Company.

- d. Business interruption insurance recoveries No change
- e. State transferrable tax credits No change
- f. Subprime mortgage related risk exposure:
 - (1) No change
 - (2) No change
 - (3) Direct exposure through other investments.

			Jı	une 30, 2019		 Months Ended une 30, 2019
		Actual		Carrying	Fair	
Alt-A:	_	Cost		Value	Value	OTTI
a. Residential mortgage-backed securitie	s\$	14,415,781	\$	16,727,611	\$ 18,330,452	\$ 12,694
b. Commercial mortgage-backed securities	es	-		-	-	-
c. Collateralized debt obligations		-		-	-	-
d. Structured securities		-		-	-	-
e. Equity investments in SCAs *		681,003		782,006	901,750	-
f. Other assets		-		-	-	<u>-</u>
g. Total	\$	15,096,784	\$	17,509,617	\$ 19,232,202	\$ 12,694

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

							Year Ended
		Dec	ember 31, 2018	8		Dec	ember 31, 2018
	Actual		Carrying		Fair		
Alt-A:	 Cost		Value		Value		OTTI
a. Residential mortgage-backed securities	\$ 15,342,362	\$	17,584,357	\$	19,871,069	\$	76,979
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	=		=		=		=
d. Structured securities	-		-		-		-
e. Equity investments in SCAs *	752,906		846,365		990,672		-
f. Other assets	 -		-		_		
g. Total	\$ 16,095,268	\$	18,430,722	\$	20,861,741	\$	76,979

^{*} 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.
- Retained asset accounts No change

Note 22 - Events Subsequent

Management of the Company has evaluated subsequent events through August 12, 2019, 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 Statements of Financial Position and before the date of evaluation that would require disclosure.

Note 23 - Reinsurance - No change

Note 24 - Retrospectively Rated Contracts and Contracts Subject to Redetermination

a - d. No change

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

Note 25 - Change in Incurred Losses and Loss Adjustment Expenses

There was no increase to reserves in 2019 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 - Premium and Annuity Considerations Deferred and Uncollected - No change

Note 34 - Separate Accounts - No change

Note 35 - Loss/Claim Adjustment Expenses - No change

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

1.1	Did the reporting entity experience any material transactions requirin Domicile, as required by the Model Act?		Yes [] No [X]				
1.2	If yes, has the report been filed with the domiciliary state?						Yes [] No []
2.1	Has any change been made during the year of this statement in the reporting entity?						Yes [] No [X]
2.2	If yes, date of change:					<u> </u>		
3.1	Is the reporting entity a member of an Insurance Holding Company S is an insurer?	System consisting o	of two or more affiliated	persons, one or mo	re of wh	nich	Yes [X] No []
3.2	Have there been any substantial changes in the organizational chart	since the prior qua	urter end?				Yes [X] No []
3.3	If the response to 3.2 is yes, provide a brief description of those char MM Asset Management Holding LLC, an indirect wholly owned subsasset management affiliate, OppenheimerFunds Inc.	il						
3.4	Is the reporting entity publicly traded or a member of a publicly traded		Yes [] No [X]				
3.5	If the response to 3.4 is yes, provide the CIK (Central Index Key) coo	·····						
4.1	Has the reporting entity been a party to a merger or consolidation du If yes, complete and file the merger history data file with the NAIC for						Yes [] No [X]
4.2	If yes, provide the name of the entity, NAIC Company Code, and state ceased to exist as a result of the merger or consolidation.	te of domicile (use	two letter state abbrevi	ation) for any entity t	hat has	;		
	1 Name of Entity		2 NAIC Company Code	3 State of Domicile				
			, , , , , , , , , , , , , , , , , , , ,					
5.	If the reporting entity is subject to a management agreement, includi in-fact, or similar agreement, have there been any significant change If yes, attach an explanation.					Yes [] No [X] N/A []
6.1	State as of what date the latest financial examination of the reporting	g entity was made	or is being made			<u>-</u>	12/3	31/2014
6.2	State the as of date that the latest financial examination report becardate should be the date of the examined balance sheet and not the						12/3	31/2014
6.3	State as of what date the latest financial examination report became the reporting entity. This is the release date or completion date of the date).	e examination repo	rt and not the date of the	ne examination (bala	nce she	eet	05/3	31/2016
6.4 6.5	By what department or departments? State of Connecticut Insurance Department Have all financial statement adjustments within the latest financial extatement filed with Departments?	xamination report b	een accounted for in a	subsequent financia		Yes [] No [] N/A [X]
6.6	Have all of the recommendations within the latest financial examinat	tion report been co	mplied with?			Yes [X] No [] N/A []
7.1	Has this reporting entity had any Certificates of Authority, licenses or revoked by any governmental entity during the reporting period?						Yes [] No [X]
7.2	If yes, give full information:							
8.1	Answer required if 7.1 is Yes Is the company a subsidiary of a bank holding company regulated by	y the Federal Rese	rve Board?				Yes [] No [X]
8.2	If response to 8.1 is yes, please identify the name of the bank holding	g company.						
8.3	Is the company affiliated with one or more banks, thrifts or securities	s firms?					Yes [X] No []
8.4	If response to 8.3 is yes, please provide below the names and location regulatory services agency [i.e. the Federal Reserve Board (FRB), the Insurance Corporation (FDIC) and the Securities Exchange Commission (FDIC) and the Securities (FDIC) and th	ne Office of the Cor	nptroller of the Currence	cy (OCC), the Federa	al Depos	deral sit		
	1		2	3	4	5	6	
	Affiliate Name Baring International Investment Limited	London III	cation (City, State)	FRB	OCC	FDIC	SEC YES	
	Barings Global Advisers Limited	London IK				·	YES	
	Barings Securities, LLC	Charlotte NC				†	YES	
	MML Distributors, LLC	Enfield CT				I	YES	
	MML Investment Advisers, LLC	Enfield, CT				I	YES	
	MML Investors Services, LLC						YES	
	MML Strategic Distributors, LLC	Springfield, MA					YES	
	MMLISI Financial Alliances, LLC						YES	

GENERAL INTERROGATORIES

9.1	Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards? (a) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; (b) Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity; (c) Compliance with applicable governmental laws, rules and regulations; (d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and		Yes [X] No []
	(e) Accountability for adherence to the code.		
9.11	If the response to 9.1 is No, please explain:		
9.2	Has the code of ethics for senior managers been amended?		Yes [] No [X]
9.21	If the response to 9.2 is Yes, provide information related to amendment(s).		
9.3 9.31	Have any provisions of the code of ethics been waived for any of the specified officers?		Yes [] 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.	Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or otherwise made available use by another person? (Exclude securities under securities lending agreements.) If yes, give full and complete information relating thereto: Repurchase agreements, letter stock or securities restricted as to sale - excluding FHLB Capital Stock, on deposit with states and pledged collateral - excluding collateral pledged to a FHLB. Amount of real estate and mortgages held in other invested assets in Schedule BA:	l as	Yes [X] No []
13.	Amount of real estate and mortgages held in short-term investments:		
14.1	Does the reporting entity have any investments in parent, subsidiaries and affiliates?		
14.2			
	1 Prior Year-End Book/Adjusted Carrying Value		2 Current Quarter Book/Adjusted Carrying Value
	Bonds		\$206,790,257
	Preferred Stock\$		\$
	Common Stock		\$334,010,809
	Short-Term Investments \$ Mortgage Loans on Real Estate \$ \$		\$
	All Other\$		\$67,470,077
	Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) \$626,837,68		\$608,271,143
	Total Investment in Parent included in Lines 14.21 to 14.26 above\$		\$
15.1	Has the reporting entity entered into any hedging transactions reported on Schedule DB?		Yes [X] No []
15.2			Yes [X] No []
16.	For the reporting entity's security lending program, state the amount of the following as of the current statement date:		
	16.1 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2.	\$	j
	16.2 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2		
	16.3. Total payable for securities lending reported on the liability page		

GENERAL INTERROGATORIES

For all agreements the	1	odian(s)			2 Sustadian Addr	ess			
Citibank, N.A JP Morgan Chase Ban	k N.A	outan(s)	. 333 West 34th 1 Chase Manha	n Street, New attan Plaza, 1	York, NY 10001 9th Floor, New	York, NY 10005			
For all agreements the location and a comple		vith the requirements of the NAIC	Financial Cond	lition Examiner	s Handbook, p	rovide the name,			
1 Name	(s)	2 Location(s)		C	3 complete Expla	nation(s)			
Have there been any		name changes, in the custodian	(s) identified in	17.1 during the	e current quarte	er?	Yes	[] No	[]
1 Old Custo	odian	2 New Custodian	Date	3 of Change		4 Reason			
make investment dec	isions on behalf of	vestment advisors, investment m the reporting entity. For assets the tment accounts"; "handle secur	nat are manage	d internally by					
Barings LLC		or Individual	Affiliat	tion					
I'FM INVESTORS PTY L	td		U						
17.5097 For those firr designated w	ns/individuals liste ith a "U") manage	d in the table for Question 17.5, c more than 10% of the reporting 6	do any firms/ind entity's assets?	ividuals unaffili			Yes	[] N	0 [
17.5097 For those firr designated w 17.5098 For firms/ind total assets u	ns/individuals liste rith a "U") manage viduals unaffiliated under managemen	d in the table for Question 17.5, c	do any firms/ind entity's assets? signated with a ' the reporting en	ividuals unaffili "U") listed in th	e table for Que	stion 17.5, does the	Yes	[] N	
17.5097 For those firr designated w 17.5098 For firms/ind total assets u	ns/individuals liste rith a "U") manage viduals unaffiliated under managemen	d in the table for Question 17.5, c more than 10% of the reporting of d with the reporting entity (i.e. des t aggregate to more than 50% of	do any firms/ind entity's assets? signated with a ' the reporting en	ividuals unaffili "U") listed in th ntity's assets? iliated) or "U" (e table for Que	stion 17.5, does the	Yes	[] N	lo [
17.5097 For those firr designated w 17.5098 For firms/ind total assets u For those firms or ind table below. 1 Central Registration Depository Number	ns/individuals liste vith a "U") manage viduals unaffiliated under managemen viduals listed in th	d in the table for Question 17.5, c more than 10% of the reporting of with the reporting entity (i.e. dest aggregate to more than 50% of e table for 17.5 with an affiliation 2	do any firms/ind entity's assets?. signated with a ' the reporting er code of "A" (aff	ividuals unaffili "U") listed in th ntity's assets? iliated) or "U" (e table for Que unaffiliated), pr	stion 17.5, does the ovide the information for t 4 Registered With	Yes	5 Investm Manager Agreem (IMA) Fi	ent nent ent led
17.5097 For those firr designated w 17.5098 For firms/ind total assets u For those firms or ind table below. 1 Central Registration Depository Number	ns/individuals liste ith a "U") manage ividuals unaffiliated under managemen ividuals listed in th	d in the table for Question 17.5, c more than 10% of the reporting of d with the reporting entity (i.e. des t aggregate to more than 50% of e table for 17.5 with an affiliation 2 Name of Firm or Individual	do any firms/ind entity's assets? signated with a 'the reporting er code of "A" (aff	ividuals unaffili "U") listed in th ntity's assets? iliated) or "U" (Legal Entity I	e table for Que unaffiliated), pr dentifier (LEI) BA2G084	stion 17.5, does the ovide the information for t 4 Registered With SEC SEC	Yes	5 Investm Manager Agreem (IMA) Fi	ent nent ent led
17.5097 For those firr designated w 17.5098 For firms/ind total assets to those firms or ind table below. 1 Central Registration Depository Number 106006 162754 Have all the filling required froo, list exceptions: At 6/30/2019, 38 issue	ns/individuals lister ith a "U") manage viduals unaffiliated under management viduals listed in the Barings LLC	d in the table for Question 17.5, comore than 10% of the reporting of with the reporting entity (i.e. desit aggregate to more than 50% of the table for 17.5 with an affiliation and the second of the	do any firms/ind entity's assets?. signated with a 'the reporting encode of "A" (aff	"U") listed in the ntity's assets? iliated) or "U" (Legal Entity I MMPERQOMXYENCO	e table for Que unaffiliated), pr dentifier (LEI) BA26084 sis Office been ures Manual.	stion 17.5, does the ovide the information for t 4 Registered With SEC SEC followed? The majority of these	Yes	5 Investm Manager Agreem (IMA) Fi DS.	ent nen ent led
17.5097 For those firr designated w 17.5098 For firms/ind total assets u For those firms or ind table below. 1 Central Registration Depository Number 106006	ms/individuals lister with a "U") manage widuals unaffiliated under management widuals listed in the widuals listed in the light properties for 25 issuers digner or more of the role of t	d in the table for Question 17.5, comore than 10% of the reporting of with the reporting entity (i.e. desit aggregate to more than 50% of the table for 17.5 with an affiliation and the second of the	do any firms/ind entity's assets? signated with a 'the reporting el code of "A" (aff of the NAIC Inv s of the Purpos ted financials are owing elements curity does not expayments.	ividuals unaffili "U") listed in th ntity's assets? iliated) or "U" (Legal Entity I MMPERQOMXYENC: estment Analy es and Proced nd/or executed s for each self-cexist or an NAIG	e table for Que unaffiliated), pr dentifier (LEI) BA2G084 sis Office been ures Manual. The legal document designated 5GI C CRP credit ratio.	stion 17.5, does the ovide the information for t 4 Registered With SEC SEC followed? The majority of these thation. Exceptions security: ating for an FE or PL	Yes	5 Investm Manager Agreem (IMA) Fi DS	ent ner ent led

