Form 5500

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Annual Return/Report of Employee Benefit Plan

This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code).

▶ **Complete all entries in accordance with the instructions to the Form 5500.**

OMB Nos. 1210-0110
1210-0089

2021

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A This return/report is for:
- [ ] a multiemployer plan
- [ ] a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)
- [X] a single-employer plan
- [ ] a DFE (specify) ____

B This return/report is:
- [ ] the first return/report
- [ ] the final return/report
- [ ] an amended return/report
- [ ] a short plan year return/report (less than 12 months)

C If the plan is a collectively-bargained plan, check here. . . . . ▶ [ ]

D Check box if filing under:
- [X] Form 5558
- [ ] automatic extension
- [ ] the DFVC program
- [ ] special extension (enter description)

E If this is a retroactively adopted plan permitted by SECURE Act section 201, check here. . . . . ▶ [ ]

Part II Basic Plan Information—enter all requested information

1a Name of plan
MASSMUTUAL THRIFT PLAN

1b Three-digit plan number (PN) ▶ 004

1c Effective date of plan 07/01/1974

2a Plan sponsor's name (employer, if for a single-employer plan)
Mailing address (include room, apt., suite no. and street, or P.O. Box)
City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions)
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

1295 STATE STREET, F105
SPRINGFIELD, MA 01111-0001

2b Employer Identification Number (EIN) 04-1590850

2c Plan Sponsor's telephone number 617-695-4607

2d Business code (see instructions) 524140

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/12/2022	CHARLENE DODD
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

3a Plan administrator's name and address ☐ Same as Plan Sponsor

PLAN ADMINISTRATIVE COMMITTEE

1295 STATE STREET, F105
SPRINGFIELD, MA 01111-0001

3b Administrator's EIN: 55-0915954

3c Administrator's telephone number: 413-744-4407

4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report:
a Sponsor's name
c Plan Name

4b EIN

4d PN

5	Total number of participants at the beginning of the plan year	**5**	23256
6	Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines **6a(1), 6a(2), 6b, 6c,** and **6d**).		
a(1)	Total number of active participants at the beginning of the plan year	**6a(1)**	16976
a(2)	Total number of active participants at the end of the plan year	**6a(2)**	15229
b	Retired or separated participants receiving benefits	**6b**	1011
c	Other retired or separated participants entitled to future benefits	**6c**	7401
d	Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	23641
e	Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	21
f	Total. Add lines **6d** and **6e**	**6f**	23662
g	Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	22490
h	Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	345
7	Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	**7**	

8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:

2J 2K 3H 2F 2G 2E 2S 2T 3F

b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:

4B

9a Plan funding arrangement (check all that apply)

- (1) [X] Insurance
- (2) [ ] Code section 412(e)(3) insurance contracts
- (3) [X] Trust
- (4) [ ] General assets of the sponsor

9b Plan benefit arrangement (check all that apply)

- (1) [X] Insurance
- (2) [ ] Code section 412(e)(3) insurance contracts
- (3) [ ] Trust
- (4) [ ] General assets of the sponsor

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- (1) [X] **R** (Retirement Plan Information)
- (2) [ ] **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3) [ ] **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1) [X] **H** (Financial Information)
- (2) [ ] **I** (Financial Information – Small Plan)
- (3) [X] 6 **A** (Insurance Information)
- (4) [X] **C** (Service Provider Information)
- (5) [X] **D** (DFE/Participating Plan Information)
- (6) [ ] **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☒ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2021 Form M-1 annual report. If the plan was not required to file the 2021 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code_____

SCHEDULE A
(Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
04-1590850	65935	2942	21	04/01/2021	03/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid
38	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

DAVID M BURSTIN
BRAND BURSTIN RUNNETTE 6 PPG
PL STE 1150
PITTSBURGH, PA 15222

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	(d) Purpose	(e) Organization code
38			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	(d) Purpose	(e) Organization code

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	**4**	139166
5	Current value of plan's interest under this contract in separate accounts at year end	**5**	0

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	**6b**	1912
c	Premiums due but unpaid at the end of the year	**6c**	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	**6d**	

Specify nature of costs ▶

e Type of contract: (1) [X] individual policies (2) [ ] group deferred annuity

(3) [ ] other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ [ ]

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) [ ] deposit administration (2) [ ] immediate participation guarantee