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	\$111,957,117
	1.13 Commercial Mortgages	\$827,637,256
	1.14 Total Mortgages in Good Standing	\$ 939,594,373
	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)	\$\$939,594,373
1.6	Long-Term Mortgages Foreclosed, Properties Transferred to Real Estate in Current Quarter	
	1.61 Farm Mortgages	\$
	1.62 Residential Mortgages	\$
	1.63 Commercial Mortgages	\$
	1.64 Total Mortgages Foreclosed and Transferred to Real Estate	\$
2.	Operating Percentages:	
	2.1 A&H loss percent	%
	2.2 A&H cost containment percent	%
	2.3 A&H expense percent excluding cost containment expenses	%
3.1	Do you act as a custodian for health savings accounts?	
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?	Yes [] No [] N/A []
5.2	If no, explain:	
6.1	Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus?	Yes [] No []
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
								Effective
							Certified	Date of
NAIC					Type of		Reinsurer	Certified
Company	ID	Effective		Domiciliary	Reinsurance		Rating	Reinsurer
NAIC Company Code	Number	Date	Name of Reinsurer	Jurisdiction	Ceded	Type of Reinsurer	(1 through 6)	Rating
66346	58-0828824		Munich American Reassurance (MUT2)	GA	YRT/I	Author i zed		
93572	43-1235868	08/30/2010	RGA Reinsurance Co. (GAT2)	MO	YRT/I	Author i zed.		
64688	75-6020048	08/30/2010	SCOR Global Life Americas Reins Co (TAT2)	DE	YRT/I	Author i zed		
82627	06-0839705	08/30/2010	Swiss Re Life & Health America (SRT2)	MO	YRT/I	Author i zed		

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS

Current Year To Date - Allocated by States and Territories

Current Year To Date - Allocated by States and Territories								
		1	Life Co	intracte	Direct Bus	iness Only 5	6	7
		ı	Life Co	ntracts 3	Accident and	5	ь	/
			_		Health Insurance			
		A =41: . =			Premiums,		T	
		Active Status	Life Insurance	Annuity	Including Policy, Membership	Other	Total Columns	Deposit-Type
L	States, Etc.	(a)	Premiums	Considerations	and Other Fees	Considerations	2 Through 5	Contracts
1.	AlabamaAL	L	1,291,597	7,415,273			8,706,870	
2.	Alaska AK	L	33,383	4,200			37,583	
3.	Arizona AZ	L	1,673,130	5,871,620			7,544,750	
4.	Arkansas AR	L	284,684	4,838,748			5, 123, 432	
5.	California CA	L	11,316,304	69,415,269			80,731,573	
6.	Colorado CO	L	999,531	7,506,924			8,506,455	
7.	Connecticut CT	L	3,788,698	29,636,614			33,425,312	
8.	Delaware DE	L	163,707	3, 108, 111			3,271,818	
9.	District of Columbia DC	L	832,448	834,033			1,666,481	
10.	FloridaFL	<u>-</u>	9,452,934	54,633,160			64,086,094	
11.	Georgia GA	<u>-</u>	2, 185, 741	10,780,090			12,965,831	
12.	Hawaii HI	<u>-</u>	1,085,114	3,250,824			4,335,938	
13.	IdahoID	<u>-</u>	185,989	828,633			1,014,622	
14.	Illinois		2,939,993	26,825,366			29,765,359	
15.	IndianaIN		1,502,284	22,388,193			23,890,477	
16.	lowaIA	<u>-</u>	624, 158	4,705,103			5,329,261	
17.	Kansas KS		707,258	1,314,201			2,021,459	
18. 19.	Kentucky KY Louisiana LA		537,354 772,926	2,644,274 6,990,794			3,181,628	
20.			,				7,763,720	
20. 21.	Maine ME Maryland MD	L L	211,559	2,954,505			3, 166, 064 16, 926, 786	
21.	Massachusetts	L L	3,487,518 2,513,073	13,439,268 27,307,794	<u> </u>		16,926,786	
23.	Michigan MI	L	1,804,279	27,307,794			29,820,867	
23. 24.	Minnesota MN	L	1,804,279	22,610,420			24,414,699	
25.	Mississippi	I		21,492,520			3,965,887	
26.	Missouri MO	L	1,099,984		<u> </u>			
27.	Montana MT	L	1,214,052	2,728,443			2,873,306	
28.	Nebraska NE	L	446,970	8,709,738			9, 156, 708	
29.	Nevada NV	I	733,926	3,658,932			4,392,858	
30.	New HampshireNH	L	516,377	6,437,511			6,953,888	
31.	New JerseyNJ	Ĺ	5, 154, 729	55,709,449			60,864,178	
32.	New Mexico NM	Ĺ	210,357	355,631			565,988	
33.	New York NY	N.	3,458,490	354,567			3,813,057	
34.	North Carolina	L	3,608,861	18,701,759			22,310,620	
35.	North DakotaND	L	12, 161	2,471,650			2,483,811	
36.	OhioOH	L	2,494,792	20,975,253			23,470,045	
37.	Oklahoma OK	L	907,685	2,124,606			3,032,291	
38.	Oregon OR	L	484,232	4,073,142			4,557,374	
39.	Pennsylvania PA	L	4,548,338	55,273,177			59,821,515	
40.	Rhode IslandRI	L	391,250	9,690,633			10,081,883	
41.	South Carolina SC	L	1,660,045	6,328,416			7,988,461	
42.	South Dakota	L	95,801	802,792			898,593	
43.	Tennessee TN	L	2,085,343	27,000,040			29,085,383	
44.	Texas TX	L	6,091,261	44,848,985			50,940,246	
45.	Utah UT	L	815,313	3,257,007			4,072,320	
46.	VermontVT	L	299,532	3,073,690			3,373,222	
47.	VirginiaVA	L	2,929,637	26,912,591			29,842,228	
48.	Washington WA	L	1,335,334	8,957,294			10,292,628	
49.	West Virginia WV	L	341,448	1,727,547			2,068,995	
50.	Wisconsin WI	L	846,970	16,049,713			16,896,683	
51.	WyomingWY	L	71,765	1,334,187			1,405,952	
52.	American Samoa AS	N						
53.	Guam GU	N	120				120	
54.	Puerto RicoPR	<u>L</u>	1,782,655	4,737,604			6,520,259	
55.	U.S. Virgin Islands VI	N	898				898	
1	Northern Mariana Islands MP	N						
57.	Canada CAN	N	7,448				7,448	
58.	Aggregate Other Aliens OT	XXX	28,346	700 15			28,346	
59.	Subtotal	XXX	94,407,813	702,456,378			796,864,191	
90.	Reporting entity contributions for employee benefits plans	XXX						
91.	Dividends or refunds applied to purchase paid-up							
01.	additions and annuities	XXX						
92.	Dividends or refunds applied to shorten endowment]	
	or premium paying period	XXX						
93.	Premium or annuity considerations waived under	3007	715.161				745 404	
94.	disability or other contract provisions	XXX	/ 15, 161		·		715, 161	
94. 95.	Aggregate or other amounts not allocable by State Totals (Direct Business)	XXX	95 , 122 , 974	702,456,378			797,579,352	
95. 96.	Plus Reinsurance Assumed	XXXXXX	, , ,					
96. 97	Totals (All Business)	XXX	95 , 122 , 974	702,456,378			797,579,352	
98.	Less Reinsurance Ceded	XXX	95, 122, 974	574,539,900			644,026,106	
99.	Totals (All Business) less Reinsurance Ceded	XXX	25,636,768	127,916,478			153,553,246	
55.	DETAILS OF WRITE-INS	^^^	20,000,700	121,310,410			100,000,240	
58001	ZZZ Other Alien	XXX	28.346				28.346	
58001.	ZZZ Other Arreit	XXX	20,040		<u> </u>		20,040	
58002.		XXX			İ	 		
1	Summary of remaining write-ins for Line 58 from				İ	 		
2000.	overflow page	xxx						
58999.	Totals (Lines 58001 through 58003 plus							
	58998)(Line 58 above)	XXX	28,346				28,346	
9401.		XXX			ļ		 	
9402.		XXX	ļ		 		 	
9403.		XXX			ļ		ļ	
9498.	Summary of remaining write-ins for Line 94 from	3007						
0400	overflow page	XXX			····			
5499.	94 above)	XXX						
(a) Active	e Status Counts:	, ,,,,,,		•		i.		
	anned or Chartered Licensed Incurence corrier				Desistered No			

⁽a) Active Status Counts:
L - Licensed or Chartered - Licensed Insurance carrier or domiciled RRG...
E - Eligible - Reporting entities eligible or approved to write surplus lines in the state...
N - None of the above - Not allowed to write business in the state....

PART 1 – ORGANIZATIONAL CHART

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

	Federal Tax ID	NAIC Co Code	State of Domicile
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timber Sales, Inc.	20-5305426		New York
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
Jefferies Finance LLC	27-0105644		Delaware
APEX Credit Partners LLC	None		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
JFIN Asset Management LLC	None		Delaware
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
JFAM Loan Fund, LP	None		Delaware
JFIN Revolver Holdings LLC	None		Delaware
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 Revolver Fund, L.P.	None		Delaware
JFIN CLO 2007 Ltd.	None		Cayman Islands

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

	Federal Tax ID	NAIC Co Code	State of Domicile
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN MM CLO 2014 Ltd.*	None		Cayman Islands
JFIN CLO 2015 Ltd.*	None		Cayman Islands
Apex Credit CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO 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 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
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
MMAF Equipment Finance LLC 2018-A	82-5335801 83-3722640		Delaware Delaware
MMAF Equipment Finance LLC 2019-A	04-1590850		Delaware Delaware
MML Private Placement Investment Company I, LLC	04-1590850		Delaware Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware Delaware
Fern Street LLC	37-1732913		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
iviassiviatia Assignment Company	00-137/320		romi Caronna

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

	Federal Tax ID NAIC Co Code	State of Domicile
MassMutual 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 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
Baring Asset Management (Australia) Pty Limited	98-0457456	Australia
Barings Investment Advisors (Hong Kong) Limited	None	Hong Kong, Special Administrative Region of China
Barings Australia Holding Company Pty Ltd	None	Australia
Barings Australia Pty Ltd	98-0457456	Australia
Barings Finance LLC	80-0875475	Delaware
BCF Europe Funding Limited	None	Ireland
BCF Senior Funding I LLC	None	Delaware
BCF Senior Funding I Designated Activity Company	None	Ireland
Barings Securities LLC	04-3238351	Delaware
Barings Guernsey Limited	98-0437588	Guernsey
Barings Europe Limited	None	United Kingdom
Barings 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

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Baring Asset Management Limited	98-0241935		United Kingdom
Barings Global Advisors Limited	98-1012393		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Barings European Direct Lending 1 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 Sàrl	None		Switzerland
Baring France SAS	98-0497550		France
Baring Fund Managers Limited	98-0457586		United Kingdom
Baring Pension Trustees Limited	98-0457574		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Investment Fund (LUX) GP S.à. r.l.	None		Luxembourg
Barings GPC GP S.à. r.l.	None		Luxembourg
Almack Mezzanine GP III Limited	None		United Kingdom
Almack Holding Partnership GP Limited	None		United Kingdom
Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund II Limited	None		United Kingdom
Barings (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
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 Delaware
Teaktree Acquisition, LLC	None		
U.S. Pharmaceuticals Holdings I, LLC	46-0687392 47-5436800		Delaware Delaware
U.S. Pharmaceuticals Holdings II, LLC Validus Pharmaceuticals LLC			Delaware Delaware
	None None		Delaware Delaware
VGS Acquisition Holding, LLC Aland Royalty GP, LLC	None		Delaware Delaware
Alailu Koyany OI , LLC	INOIIC		Delaware

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

Invesco Ltd.

MassMutual International LLC

MML Management Corporation

MassMutual Holding MSC, Inc.

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

PART 1 – ORGANIZATIONAL CHART

		<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
	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 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
	Barings/LAZ Parking Fund GP 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 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
	Somerset Special Opportunities Management LLC	04-1590850		Delaware
Ltd.		None		Bermuda
utual International LLC		04-3313782		Delaware
MassMutual Solution		None		Delaware
Yunfeng Financial C		None		Hong Kong
Management Corporation		04-2443240		Massachusetts
MassMutual Internat	tional Holding MSC, Inc.	04-3548444		Massachusetts
M M 111 11	Mag I	04.2241767		M 1 4

04-3341767

Massachusetts

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

	Federal Tax ID	NAIC Co Code	State of Domicile
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
300 South Tryon LLC	04-1590850		Delaware
54 West Capital LLC	20-3887968		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Almack Mezzanine Fund III LP*	None		United Kingdom
Barings 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
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 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

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

PART 1 – ORGANIZATIONAL CHART

State of Domicile

United Kingdom Delaware Delaware Delaware New York New York Delaware Delaware Delaware Delaware Delaware Delaware Delaware Delaware Delaware Delaware United Kingdom Virginia Delaware Delaware Delaware Delaware Delaware Delaware Delaware

Delaware Delaware Delaware Delaware United Kingdom Delaware Luxembourg New York New York New York Delaware Delaware Delaware Delaware Delaware Massachusetts

	Federal Tax ID	NAIC Co Code
Barings North American Private Loan Fund LP	38-4010344	
Barings RE Credit Strategies VII LP	98-1332384	
Baring International Small Cap Equity Fund	26-4142796	
Barings CLO Investment Partners LP	81-0841854	
Barings Real Estate European Value Add I SCSp*	None	
Braemar Energy Ventures I, L.P. *	None	
Barings European Core Property Fund SCSp	None	
Benchmark 2018-B2 Mortgage Trust	38-4059932	
Benchmark 2018-B4	None	
Benchmark 2018-B8	38-4096530	
Cornerstone High Yield Venture LP	36-4770946	
Barings/LAZ Parking Fund LP	46-5437441	
Barings Core Property Fund LP	20-5578089	
Cornerstone Real Estate Fund VIII LP	27-0547156	
Cornerstone Real Estate Fund X LP	46-5432619	
Cornerstone Permanent Mortgage Fund III LLC	35-2531693	
Duchess VII CLO B.V.	None	
E-Wise Land Venture LLC	20-3887968	
Gateway Mezzanine Partners II LP*	90-0991195	
Great Lakes III, L.P.	37-1708623	
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-404	1012
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059	
Kazwell Realty Partners LLC	20-3887968	
KKR-MM Vector LP	82-1512591	
Marco Hotel LLC	46-4255307	
HB Naples Golf Owner LLC	45-3623262	
MM Debt Participations LLC	81-3000420	
Oakley Grove Development LLC	20-3887968	
Old Pasco Properties LLC	20-3887968	
RB Apartments LLC	82-4411267	
Reston Arboretum LLC	75-2901061	
Riva Portland LLC Rockall CLO B.V.	30-0713071 None	
Rockville Town Center LLC	54-2055778	
Somerset Special Opportunities Fund L.P.*	20-8856877	
South Pasco Properties LLC	20-3887968	
Ten Fan Pier Boulevard LLC	35-2553915	
Tower Square Capital Partners II, L.P.*	30-0336246	
Tower Square Capital Partners II-A, L.P.	32-0160190	
Tower Square Capital Partners III, L.P.	41-2280127	
Tower Square Capital Partners IIIA, L.P.	41-2280127	
10mer oquate Capital Latation 1111, E.1.	71.2200127	

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

	Federal Tax ID	NAIC Co Code	State of Domicile
Tower Square Capital Partners IV-A, L.P.	80-0920367		Delaware
Trailside MM Member LLC*	04-1590850		Delaware
Washington Gateway Two LLC*	83-1325764		Delaware
Washington Gateway Three LLC*	32-0574045		Delaware
West 46 th Street Hotel LLC	05-1590850		Delaware
Barings Affiliates & Funds:			
Barings Emerging Markets Debt Blended Total Return Fund	None		Ireland
Barings Emerging Markets Debt Short Duration Fund	None		Ireland
Barings Emerging Markets Sovereign Debt Fund	None		Ireland
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings Emerging Markets Debt Blended Total Return Fund	47-3758432		Massachusetts
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
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
Farringdon London Holdings LLC*	46-3880526		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 LLC	04-1590850		Delaware
PACO France Logistics 2 LLC	04-1590850		Delaware
PACO France Logistics 3 LLC	04-1590850		Delaware

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

	Federal Tax ID	NAIC Co Code	State of Domicile
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
UK LIW Manager LLC	45-4606547		Delaware
UK LIW Member LLC	45-4606547		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Via Ceresio Milan LLC	82-3281588		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
Waterloo London Holdings LLC	47-1993493		Delaware
WeHo Domain LLC*	46-3122029		Delaware
Ygnatio Valley Funding	20-5481477		Delaware
MassMutual Premier Funds:			
MassMutual Barings Dynamic Allocation Fund	45-3168892		Massachusetts
MassMutual Premier Focused International Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Premier Value Fund	04-3277550		Massachusetts
MassMutual Select Funds:			
MassMutual Select Diversified International Fund	14-1980900		Massachusetts
MassMutual Select Diversified Value Fund	01-0821120		Massachusetts
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Large Cap Value Fund	04-3513019		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
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

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

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

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID NAIC Co Code	State of Domicile
MML Series Investment Funds:		
MML Series International Equity Fund	46-4257056	Massachusetts
MML Series Investment Funds II:		
MML Series II Asset Momentum Fund	47-3517233	Massachusetts
MML Series II Dynamic Bond Fund	47-3529636	Massachusetts
MML Series II Equity Rotation Fund	47-3544629	Massachusetts
MML Series II Special Situations Fund	47-3559064	Massachusetts
MassMutual RetireSMART Funds:		
MassMutual RetireSMART 2055 Fund	46-3289207	Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235	Massachusetts
MassMutual RetireSMART Conservative Fund	45-1618155	Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222	Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464	Massachusetts
MassMutual RetireSMART Moderate Fund	45-1618262	Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046	Massachusetts

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

SCHEDULE Y

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											of Control	Control			
											(Ownership,	is		ls an	
						Name of Constition			Dalation			-			
						Name of Securities		.	Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance					
0435	Massachusetts Mut Life Ins Co	65935	04-1590850	3848388			(MMLIC)	MA	UDP	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0435	CM Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	RE	Company	Ownership	100.000	MMLIC		
0435	MML Baystate Life Ins Co	70416	43-0581430				MML Bay State Life Insurance Company	CT	IA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
0000			06-1041383				CML Mezzanine Investor III, LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
0000							CML Special Situations Investor LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
0000							MM 0 : 10:4 4: 1 4 110	DE		Massachusetts Mutual Life Insurance		400.000	188 10		
0000							MML Special Situations Investor LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			47 5000070				T: 1 1 1 5 4 11 11: 11 0	DE		Massachusetts Mutual Life Insurance		400.000	188 10		
0000		l	47-5322979 47-5322979				Timberland Forest Holding LLC	DE	NIA	Company	Ownership Ownership	100.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	C.M. Life Insurance Company	•	0.000	MMLIC		
0000			47-5322979				Timberland Forest Holding LLCLyme Adirondack Forest Company, LLC	DE	NIA	Wood Creek Capital Management LLC Timberland Forest Holding LLC	Management	100.000	MMLIC		
0000			20-5305426				Lyme Adirondack Forest Company, LLC	NY	NI A	Timberland Forest Holding LLC		100.000	MMLIC		
0000			20-3303426				Lyme Adirondack Timber Sales, Inc.	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
0000							Lyme Adirondack Timberlands II, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
0000							Lyme Autronaack Timberranas II, LEC			Massachusetts Mutual Life Insurance	owner strip		MINIETO		
0000			04-1590850				Berkshire Way LLC	DE	NIA	Company	Ownership	100.000	MML1C		
			04 1000000				Derksitte way LLO			Massachusetts Mutual Life Insurance	owner arr p.		- MINICIO		
0000			04-1590850				MSP-SC. LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			01 1000000				mor 00, EE0			Massachusetts Mutual Life Insurance	owner our p				
0000							EM Opportunities LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							MassMutual MCAM Insurance Company, Inc	VT	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				Insurance Road LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Trad Private Equity LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MassMutual Intellectual Property LLC	DE	NI A	Insurance Road LLC	Ownership	100.000	MMLIC		
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
										Massachusetts Mutual Life Insurance			l		
0000							MassMutual Mortgage Lending LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000							Apex Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000		l					JFIN GP Adviser LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		·····
0000							JFIN Revolver Fund, L.P	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Fund III LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFAM GP LLC	DE		JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000							JFAM GP LP	DE		JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000							JFAM Loan Fund, LP	DE		JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver Holdings LLC	DE		Jefferies Finance LLC	Ownership.	100.000	MMLIC		
0000							JFIN Revolver Holdings II LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Co-Issuer Corporation	DE		Jefferies Finance LLC	Ownership.	100.000	MMLIC		1
0000		l					JFIN Europe GP, S.a.r.I.	LUX	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							Jefferies Finance Europe, SCSp	LUX		Jefferies Finance LLC	Ownership.	100.000	MMLIC		
0000							Jefferies Finance Business Credit LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Business Credit Fund LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN High Yield Investments LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		ļl
0000							JFIN LC Fund LLC	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver Fund, L.P.	DE	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO Holdings LLC	DE		Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000		l					JFIN CLO 2007 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		l