(3) [ ] guaranteed investment (4) [ ] other ▶

b	Balance at the end of the previous year		**7b**	
c	Additions: (1) Contributions deposited during the year	**7c(1)**		
	(2) Dividends and credits	**7c(2)**		
	(3) Interest credited during the year	**7c(3)**		
	(4) Transferred from separate account	**7c(4)**		
	(5) Other (specify below)	**7c(5)**		
	▶			
	(6)Total additions		**7c(6)**	
d	Total of balance and additions (add lines **7b** and **7c(6)**).		**7d**	
e	Deductions:			
	(1) Disbursed from fund to pay benefits or purchase annuities during year	**7e(1)**		
	(2) Administration charge made by carrier	**7e(2)**		
	(3) Transferred to separate account	**7e(3)**		
	(4) Other (specify below)	**7e(4)**		
	▶			
	(5) Total deductions		**7e(5)**	
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)		**7f**	

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

a ☐ Health (other than dental or vision) **b** ☐ Dental **c** ☐ Vision **d** ☐ Life insurance
e ☐ Temporary disability (accident and sickness) **f** ☐ Long-term disability **g** ☐ Supplemental unemployment **h** ☐ Prescription drug
i ☐ Stop loss (large deductible) **j** ☐ HMO contract **k** ☐ PPO contract **l** ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE A (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
C.M. LIFE INSURANCE COMPANY

(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
06-1041383	93432	2942B	5	04/01/2021	03/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid
444	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

RICHARD C KURIGER
3 GREENWAY PLZ STE 1500
HOUSTON, TX 77046-0314

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	
153			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

LARRY E RICKE
425 BANK ST
NEW ALBANY, IN 47150-3407

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	
107			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

JOHN L ROSENHEIM
101 FEDERAL ST STE 800
BOSTON, MA 02110-1817

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
66			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

BRIAN E CODE
4830 W KENNEDY BLVD STE 875
TAMPA, FL 33609-2576

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
62			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

FREDRIC R HOROWITZ
6 FOUNTAIN TER
SCARSDALE, NY 10583-1412

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
56			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

ROBERT TIMOTHY SINKS
12 CADILLAC DR STE 440
BRENTWOOD, TN 37027-5272

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
0			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	**4**	177689
5	Current value of plan's interest under this contract in separate accounts at year end	**5**	0

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	**6b**	6286
c	Premiums due but unpaid at the end of the year	**6c**	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	**6d**	

Specify nature of costs ▶

e Type of contract: (1) [X] individual policies (2) [ ] group deferred annuity

(3) [ ] other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ [ ]

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) [ ] deposit administration (2) [ ] immediate participation guarantee

(3) [ ] guaranteed investment (4) [ ] other ▶

b	Balance at the end of the previous year			**7b**	
c	Additions: (1) Contributions deposited during the year	**7c(1)**			
	(2) Dividends and credits	**7c(2)**			
	(3) Interest credited during the year	**7c(3)**			
	(4) Transferred from separate account	**7c(4)**			
	(5) Other (specify below)	**7c(5)**			
	▶				
	(6) Total additions			**7c(6)**	
d	Total of balance and additions (add lines **7b** and **7c(6)**)			**7d**	
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	**7e(1)**			
	(2) Administration charge made by carrier	**7e(2)**			
	(3) Transferred to separate account	**7e(3)**			
	(4) Other (specify below)	**7e(4)**			
	▶				
	(5) Total deductions			**7e(5)**	
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			**7f**	

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

a ☐ Health (other than dental or vision) **b** ☐ Dental **c** ☐ Vision **d** ☐ Life insurance
e ☐ Temporary disability (accident and sickness) **f** ☐ Long-term disability **g** ☐ Supplemental unemployment **h** ☐ Prescription drug
i ☐ Stop loss (large deductible) **j** ☐ HMO contract **k** ☐ PPO contract **l** ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE A (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
04-1590850	65935	3318	21	01/01/2021	12/31/2021

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid
526	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

ANDREW D LEE

ANDREW D LEE COMPANY 30
MONUMENT SQ # 110
CONCORD, MA 01742-1858

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	(d) Purpose	(e) Organization code
174			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

LARRY E RICKE

425 BANK ST
NEW ALBANY, IN 47150-3407

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	(d) Purpose	(e) Organization code
107			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

STUART R ROMAL

7040 GOLF DR
WHITNEY, TX 76692-9631

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
34			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

HOWARD N BIENENFELD

1000 CORPORATE DR STE 600
FORT LAUDERDALE, FL 33334-3608

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
32			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

JAMES C BROCKE

900 E 96TH ST STE 300
INDIANAPOLIS, IN 46240-3876

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
32			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