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											Type	If			
											of Control	Control			
											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000	Group Marrie	Oouc	INGILIDO	HOOD	Oiix	international)	JFIN CLO 2012 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC	(1/14)	
0000							JFIN CLO 2013 Ltd.	CYML	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN CLO 2014-11 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN MM CLO 2014 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN CLO 2015 Ltd.	CYM	NI A	Jefferies Finance LLC	Ownership	44.000	MMLIC		
0000							JFIN CLO 2015 Ltd	CYM	NI A	Apex Credit Partners LLC	Ownership	56.000	MMLIC		
0000							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		ļ
0000							JFIN Revolver CLO 2014 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000 100.000	MMLIC		
0000							JFIN Revolver CLO 2015 Ltd.	CYML	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		l
0000							JFIN Revolver CLO 2017-II Ltd.	CYML	NIA	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		
000Ω							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		
								25		Massachusetts Mutual Life Insurance		400.000			
0000			04-1590850				MassMutual Retirement Services, LLC	DE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			04-1590850				MM Copper Hill Road LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
0000			04-1090000				www.copper mili noau LLC	UE	NI A	Massachusetts Mutual Life Insurance	owner strip		MMLIC		
0000			04-3356880				MML Distributors LLC	MA	NI A	Company	Ownership	99.000	MMLIC		
0000			04-3356880				MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership	1.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							MML Investment Advisers, LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-3238013				MML Strategic Distributors, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			06-1563535	2881445			The MeanWater L Tours A Community FOR	CT	NII A	Massachusetts Mutual Life Insurance	Ownership	100,000	MMLIC	v	
0000			06-1363333	288 1445			The MassMutual Trust Company, FSB		NI A	Company	Uwnersnip	100.000	MMLIC	¹	
0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	Company	Ownership	99.600	MMLIC		
0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	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		
0001			36-4785301				MMAF Equipment Finance LLC 2014-A	DE	NI A	MassMutual Asset Finance LLC	Ownership.	100.000	MMLIC		
0002			38-3969560				MMAF Equipment Finance LLC 2015-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0003			32-0489588				MMAF Equipment Finance LLC 2016-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		ļ
0004			35-2590691				MMAF Equipment Finance LLC 2017-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		ļ
0005			32-0546197				MMAF Equipment Finance LLC 2017-B	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
0006			82-5335801 83-3722640				MMAF Equipment Finance LLC 2018-A	DE	NI A NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		·····
1000/			03-3/22040				MML Private Placement Investment Company I,	UE	NIA	Massachusetts Mutual Life Insurance	. Owner strip	100.000	MMLIC		
0000			04-1590850				LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NI A	Company	Ownership	100.000	MMLIC		ļ
0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NI A	Baring Asset Management Limited	Management		MMLIC		
0000			04-1590850				MM Private Equity Intercontinental LLC	DE	NI A	MML Private Equity Fund Investor LLC	Ownership	100.000	MMLIC		
			45 0700405		1			25		Massachusetts Mutual Life Insurance		400.00-			
0000			45-2738137				Pioneers Gate LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			04-2854319	2392316	1		MassMutual Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC	v	
0000			06-1597528	20920 10			MassMutual Assignment Company	NC	NIA	Company MassMutual Holding LLC	Ownership	100.000	MMLIC	¹	
0000			UO-109/028				wasswuluar Assignment Company	INU	NI A	wasswutuat Motoring LLC	_ Owner snip		MMLIV		

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											Type	If			
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											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.Ś. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000			37-1732913				Fern 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	NIA	MassMutual Holding LLC	Ownership	33.000	MMLIC		
0000							MassMutual Ventures Management LLC	DE	NI A	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							Limited	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures Southeast Asia I LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures UK LLC	DE	NI A	MassMutual Holding LLC	Ownership.	100.000	MMLIC		1
0000			47-1296410				MassMutual Ventures US I LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							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		
0000			45-4000072				MM Asset Management Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			51-0504477				Baring Asset Management (Asia) Holdings	DE	NI A	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
0000			98-0524271				Limited	HKG	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			30-0324271				Baring International Fund Managers (Bermuda)			Baring Asset Management (Asia) Holdings	owner strip		mmLTO		
0000			98-0457465				Limited	BMU	NIA	Limited	Ownership	100.000	MMLIC		
			00 0 101 100 111							Baring Asset Management (Asia) Holdings	5 5 p				
0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NI A	Limited	Ownership	100.000	. MMLIC		
0000							Baring Asset Management Korea Limited	KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
							Barings Investment Management (Shanghai)								
0000							Limited	HKG	NI A	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
							Barings Overseas Investment Fund Management								
0000							(Shanghai) Limited	HKG	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
0000			98-0457707				Baring SICE (Taiwan) Limited	TWN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
			96-0437707				baring Side (laiwan) Limited	I WIN	NI A	Baring Asset Management (Asia) Holdings	owner snrp	100.000	MINILIO		
0000			98-0236449				Barings Japan Limited	JPN	NIA	Limited	Ownership	100.000	MMLIC		
			30 0200113				Baring Asset Management (Australia) Pty			Baring Asset Management (Asia) Holdings	owner strip		mine 10		
0000			98-0457456				Limited	AUS	NIA	Limited	Ownership	100.000	MMLIC		
							Barings Investment Advisors (Hong Kong)			Baring Asset Management (Asia) Holdings			-		
0000		.					Limited	HKG	NI A	Limited	Ownership	100.000	MMLIC		1
					1					Baring Asset Management (Asia) Holdings				1	
0000							Barings Australia Holding Company Pty Ltd	AUS	NI A	Limited	Ownership	100.000	MMLIC		
0000			98-0457456				Barings Australia Pty Ltd	AUS	NI A	Baring Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
0000			80-0875475				Barings Finance LLC	DE	NI A	Barings LLC	. Ownership	100.000	- MMLIC		
0000							BCF Europe Funding Limited	IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
0000		-					BCF Senior Funding LLC BCF Senior Funding Designated Activity	DE	NI A	Barings Finance LLC	Ownership	100.000	MMLIC		1
0000			1		1		Company	IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
0000			04-3238351				Barings Securities LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		1
0000			98-0437588				Barings Guernsey Limited	GGY	NIA	Barings LLC	Ownership	100.000	MMLIC		1
0000							Barings Europe Limited	GBR	NI A	Barings Guernsey Limited	Ownership	100.000	MMLIC		
0000							Barings Real Estate UK Holdings Limited	DE	NI A	Barings Europe Limited	Ownership	100.000	MMLIC		
0000							BREAE AIFM LLP	GBR	NI A	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
			1		1		Barings Real Estate Advisers (Continental		1						
0000			98-0654401				Europe) Limited	GBR	NI A	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
0000			98-0654388				Barings Real Estate Advisers Europe LLP	GBR	NI A	Barings Real Estate UK Holdings Limited	Ownership	100.000	. MMLIC		

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											(Ownership,	is		Is an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Barings Real Estate Advisers Europe Finance	000			L	400 000			
0000			98-0654412 98-1194368				LLPBarings Real Estate GmbH	GBR DEU	NI A NI A	Barings Real Estate UK Holdings Limited Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
0000			98-0241935				Baring Asset Management Limited	GBR	NIA	MassMutual Holdings (Bermuda) Limited	Ownership	100.000	MMLIC		
0000			98-1012393				Barings Global Advisors Limited	GBR	NIA.	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							BCGSS 2 GP LLP	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							Barings European Direct Lending 1 GP LLP	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			98-0457328				Baring International Investment Limited	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
							Baring International Investment Management								
0000			98-0457587				Holdings	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000		1	98-0457576				Baring Asset Management UK Holdings Limited .	GBR	NI A	Baring International Investment Management	Ownership.	100.000	MMLIC		
			90-043/3/0				barring Asset Management Ok Hordings Limited .	ubn	NI A	Baring Asset Management UK Holdings Limited	owner strip	100.000	. MMLIC		
0000			98-0465031				Baring Asset Management GmbH	DEU	NI A	Darring Asset management of horarings Emirred	Ownership	100.000	MMLIC		
							Baring International Fund Managers (Ireland)			Baring Asset Management UK Holdings Limited	1				
0000			98-0524272				Limited	IRL	NI A		Ownership	100.000	MMLIC		
										Baring Asset Management UK Holdings Limited	d l				
0000							Baring Asset Management Switzerland Sàrl	CHE	NI A		Ownership	100.000	. MMLIC		
0000			00 0407550				D . E 040	ED4	NII A	Baring Asset Management UK Holdings Limited		400.000	100		
0000			. 98-0497550 98-0457586				Baring France SAS	FRA GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			98-0457574				Baring Pension Trustees Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			98-0457578				Baring Investment Services Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							Barings GPC GP S.à. r.l .	_LUX	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							Barings Investment Fund (LUX) GP S.à. r.I	LUX	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							Almack Mezzanine GP III Limited	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	. MMLIC		
0000							Almack Holding Partnership GP Limited	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000							Almack Mezzanine Fund Limited	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	_ MMLIC		
			98-0432153				Almack Mezzanine Fund II Limited Barings (U.K.) Limited	Joh	NI A NI A	Baring Asset Management Limited Barings Guernsev Limited	Ownership	100.000	MMLIC		
0000			00 0102100				Barings Multifamily Capital Holdings LLC	DE	NIA	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		
0000		1	04 0044405				Observing Association (Ind.): 110	DE	ALL A	Massachusetts Mutual Life Insurance	0	00.000	IIII 10		
0000			81-2244465 81-2244465	1			Chassis Acquisition Holding LLC	DE	NI A NI A	CompanyBarings LLC	Ownership/Influence	30.000	MMLIC		·····
0000			01-2244400	-			Chassis Acquisition Holding LLC	UE	INI A	Massachusetts Mutual Life Insurance	initiuence	·	MINIL I C		
0000		1	81-4258759				CRA Aircraft Holding LLC	DE	NI A	Company	Ownership/Influence	40.000	MMLIC	1	
0000			81-4258759				CRA Aircraft Holding LLC	DE	NI A	Barings LLC	Influence		MMLIC		
							, , , , , , , , , , , , , , , , , , ,			Massachusetts Mutual Life Insurance					
0000			83-0560183				Aland Royalty Holdings LP	DE	NI A	Company	Ownership	26.700	MMLIC		
0000			83-0560183				Aland Royalty Holdings LP	DE	NI A	Barings LLC	Management		MMLIC		ļ
0000		1	46 0044000				Intermedal Haldings II II C	DE	NII A	Massachusetts Mutual Life Insurance	Omenahir	10.000	IMM 10		
0000			. 46-2344300 47-3055009				Intermodal Holdings II LLC	DE	NI A NI A	Company	Ownership	18.000	MMLIC		
0000			47-3055009				Milestone Acquisition Holding, LLC.	DE	NIA NIA	Barings LLC	Influence	10.300	MMLIC		
0000							miliostono Augurartron norunig, ELO.			Massachusetts Mutual Life Insurance	THI TUGINO		L10		
0000							Novation Companies, Inc.	MD	NI A	Company	Ownership	19.400	MMLIC		
										Massachusetts Mutual Life Insurance	·				
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		ļ
0000		1	04 4005070				D . 4 . 6 W II . I . 110	0.7		Massachusetts Mutual Life Insurance		00.700	IIII 10		
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Company	Ownership/Influence	66.700	MMLIC		l

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											of Control	Control			'
														1	'
											(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)		Entity(ies)/Person(s)	(Y/N)	*
	Group Name	Code		กงงบ	CIN	international)						tage	, , , , ,	(T/IN)	 '
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Barings LLC	Influence	· -	MMLIC		
										Massachusetts Mutual Life Insurance					'
0000							Tamiami Citurus, LLC	DE	NIA	Company	Ownership	15.700	MMLIC		- [']
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		
										Massachusetts Mutual Life Insurance					'
0000			46-0687392				US Pharmaceutical Holdings I, LLC	DE	NI A	Company	Management		MMLIC		'
							-			Massachusetts Mutual Life Insurance					'
0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Company	Ownership/Influence	42,400	MMLIC		'
0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Barings LLC	Influence.		MMLIC		· [
							The state of the s			Massachusetts Mutual Life Insurance					T
0000							EIP Holdings I, LLC	DE	NI A	Company	Ownership/Influence	28.900	MMLIC		1 '
0000							EIP Holdings I, LLC	DE	NIA	Barings LLC	Management	20.300	MMLIC		1
			1				Lii ilviuiiigs I, LLV	UC	NI A	Massachusetts Mutual Life Insurance	manayement		mmLIV		1
0000							Valida Diamandial III	חר	AU. A		0	100,000	100 10		1 '
0000							Validus Pharmaceuticals LLC	DE	NI A	Company	Ownership/Influence	100.000	MMLIC		
0000							VGS Acquisition Holding, LLC	DE	NI A	MassMutual Holding LLC	Ownership/Influence	33.300	MMLIC		
Ω000							VGS Acquisition Holding, LLC	DE	NI A	Barings LLC	. Management		MMLIC		4'
0000							Aland Royalty 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		'
0000							Baring Asset-Based Income Fund (US) GP, LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		_l'
							Barings Global Investment Funds (U.S.)								1
0000			04-1590850				Management LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		'
0000			01 1000000				Babson Global Loan Feeder Management, LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		1
							Barings ABIF SLP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings CLO Investment Partners GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
								DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Barings Core Property Fund GP LLC						MMLIC		
0000							Barings Direct Lending GP Ltd.	CYM	NI A	Barings LLC	Ownership	100.000	MMLIC		
							Barings Global Energy Infrastructure						l		'
0000							Advisors, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		'
0000							Barings Multi Asset Income Fund	HKG	NI A	Barings LLC	_ Management		MMLIC		- '
							Barings North American Private Loan Fund								'
0000							Management, 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		l	98-0536233		l		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			1				CCM Fund REIT Manager LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		T
0000			1				CEMF I GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		1
0000							CHY Venture GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		1
0000							Cornerstone Hotel Fund GP, LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		1
			1				CREF X GP LLC	DE	NIA	Barings LLC	Ownership.	100.000	MMLIC		1
			04 4500050				CREF VIII GP, LLC	DE	NI A	Barings LLC	. Ownership	100.000	MMLIC		
0000			. 04-1590850				Great Lakes III GP, LLC	DE	NIA	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			. 04-1590850				Mezzco 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	NIA	Barings LLC	Ownership	99.300	MMLIC		
0000							Mezzco Australia II LLC	DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		
0000							RECSA-NY GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				SBNP SIA II LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		Ţ,
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											of Control	Control			
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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)	*
	•					,	Somerset Special Opportunities Management LLC			, , ,	,	Ĭ	, , , , , , ,	<u> </u>	
0000			04-1590850					DE	NI A	Barings LLC	Ownership.	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Invesco Ltd.	BMU	NI A	Company	Ownership.	15.700	MMLIC	Y	
										Massachusetts Mutual Life Insurance	·				
0000			04-3313782				MassMutual International LLC	DE	NI A	Company	Ownership.	100.000	MMLIC	Y	
0000							MassMutual Solution LLC	DE	NI A	MassMutual International LLC	Ownership	100.000	MMLIC		
0000							Yunfeng Financial Group Limited	HKG	NI A	MassMutual International LLC	Ownership.	24.800	MMLIC		
										Massachusetts Mutual Life Insurance	·				
0000			04-2443240				MML Management Corporation	MA	NI A	Company	Ownership.	100.000	MMLIC	Y	
0000			04-3548444	l			MassMutual International Holding MSC, Inc	MA	NI A	MML Management Corporation	Ownership	100.000	MMLIC		
0000			04-3341767				MassMutual Holding MSC, Inc.	MA	NI A	MML Management Corporation	Ownership.	100.000	MMLIC		
							3 ,			Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Mezzanine Investor II, LLC	DE	NI A	Company	Ownership.	100.000	MMLIC		
							,			Massachusetts Mutual Life Insurance					
0000			04-1590850				MML Mezzanine Investor III, LLC	DE	NI A	Company	Ownership.	100.000	MMLIC		
							,			Massachusetts Mutual Life Insurance					
0000			27-3576835				MassMutual External Benefits Group LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
							100 11. 010 011001 220			Massachusetts Mutual Life Insurance					
0000			82-2432216				300 South Tryon Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			02 2102210				ood could frydir fictor EEG			Massachusetts Mutual Life Insurance	- Omior orrip				
0000			04-1590850				300 South Tryon LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			01 1000000				ood couth frysh EEG			Massachusetts Mutual Life Insurance	- Omior orrip				
0000			20-3887968				54 West Capital LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			20 0007000				0 1 100 C Gap 1 (a) 220			Massachusetts Mutual Life Insurance					
0000							Almack Mezzanine Fund I LP	GBR	NIA	Company	Ownership/Influence	41.400	MMLIC		
0000							Almack Mezzanine Fund LP	GBR	NIA	C.M. Life Insurance Company	Ownership	4.600	MMLIC		
							ATTIMON INCEZUTITIO I GITA I EL			Massachusetts Mutual Life Insurance	omior orrip.				
0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Company	Ownership/Influence	72.900	MMLIC		
							Attinuore mozzattino i ana ili ottovoragoa El			Massachusetts Mutual Life Insurance	- Omior orrip/ mirraonoo	2.000			
0000							Almack Mezzanine Fund III LP	GBR	NI A	Company	Ownership/Influence	34.200	MMLIC		
0000							Almack Mezzanine Fund III LP	GBR	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC		
0000							Almack Mezzanine Fund III LP	GBR	NIA	Barings (U.K.) Limitied	Management		MMLIC		1
							THE STATE OF THE S			Massachusetts Mutual Life Insurance	- Indiagonorit				
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NI A	Company	Ownership/Influence	12.000	MMLIC		
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NI A	C.M. Life Insurance Company	Ownership/Influence	1.200	MMLIC		
0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	Management		MMLIC		1
							Barings Emerging Markets Corporate Bond Fund			Massachusetts Mutual Life Insurance					
0000			Ì				Sago Emorging markets ourporate boild I und	IRL	NIA	Company	Ownership/Influence		MMLIC		
							Barings Emerging Markets Corporate Bond Fund				- Tomici Siripi III I dolloc				1
0000							barrings Emerging markets our porate bond rund	IRL	NIA	Barings LLC	Management		MMLIC		
							Babson Capital Global Special Situation			Massachusetts Mutual Life Insurance					1
0000			98-1206017				Credit Fund 2	DE	NI A	Company	Ownership/Influence	23.700	MMLIC		
			03 1200017				Babson Capital Global Special Situation				- Cambridge				1
0000			98-1206017				Credit Fund 2	DE	NI A	C.M. Life Insurance Company	Ownership	1.500	MMLIC		
			00 1200017				Babson Capital Global Special Situation			V.m. Erro mourance company	- Tomici dirip		,L10		1
0000			98-1206017				Credit Fund 2	DE	NIA	Barings LLC	Management		MMLIC		
0000			00 1200017				Or our CT UNIO Z			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	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC		1
0000			37-1506417				Babson Capital Loan Strategies Fund, L.P	DE	NIA	Barings LLC	Management	000. د	MMLIC	[-
0000			01-100041/				Danson vapital Evall strategies ruild, E.F	UE	NIV	Dai Higo LLU	manayement		ININIL I V		

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						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-	1
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	1 .
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
Code	Group Name	Code	Number	NOOD	CIR	international)	Of Affiliates	tion	Littly	Massachusetts Mutual Life Insurance	Other)	lage	Littity(les)/Feison(s)	(1/14)	\vdash
0000							Barings US High Yield Bond Fund	IRL	NIA	Company	Ownership/Influence	44.500	MMLIC		1 .
0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
0000							Babson CLO Ltd. 2013-I	CYM	NI A	Barings LLC	Influence.		MMLIC		3
0000							Babson CLO Ltd. 2014-I	CYM	NIA	Barings LLC	Influence		MMLIC		2
0000							Babson CLO Ltd. 2015-I	CYM	NI A	Barings LLC	Influence		MMLIC		4
0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence		MMLIC		5
0000							Babson CLO Ltd. 2016-I	CYM	NI A	Barings LLC	. Influence		MMLIC		
0000							Babson CLO Ltd. 2016-II	CYM	NI A	Barings LLC	Influence	 	MMLIC		
0000							Barings CLO Ltd. 2017-I	CYM	NI A	Barings LLC	. Influence	·····	MMLIC		
0000							Barings CLO 2018-III	CYM	NI A	Barings LLC	Influence	·····	MMLIC		
0000							Barings CLO 2018-IV Barings CLO 2019-I	CYM	NIA NIA	Barings LLC	Influence	·····	MMLIC		
0000			98-1473665				Barings CLO 2019-1	CYM	NIA	Barings LLC	Influence		MMLIC		
0000			30-14/3003				Barings CLO 2019-11	CYM	NIA	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2014-1 BV	NLD	NIA	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence	-	MMLIC		
0000							Babson Euro CLO 2015-I BV	NLD	NI A	Barings LLC	Influence		MMLIC		
0000							Babson Euro CLO 2016-I BV	NLD	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					1
0000			81-0841854				Barings CLO Investment Partners LP	DE	NI A	Company	Ownership/Influence	99.300	MMLIC		
0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	_ Management		MMLIC		
							Barings Real Estate European Value Add I SCSp			Massachusetts Mutual Life Insurance					1
0000								GBR	NI A	Company	Ownership/Influence	58.900	MMLIC		
0000							Barings Real Estate European Value Add I SCSp	opp		0 11 11 11 1		0.500	188 10		1
0000							D D I F-1-1- F Value Add I 000	GBR	NI A	C.M. Life Insurance Company	Ownership	6.500	MMLIC		
0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	Barings LLC	Management		MMLIC		1
0000			82-5330194				Barings Global Em. Markets Equity Fund	NC	NIA	Barings LLC	Management	-	MMLIC		
			02-3330 194				Barings Global Energy Infrastructure Fund I	140	NI A	Massachusetts Mutual Life Insurance	- management		MMLIC		
0000			98-1332384				I P	CYM	NI A	Company	Ownership/Influence	95.300	MMLIC		1
							Barings Global Energy Infrastructure Fund I								
0000			98-1332384				LP	CYM	NI A	Baring Asset Management Limited	Management		MMLIC		[J
0000							Barings Global Inv. Grade Strat Fund	IRL	NI A	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					1
0000							Barings Global Private Loan Fund	LUX	NI A	Company	Ownership/Influence	12.400	MMLIC		
0000							Barings Global Private Loan Fund	LUX	NI A	Barings LLC	_ Management		MMLIC		
										Massachusetts Mutual Life Insurance		40.000			
0000			82-3867745				Barings Global Real Assets Fund LP	DE	NI A	Company	Ownership/Influence	40.900	MMLIC		
0000			82-3867745				Barings Global Real Assets Fund LP	DE	NI A	C.M. Life Insurance Company	Ownership	7.200	MMLIC		
0000			82-3867745				Barings Global Real Assets Fund LP	DE	NI A	Barings LLC	Management		MMLIC		
0000							Barings Global Special Situations Credit Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	21,400	MMLIC		1
0000							Barings Global Special Situations Credit Fund	InL	NIA	Company	ownership/inituence	21.400	. MMLTC		
0000							3	IRL	NIA	Barings LLC	Management		MMLIC		
0000							Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NIA	Barings LLC	Influence		MMLIC		
0000							Barings Middle Market CLO 2018-1	CYM	NIA	Barings LLC	Influence		MMLIC		
							·· •			Massachusetts Mutual Life Insurance					
0000			38-4010344				Barings North American Private Loan Fund LP	DE	NI A	Company	Ownership/Influence	47.900	MMLIC		
0000			38-4010344				Barings North American Private Loan Fund LP	DE	NI A	Baring Asset Management Limited	Management		MMLIC		[]
										Massachusetts Mutual Life Insurance					
0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NI A	Company	Ownership/Influence	34.400	MMLIC		
0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Baring Asset Management Limited	Management		MMLIC		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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						N (0 '''			D 1 "						
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
Code	Group Name	Code	Number	HOOD	CIIX	international)	Of Affiliates	liUii	Littly		Other)	laye	Littly(les)/Feison(s)	(1/14)	┿
										Massachusetts Mutual Life Insurance					
0000			. 26-4142796				Baring International Small Cap Equity Fund	DE	NI A	Company	Ownership/Influence	10.200	MMLIC		
0000			26-4142796				Baring International Small Cap Equity Fund	DE	NI A	Baring Asset Management Limited	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000							Braemar Energy Ventures I, L.P.	DE	NI A	Company	Ownership/Influence		MMLIC		
0000							Braemar Energy Ventures I, L.P.	DE	NI A	C.M. Life Insurance Company	Ownership	1.300			
0000							Braemar Energy Ventures I, L.P.	DE	NI A	Barings LLC	Management		_ MMLIC		
0000							Barings European Core Property Fund SCSp	LUX	NI A	MassMutual Holding LLC	Ownership/Influence	13.500	MMLIC		
							Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company	Ownership	0.900	MMLIC		
		·	1				Barings European Core Property Fund SCSp	LUX	NI A	Barings Real Estate Advisers LLC	Management		MILIC		T
0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	NY	NIA	Barings LLC	Influence		MMLIC		1
0000			200-4039992				Benchmark 2018-B4	NY	NIA	Barings LLC	Influence.		MMLIC		1
			00.4000500												
0000			. 38-4096530				Benchmark 2018-B8	NY	NI A	Barings LLC	Influence		MMLIC		
		1				1				Massachusetts Mutual Life Insurance	1				1
0000			. 36-4770946				Cornerstone High Yield Venture LP	DE	NI A	Company	Ownership/Influence	49.600			
0000			. 36-4770946				Cornerstone High Yield Venture LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
0000			20-5578089				Barings Core Property Fund LP	DE	NI A	MassMutual Holding LLC	Ownership/Influence	13.300	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	NIA	Company	Ownership/Influence	24.200	MMLIC		
0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NI A	C.M. Life Insurance Company	Ownership	2.700	MMLIC		
			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Barings Real Estate Advisers LLC	Management	2.700	MMLIC		
			40-0432619				Cornerstone Real Estate Fund X LF	UE	NIA		. management		_ MMLTC		
			05 0504000							Massachusetts Mutual Life Insurance		400 000			
0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC _	MA	NI A	Company	Ownership/Influence	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-5437441				Barings/LAZ Parking Fund LP	DE	NI A	Company	Ownership/Influence	99.800	MMLIC		
0000			46-5437441				Barings/LAZ Parking Fund LP	DE	NI A	Barings Real Estate Advisers LLC	Management		_ MMLIC		
0000				4007502			Duchess VII CLO B.V.	GBR	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3887968				E-Wise Land Venture LLC	DE	NIA	Company	Ownership.	100.000	MMLIC		
							E WIGO Edila Volitaro EEO			Massachusetts Mutual Life Insurance	Omior on p	100.000	I IIII L I O		1
0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Company	Ownership/Influence	35.600	MMLIC		
0000			. 90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NI A	C.M. Life Insurance Company	Ownership	5.300	MMLIC		
0000			90-0991195				Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC		
		İ	1	1	1			l		Massachusetts Mutual Life Insurance	1			- 1	
0000			37-1708623				Great Lakes III, L.P.	DE	NI A	Company	Ownership/Influence	41.300	MMLIC		
0000			. 37-1708623				Great Lakes III, L.P.	DE	NI A	Barings LLC	Management	l <u>.</u>	MMLIC		
		1				1	JPMCC Commercial Mortgage Securities Trust								1
0000			38-4041011				2017-JP7	NY	NIA	Barings LLC	Influence.		MMLIC		.1
			1				JPMDB Commercial Mortgage Securities Trust								1
0000		İ	38-4032059	1	1		2017-C5	NY	NI A	Barings LLC	Influence.		MMLIC	- 1	
			00-4002009				2011 00		NI 7	Massachusetts Mutual Life Insurance		· -	I MINIE TO		1
0000		1	20 2007060			1	Karwall Basty Bartners IIC	DE	NII A		O	100.000	MMLIC		1
0000			. 20-3887968				Kazwell Realty Partners LLC	VE	NI A	Company	Ownership	100.000	MMLIC		
		İ		1	1		W. T. T. T. T. T. T. T. T. T. T. T. T. T.			Massachusetts Mutual Life Insurance	l			- 1	
0000			82-1512591				KKR-MM Vector LP	DE	NI A	Company	Ownership/Influence	62.100	MMLIC		
		İ		1	1					Massachusetts Mutual Life Insurance	1			- 1	
0000			46-4255307				Marco Hotel LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
		1				1				Massachusetts Mutual Life Insurance					1
0000			45-3623262				HB Naples Golf Owner LLC	DE	NI A	Company	Ownership	100.000	MMLIC		1
			1							Massachusetts Mutual Life Insurance					1
0000		1	81-3000420			1	MM Debt Participations LLC	DE	NIA	Company	Ownership/Influence	100.000	MMLIC		1
0000			81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management		MMLIC		
			0 1-3000420				www Dept Falticipations LLC	uc	NI A		manayement		mmLIV		
0000		1	00 0007000			1		DE		Massachusetts Mutual Life Insurance	l	400.000	188 10		1
		1	20-3887968	l	l		Oakley Grove Development LLC	1 DE	NI A	Company	Ownership	100.000	_ MMLIC		.1

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											(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)	*
Oode	Gloup Name	Oode	Number	HOOD	Olix	international)	Of Allillates	tion	Littly	Massachusetts Mutual Life Insurance	Other)	lage	Entity(les)/1 erson(s)	(1/14)	+
0000			20-3887968				Old Pasco Properties LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			20 0007300				ora rasco rropertres LLO			Massachusetts Mutual Life Insurance	Omici sirip		MILIO		
0000			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		
										Massachusetts Mutual Life Insurance	·				
0000			. 30-0713071				Riva Portland LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
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		l
0000			00 0050077		1			DE		Massachusetts Mutual Life Insurance		F0 000	144 10		
0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NI A	Company	Ownership/Influence	2.900	MMLIC		.
0000			20-88568//				Somerset Special Opportunities Fund L.P	DE	NI A	Massachusetts Mutual Life Insurance	Ownership	2.900	MMLIC		
0000			20-3887968				South Pasco Properties LLC	DE	NI A	Company	Ownership.	100.000	MMLIC		
0000			. 20-300/900				South rasco Properties LLC		NI A	Massachusetts Mutual Life Insurance	owner sirrp	100.000	MMLIC		
0000			35-2553915				Ten Fan Pier Boulevard LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			00 20000 10				Total Tail Total Boardvard EEO			Massachusetts Mutual Life Insurance	omor on p.				
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	NI A	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	Barings LLC	Management		MMLIC		
0000			41-2280127				Tower Square Capital Partners III, L.P	DE	NI A	MassMutual Holding LLC	Ownership/Influence	15.100	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NI A	Company	Ownership/Influence	94.200	MMLIC		
0000			41-2280129				Tower Square Capital Partners IIIA, L.P	DE	NI A	Barings LLC	Management		MMLIC		
0000			80-0920367				Tower Square Capital Partners IV-A, L.P.	DE	NIA	Company	Ownership/Influence	21.300	MMLIC		
0000			. 60-0920307				Tower Square Capital Faithers IV-A, L.F		NI A	Massachusetts Mutual Life Insurance	ownership/initidence	21.300			
0000			04-1590850				Trailside MM Member LLC	DE	NIA	Company	Ownership	59.600	MMLIC		
0000			04-1590850				Trailside MM Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			83-1325764				Washington Gateway Two LLC	DE	NI A	Company	Ownership		MMLIC		
0000			83-1325764				Washington Gateway Two LLC	DE	NI A	C.M. Life Insurance Company	Ownership	6.700			ļ
					1					Massachusetts Mutual Life Insurance					
0000			32-0574045				Washington Gateway Three LLC	DE	NI A	Company	Ownership	83.600	MMLIC		l
0000			. 32-0574045				Washington Gateway Three LLC	DE	NI A	C.M. Life Insurance Company	Ownership	11.400	MMLIC		
0000			04 4500050		1		W + 40H 04 + H + 1 H 0	DE		Massachusetts Mutual Life Insurance		100.000	144 10		
0000			. 04–1590850				West 46th Street Hotel LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000					I		Barings Emerging Markets Debt Blended Total Return Fund	IRL	NI A	Barings LLC	Management		MMLIC		
0000							Barings Emerging Markets Debt Short Duration	INL	INI A	Dai iliyo LLC	mandyement	· 	mmLTO		
0000							Fund	IRL	NIA	Barings LLC	Management		MMLIC		
							Barings Emerging Markets Sovereign Debt Fund								
0000								IRL	NI A	Barings LLC	Management		MMLIC		.l!
							Babson Capital Loan Strategies Master Fund LP								
0000								CYM	NI A	Barings LLC	Management		MMLIC		
					1		Barings Emerging Markets Debt Blended Total								
0000			47-3758432				Return Fund	MA	NIA	Barings LLC	Management		MMLIC		
0000			. 47-3790192				Barings Global High Yield Fund	MA	NI A	Barings LLC	Management		MMLIC		
0000			47-3734770				Barings Total Return Bond Fund	MA	NI A	Barings LLC	Management		MMLIC		
0000			47-3801860				Barings U.S. High Yield Fund	MA	NI A	Barings LLC	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-	1
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	1
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
										Massachusetts Mutual Life Insurance					
0000			71-1018134				Great Lakes II LLC	DE	NI A	Company	Ownership	11.200	MMLIC		
0000			71-1018134				Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company	Ownership	1.000	MMLIC		
0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Company	Ownership	40.000	MMLIC		1
0000			_ 04-1030000				WOOD CLEEK VEHICULE LUIN LEG			Massachusetts Mutual Life Insurance	Owner strip	40.000			
0000			36-4823011				50 Liberty LLC	DE	NIA	Company	Ownership	59.100	MMLIC		
0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800			
							,			Massachusetts Mutual Life Insurance					
0000			80-0948028				One Harbor Shore LLC	DE	NI A	Company	Ownership	97.000	MMLIC		
0000			80-0948028	-			One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.000			'
										Massachusetts Mutual Life Insurance		400.000			
0000			81-4382111				Budapester Strasse LLC	DE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000			-
0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	Company	Ownership	90.000			
0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	10.000	MMLIC		
							ourgary narray norang 220			Massachusetts Mutual Life Insurance					1
0000			82-3307907				Cornbrook PRS Holdings LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
							-			Massachusetts Mutual Life Insurance					
0000			95-4207717				Cornerstone California Mortgage Fund LLC	CA	NI A	Company	Ownership	100.000	MMLIC		
			05 4007747							Massachusetts Mutual Life Insurance		400.000			
0000			95-4207717				Cornerstone California Mortgage Fund II LLC	CA	NIA	Company	Ownership	100.000	MMLIC		
0000			95-4207717				Cornerstone California Mortgage Fund III LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
0000			33-4201111					on	NI //	Massachusetts Mutual Life Insurance	Owner strip	100.000	MMLTO		
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NI A	Company	Ownership	84,400	MMLIC		
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.600			
							·			Massachusetts Mutual Life İnsurance	·				
0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NI A	Company	Ownership	98.700	MMLIC		
0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NI A	Barings LLC	Management		MMLIC		
0000			61-1750537				Corneratore Dermanent Martiners Fund II	MA	NIA	Massachusetts Mutual Life Insurance	O-manah i -	97.800	MMLIC		
0000			61-1750537				Cornerstone Permanent Mortgage Fund II Cornerstone Permanent Mortgage Fund II	MA	NIA	CompanyBarings LLC	Ownership	97.000	MMLIC		
			. 01-1/3033/				Connerstone rennament wortgage rund in			Massachusetts Mutual Life Insurance	- management		MINIETO		
0000			61-1793735				Cornerstone Permanent Mortgage Fund IV	MA	NI A	Company	Ownership	100.000	MMLIC		
0000			81-0890084				CREA Madison Member LLC	DE	NI A	C.M. Life Insurance Company	Ownership	90.000	MMLIC		
					1					Massachusetts Mutual Life Insurance				1	1
0000			82-1563809				CCB Montford Park LLC	DE	NI A	Company	Ownership	94.000	MMLIC		'
0000			. 82-1563809				CCB Montford Park LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	. MMLIC		
0000			82-2783393		1		Danville Riverwalk Venture, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership.	100.000	MMLIC	1	1
			. 02-2/03393				Daliville hiverwalk veliture, LLC	UE	NI A	Massachusetts Mutual Life Insurance	owner strip	100.000	MMLIC		
0000			20-3347091	l			Fan Pier Development LLC	DE	NI A	Company	Ownership	60.000	MMLIC		·
0000			20-3347091				Fan Pier Development LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.000	MMLIC		
									1	Massachusetts Mutual Life Insurance					
0000			46-3880526				Farringdon London Holdings LLC	DE	NI A	Company	Ownership	94.500	MMLIC		'
0000			46-3880526				Farringdon London Holdings LLC	DE	NI A	C.M. Life Insurance Company	Ownership	5.500	MMLIC		
0000			04 5000400		I	1	Landard, Marchartan Haldinas II 0	DE	NIA	Massachusetts Mutual Life Insurance	0	100,000	100		1
0000			81-5360103				Landmark Manchester Holdings LLC	DE	NIA	Company Massachusetts Mutual Life Insurance	Ownership	100.000	MMLIC		
0000			04-1590850		1		MM Island Member LLC	DE	NIA	Company	Ownership	49.000	MMLIC	1	1
							TOTALIO MONDOT LEO			Massachusetts Mutual Life Insurance	σπιοι σπιρ		IIIII V		
0000			83-0881588				NoHo West Venture LLC	DE	NI A	Company	Ownership	95.000	MMLIC		
										,					

						A - DE I AI	L OF INSURANC	, L I	IOLL	TING COMPAIN	SISILIVI				
1	2	3	4	5	6	7	8	9	10	11	12 Type of Control	13 If Control	14	15	16
											(Ownership,	is		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)	*
										Massachusetts Mutual Life Insurance					
0000			. 04-1590850				PACO France Logistics LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			04-1590850				PACO France Logistics 2 LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
0000			. 04-1330030				TAGO TTAILGE EUGISTICS 2 EEC	UL	NI /	Massachusetts Mutual Life Insurance	owner sirrp		- MINILIO		
0000			04-1590850				PACO France Logistics 3 LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-3393166				Portland 400 Sixth Manager LLC	DE	NI A	Company	Ownership	95.000	MMLIC		
							Salomon Brothers Commercial Mortgage Trust								
0000							2001-MM	DE	NI A	Barings Real Estate Advisers LLC	Influence	-	MMLIC		
0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NI A	Company	Ownership.	84.200	MMLIC		
0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NI A	C.M. Life Insurance Company	Ownership	15.800	MMLIC		
			2011120				Sangrass Tirrage Gropping Scritch LLS			Massachusetts Mutual Life Insurance	omior on p				
0000			04-1590850				Spain Avalon Holding LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			81-5273574	-			Three PW Office Holding LLC	DE	NI A	Company	Ownership	95.000	. MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 35-2484550 35-2484550				Twenty Two Liberty LLC	MA	NI A	Company	Ownership	65.000	- MMLIC		
0000			35-2484550				Twenty Two Liberty LLC	MA	NI A	C.M. Life Insurance Company	Ownership	35.000	MMLIC		
0000			45-4606547				UK LIW Manager LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000							OK ETH Manager LEO			Massachusetts Mutual Life Insurance	owner strip.		- MINIL 10		
0000			45-4606547				UK LIW Member LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-3250684				Unna, Dortmund Holding LLC	DE	NI A	Company	Ownership	100.000	_ MMLIC		
										Massachusetts Mutual Life Insurance					
0000			82-3281588				Via Ceresio Milan LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	91.500	MML1C		
0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership.	4.800	MMLIC		
			10 0101100				madiffigion datonay ripar timorito vontaro EEO			Massachusetts Mutual Life Insurance	omior on p.				
0000			47-1993493				Waterloo London Holdings LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			. 46-3122029				WeHo Domain LLC	DE	NI A	Company	Ownership	77.400	. MMLIC		
0000			46-3122029	-			WeHo Domain LLC	DE	NI A	C.M. Life Insurance Company	Ownership	12.600	_ MMLIC		
0000			20-5481477				Vanatio Valloy Funding	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
0000			20-040 1477				Ygnatio Valley Funding	UE	INI A	Massachusetts Mutual Life Insurance	Owner SITIP	90.000	. MIMILIO	[
0000			45-3168892				MassMutual Barings Dynamic Allocation Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
			1	1			Salvingo Synamic Milosatton Fund			Massachusetts Mutual Life Insurance		2.000			
0000			51-0529328	.	0000927972	00	MassMutual Premier Main Street Fund	MA	NI A	Company	Ownership	17.700	MMLIC		
							MassMutual Premier Strategic Emerging Markets			Massachusetts Mutual Life Insurance					
0000			. 26-3229251	-	0000927972	0Q	Fund	MA	NI A	Company	Ownership	2.300	MMLIC		
0000			04 0077550		0000927972	00	Manakhitual Dramian Value 5	MA	NII A	Massachusetts Mutual Life Insurance	O-manahi-	0.000	MMLIC		
0000			. 04–3277550		000092/9/2	UV	MassMutual Premier Value Fund MassMutual Select Diversified International	MA	NI A	Company Massachusetts Mutual Life Insurance	Ownership	0.000			
0000			. 14-1980900		0000916053	00	Fund	MA	NI A	Company	Ownership	0.000	MML1C		
			1 1000000	1	20000 10000					Massachusetts Mutual Life Insurance					
0000			01-0821120		0000916053	0Q	MassMutual Select Diversified Value Fund	MA	NI A	Company	Ownership	1.300	MMLIC		
										Massachusetts Mutual Life Insurance	·				
0000			04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
0000			04 05/00/0		0000040050	00			No. 4	Massachusetts Mutual Life Insurance		0.000	188 10		
0000			04-3513019		0000916053	JUQ	MassMutual Select Large Cap Value Fund	MA	NI A	Company	Ownership	0.000	MMLIC		

1 2 3 4 5 6 7 8 9 10 11 Name of Securities Exchange if Publicly Traded Code Group Name Code Group Name Code Number RSSD CIK International) Name of Securities Exchange if Publicly Traded (U.S. or Parent, Subsidiaries Location Entity (Name of Entity)/Pers	son) Other) rance 0wnership	13 If Control is Owner- ship Provide Percen- tage	14	Is an SCA Filing	16
Group Code Group Name Code Number RSSD CIK International) Exchange if Publicly Traded Names of Ciliary to Ciliary to Controlled Names of Parent, Subsidiaries tion Entity (Name of Entity/Person Code Number RSSD CIK International)	Board, Management, Attorney-in-Fact, lnfluence, son) Other) rance Ownership	Owner- ship Provide Percen-	Libina da Cantasilia a	SCA	
Group Code Group Name Code Number RSSD CIK International) Exchange if Publicly Traded Names of Ciliary to Ciliary to Controlled Names of Code Number RSSD CIK International) Exchange if Publicly Traded Names of Ciliary to Ciliary to Code Number RSSD CIK International) Or Affiliates tion Entity (Name of Entity/Personal Code Name of	Management, Attorney-in-Fact, by Influence, son) Other) rance Ownership	ship Provide Percen-	l liking aka O antarallia a		
Group Code Group Name Code Name NAIC Company ID Federal (U.S. or Parent, Subsidiaries Code Reporting Code Number RSSD CIK International) Or Affiliates tion Entity (Name of Entity/Pers	by Attorney-in-Fact, Influence, Son) Other) rance Ownership	Provide Percen-	Lillainn a tha Constantilling	9	1
Group Code Group Name Code Number RSSD CIK International) Parent, Subsidiaries Loca-Reporting Directly Controlled Or Affiliates tion Entity (Name of Entity/Pers	by Influence, son) Other) rance 	Percen-	1 III	Re-	1
Code Group Name Code Number RSSD CIK International) Or Affiliates tion Entity (Name of Entity/Pers	son) Other) rance 0wnership	tage	Ultimate Controlling	quired?	1
			Entity(ies)/Person(s)	(Y/N)	*
Massachusetts Mutual Life Insur					1
	I dilice	16.800	MMLIC		
Massacruserts mutual Erect Small Capital Value Equity	Ownership	0.000	MMLIC		1
Massachusetts Mutual Life Insur					
	Ownership	10.300	MMLIC		
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur	rance Ownership	7.700	MMLIC		1
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur			MINILIO		
	Ownership	0.000	MMLIC		
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur		0.000	188.10		1
	Ownership	0.000	MMLIC		
	Ownership	0.000	MMLIC		<u> </u>
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur	rance				1
	Ownership	0.000	MMLIC		
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur	rance Ownership	0.000	MMLIC		1
MassAbutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur			mmE10		
		0.000	MMLIC		
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur		0.000	MIII 10		1
	Ownership	0.000	MMLIC		
	Ownership	0.000	MMLIC		
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur					1
	Ownership	0.000	MMLIC		
Massimulual Select 1. Howe Price Hetirement Massacruseits Mulual Lite Insur	rance Ownership	0.000	MMLIC		1
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur					1
	Ownership	0.000	MMLIC		
MassMutual Select T. Rowe Price Retirement Massachusetts Mutual Life Insur Balanced Fund MASSACHUSE	rance Ownership	0.000	MMLIC		1
Massachusetts Mutual Life Insur			mmLTC		
	Ownership	0.000	MMLIC		
Massachusetts Mutual Life Insur		100,000	M## 10		
	Ownership	100.000	MMLIC		
		0.000	MMLIC		<u> </u>
Massachusetts Mutual Life Insur	rance				1
		94.900	MMLIC		
Massachusetts Mutual Life Insur .0000	rance Ownership	97.100	MMLIC		1
Massachusetts Mutual Life Insur		37.100	mile 10		l
		0.000	MMLIC		
Massachusetts Mutual Life Insur .0000		5.200	MMLIC		
	Ownership	5.200	MMLIC		
	Ownership	12.800	MMLIC		ļl
Massachusetts Mutual Life Insur	rance				1
	Ownership	16.700	MMLIC		
Massacrusetts Mutual Life Insur 0000	rance Ownership	71,600	MMLIC		
Massachusetts Mutual Life Insur					(
0000	Ownership	0.000	MMLIC		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	lf			
											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)	*
										Massachusetts Mutual Life Insurance					
0000			45-1618222		0000916053	00	MassMutual RetireSMART Growth Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			03-0532464		0000916053		MassMutual RetireSMART In Retirement Fund	MA	NI A	Company	Ownership	1.200	MMLIC		
0000			45-1618262		0000916053	00	MassMutual RetireSMART Moderate Fund	МА	NIA	Massachusetts Mutual Life Insurance	Ownership.	0.000	MMLIC		
0000			45-1010202		66001 60000	UV	IMASSMULUAT NELTTESMANT MODELATE FUND	NA		Company Massachusetts Mutual Life Insurance	Owner Sirrp	000	I MINILI C		
0000			45-1618046	1	0000916053	00	MassMutual RetireSMART Moderate Growth Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
							macomata. Not.: Someth model at 6 di ontili i dila								

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns 4.01% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own .6% and includes only Great Lakes III, L.P.
3	Debt investors own 9.6% and includes only Babson Capital Loan Strategies Fund, L.P.
4	Debt investors own .5% and includes only Great Lakes III, L.P.
5	Debt investors own .2% and includes only Great Lakes III, L.P.

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

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

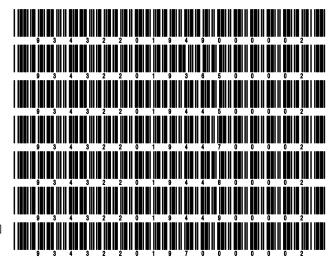
		Response
1.	Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO
2.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3.	Will the Reasonableness of Assumptions Certification required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

Explanation:

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

Bar Code:

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



OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Liabilities Line 25

		1	2
		Current	December 31
		Statement Date	Prior Year
2504.	Funds awaiting escheat and other miscellaneous liabilities	4,660,471	3,765,378
2597.	Summary of remaining write-ins for Line 25 from overflow page	4,660,471	3,765,378

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 yill va		
7.	Deduct current year's other than temporary impalent recovery zero		
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

	× 2	1	2
		Year to Date	Prior Year Ended
			December 31
1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	921,2/2,354	937,488,060
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	66,557,293	55,550,263
	2.1 Actual cost at time of acquisition 2.2 Additional investment made after acquisition Capitalized deferred interest and other	5,965,300	11,385,975
3.	Capitalized deferred interest and other	570,475	1,094,525
4.	Accrual of discount	143,464	100,936
5.	Unrealized valuation increase (decrease)		
6.	Total gain (loss) on disposals Deduct amounts received on disposals	4,634	(1,091,381)
7.	Deduct amounts received on disposals	54,985,860	79,675,742
8.	Deduct amortization of premium and mortgage interest points and commitment fees	83,126	(4,245)
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest	149,839	(3,584,527)
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)	939,594,373	921,272,354
12.	Total valuation allowance		
13.	Subtotal (Line 11 plus Line 12)	939,594,373	921,272,354
14.	Deduct total nonadmitted amounts		
15.	Statement value at end of current period (Line 13 minus Line 14)	939,594,373	921,272,354

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	168,637,463	186,063,997
2.	Cost of acquired:		
	2.1 Actual cost at time of acquisition	3,282,292	11,678,617
	2.2 Additional investment made after acquisition	9,106,655	32,656,378
3.	Capitalized deferred interest and other		
4.	Accrual of discount		
5.	Unrealized valuation increase (decrease)	770,079	32,579,983
6.	Total gain (loss) on disposals	131,256	(173,884)
7.	Deduct amounts received on disposals	14,671,035	94,648,371
8.	Deduct amortization of premium and depreciation	5,914	11,047
9.	Total foreign exchange change in book/adjusted carrying value	(801,616)	681,609
10.	Deduct current year's other than temporary impairment recognized	310,929	189,819
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	166, 138, 251	168,637,463
12.	Deduct total nonadmitted amounts	284,461	576,004
13.	Statement value at end of current period (Line 11 minus Line 12)	165,853,790	168,061,459

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	4,418,143,411	4,466,803,023
2.	Cost of bonds and stocks acquired	517,708,769	776,416,846
3.	Accrual of discount		5,365,453
4.	Unrealized valuation increase (decrease)	9,832,242	11,680,556
5.	Total gain (loss) on disposals	(1,411,113)	3,765,909
6.	Deduct consideration for bonds and stocks disposed of	380, 119, 399	812,732,712
7.	Deduct amortization of premium	1,535,344	2,677,184
8.	Total foreign exchange change in book/adjusted carrying value	(924,307)	(27,984,078)
9.	Deduct current year's other than temporary impairment recognized	8,043,312	6, 156, 799
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees	4,277,874	3,662,397
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	4,560,073,507	4,418,143,411
12.	Deduct total nonadmitted amounts		
13.	Statement value at end of current period (Line 11 minus Line 12)	4,560,073,507	4,418,143,411

SCHEDULE D - PART 1B

Showing the Acquisitions, Dispositions and Non-Trading Activity
During the Current Quarter for all Bonds and Preferred Stock by NAIC Designation

	During the Current Quarter to	2	3	4	5	6	7	8
	Book/Adjusted	Ai-iti	Diamakiana	New Toronton Author	Book/Adjusted	Book/Adjusted	Book/Adjusted	Book/Adjusted
	Carrying Value Beginning	Acquisitions During	Dispositions During	Non-Trading Activity During	Carrying Value End of	Carrying Value End of	Carrying Value End of	Carrying Value December 31
NAIC Designation	of Current Quarter	Current Quarter	Current Quarter	Current Quarter	First Quarter	Second Quarter	Third Quarter	Prior Year
BONDS								
1. NAIC 1 (a)	2,196,088,719	189,956,779	222, 137, 408	(167,404,963)	2,196,088,719	1,996,503,127		2,108,548,481
2. NAIC 2 (a)		1, 129, 505, 085	1, 192, 018, 814	1,901,095	1,755,947,941	1,695,335,307		1,833,741,430
3. NAIC 3 (a)	113,770,057	965,441	6,682,924	12,866,144	113,770,057	120,918,718		123,271,777
4. NAIC 4 (a)	109,916,994	46,115,355	3,313,208	149,324,579	109,916,994	302,043,720		124,433,616
5. NAIC 5 (a)	176,223,007	1,450,890	4,588,471	(12,137,297)	176,223,007	160,948,129		176,977,693
6. NAIC 6 (a)	22,456,196	280,837	242,909	10,300,126	22,456,196	32,794,250		22,348,789
7. Total Bonds	4,374,402,914	1,368,274,387	1,428,983,734	(5, 150, 316)	4,374,402,914	4,308,543,251		4,389,321,786
PREFERRED STOCK								
THE EINES CLOCK								
8. NAIC 1	2,950,000				2.950.000	2.950.000		2,950,000
9. NAIC 2	, ,	292.977		(2.022.921)	10,049,650	8,319,706		10,324,650
10. NAIC 3	, ,	176.638		1.567.937	10,529,835	12.274.410		10,210,807
11. NAIC 4		170,000		346.860	458,267	805, 127		437,020
12. NAIC 5	·			18.008	2,514,886	2.532.894		2,508,600
		82,296		10,000	2,314,000	82,296		2,500,000
13. NAIC 6		,		(00.440)	00 500 000	,		00 404 077
14. Total Preferred Stock	26,502,638	551,911		(90,116)	26,502,638	26,964,433		26,431,077
 Total Bonds and Preferred Stock 	4,400,905,552	1,368,826,298	1,428,983,734	(5,240,432)	4,400,905,552	4,335,507,684		4,415,752,863

(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	2	3	4	5 Paid for
	Book/Adjusted Carrying Value	Par Value	Actual Cost	Interest Collected Year-to-Date	Accrued Interest Year-to-Date
9199999 Totals	41,293,304	XXX	41,237,815		

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	62,424,277	4,973,791
2.	Cost of short-term investments acquired	114,279,570	134,748,340
3.	Accrual of discount	1,027,016	522,435
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	8,558	(368)
6.	Deduct consideration received on disposals	136,446,116	77,819,921
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)	41,293,304	62,424,277
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	41,293,304	62,424,277

SCHEDULE DB - PART A - VERIFICATION

Options, Caps, Floors, Collars, Swaps and Forwards

1.	Book/Adjusted Carrying Value, December 31, prior year (Line 9, prior year)	(81,438,553)
2.	Cost Paid/(Consideration Received) on additions	2,828,913
3.	Unrealized Valuation increase/(decrease)	51,985,098
4.	Total gain (loss) on termination recognized	6,295,082
5.	Considerations received/(paid) on terminations	9,382,161
6.	Amortization	
7.	Adjustment to the Book/Adjusted Carrying Value of hedged item	
8.	Total foreign exchange change in Book/Adjusted Carrying Value	
9.	Book/Adjusted Carrying Value at End of Current Period (Lines 1+2+3+4-5+6+7+8)	(29,711,620)
10.	Deduct nonadmitted assets	
11.	Statement value at end of current period (Line 9 minus Line 10)	(29,711,620)

SCHEDULE DB - PART B - VERIFICATION

	Futures Con	ntracts			
1.	Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)				
2.	Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cu	umulative Cash Char	nge column)		
3.1	Add:				
	Change in variation margin on open contracts - Highly Effective Hedges				
	3.11 Section 1, Column 15, current year to date minus				
	3.12 Section 1, Column 15, prior year				
	Change in variation margin on open contracts - All Other				
	3.13 Section 1, Column 18, current year to date minus	27,394,446			
	3.14 Section 1, Column 18, prior year	32,119,985	(4,725,538)	(4,725,538)	
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	27,394,446			
	3.24 Section 1, Column 19, prior year	32,119,985	(4,725,538)	(4,725,538)	
3.3	Subtotal (Line 3.1 minus Line 3.2)				
4.1	Cumulative variation margin on terminated contracts during the year		58,540,707		
4.2	Less:				
	4.21 Amount used to adjust basis of hedged item				
	4.22 Amount recognized	26,420,722	26,420,722		
4.3	Subtotal (Line 4.1 minus Line 4.2)				32,119,985
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 \dots				(32, 119, 985
6.	Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)				
7.	Deduct total nonadmitted amounts				
Ω	Statement value at end of current period (Line 6 minus Line 7)				

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open **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 Va	alue Check
1.	Part A, Section 1, Column 14.	(29,711,620)	
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance		
3.	Total (Line 1 plus Line 2)		(29,711,620)
4.	Part D, Section 1, Column 5	543,372,965	
5.	Part D, Section 1, Column 6	(545,690,139)	
6.	Total (Line 3 minus Line 4 minus Line 5)		(27,394,446)
		Fair Value Checl	<
7.	Part A, Section 1, Column 16	(29,711,620)	
8.	Part B, Section 1, Column 13		
9.	Total (Line 7 plus Line 8)		(2,317,174)
10.	Part D, Section 1, Column 8	543,372,965	
11.	Part D, Section 1, Column 9	(545,690,139)	
12	Total (Line 9 minus Line 10 minus Line 11)		
		Potential Exposure C	heck
13.	Part A, Section 1, Column 21	166,969,145	
14.	Part B, Section 1, Column 20	12,523,650	
15.	Part D, Section 1, Column 11	179,492,795	
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	258,600,632	287,825,540
2.	Cost of cash equivalents acquired	1,878,879,022	5,672,626,426
3.	Accrual of discount	2, 106, 665	3,879,731
4.	Unrealized valuation increase (decrease)		
5.	Total gain (loss) on disposals	17,909	416
6.	Deduct consideration received on disposals	2,067,807,709	5,705,731,481
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)	71,796,520	258,600,632
11.	Deduct total nonadmitted amounts		
12.	Statement value at end of current period (Line 10 minus Line 11)	71,796,520	258,600,632