STEVEN A HAMILTON

2550 MIDDLE RD STE 204
BETTENDORF, IA 52722-3286

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
26			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

LARRY M HADDEN

64 N ROUNTREE ST
METTER, GA 30439-4019

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
25			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

MICHAEL A BOOK
90 PARK AVE FL 17
NEW YORK, NY 10016-1373

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
21			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

GREGORY B FALKENBACH
65 E ELIZABETH AVE STE 120
BETHLEHEM, PA 18018-6506

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
20			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

MARK J WASIKONIS
3949 S ATHERTON ST
STATE COLLEGE, PA 16801-8308

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
16			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

SANTO M AZZOLINO
6800 JERICHO TPKE STE 202W
SYOSSET, NY 11791-4488

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
15			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

CRAIG L MILLER
924 CENTENNIAL WAY STE 480
LANSING, MI 48917-8247

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
13			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

CAROL L LASEK
1000 CORPORATE DR STE 600
FORT LAUDERDALE, FL 33334-3608

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
11			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

PATRICK F THUECKS
TWO GALLERIA TOWER 13455 NOEL RD FL 20
DALLAS, TX 75240-6620

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
0			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	**4**	
5	Current value of plan's interest under this contract in separate accounts at year end	**5**	

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	**6b**	21440
c	Premiums due but unpaid at the end of the year	**6c**	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	**6d**	

Specify nature of costs ▶

e Type of contract: (1) [X] individual policies (2) [ ] group deferred annuity

(3) [ ] other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ [ ]

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) [ ] deposit administration (2) [ ] immediate participation guarantee

(3) [ ] guaranteed investment (4) [ ] other ▶

b	Balance at the end of the previous year			**7b**	
c	Additions: (1) Contributions deposited during the year	**7c(1)**			
	(2) Dividends and credits	**7c(2)**			
	(3) Interest credited during the year	**7c(3)**			
	(4) Transferred from separate account	**7c(4)**			
	(5) Other (specify below)	**7c(5)**			
	▶				
	(6) Total additions			**7c(6)**	
d	Total of balance and additions (add lines **7b** and **7c(6)**)			**7d**	
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	**7e(1)**			
	(2) Administration charge made by carrier	**7e(2)**			
	(3) Transferred to separate account	**7e(3)**			
	(4) Other (specify below)	**7e(4)**			
	▶				
	(5) Total deductions			**7e(5)**	
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			**7f**	

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

a ☐ Health (other than dental or vision) **b** ☐ Dental **c** ☐ Vision **d** ☐ Life insurance
e ☐ Temporary disability (accident and sickness) **f** ☐ Long-term disability **g** ☐ Supplemental unemployment **h** ☐ Prescription drug
i ☐ Stop loss (large deductible) **j** ☐ HMO contract **k** ☐ PPO contract **l** ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE A (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
MML BAYSTATE LIFE INSRUANCE COMPANY

(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
43-0581430	70416	3318VL	1	01/01/2021	12/31/2021

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid
13	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

JOHN CURTIS SKOOG
100 S 5TH ST STE 2300
MINNEAPOLIS, MN 55402-1230

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	(d) Purpose	(e) Organization code
7			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

DAVID J MEANS
100 S 5TH ST STE 2300
MINNEAPOLIS, MN 55402-1230

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	(d) Purpose	(e) Organization code
4			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

KYLER FLOYD HARDER
STE 320 2 CARLSON PKWY N
PLYMOUTH, MN 55447-4478

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
2			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

PATRICK F THUECKS
TWO GALLERIA TOWER 13455 NOEL
RD FL 20
DALLAS, TX 75240-6620

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	
0			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	**4**	
5	Current value of plan's interest under this contract in separate accounts at year end	**5**	

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶ AS PUBLISHED AND FILED FOR EACH

b	Premiums paid to carrier	**6b**	14333
c	Premiums due but unpaid at the end of the year	**6c**	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount. Specify nature of costs ▶	**6d**	

e Type of contract: (1) [X] individual policies (2) [ ] group deferred annuity (3) [ ] other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ [ ]

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) [ ] deposit administration (2) [ ] immediate participation guarantee (3) [ ] guaranteed investment (4) [ ] other ▶

b	Balance at the end of the previous year			**7b**	
c	Additions: (1) Contributions deposited during the year	**7c(1)**			
	(2) Dividends and credits	**7c(2)**			
	(3) Interest credited during the year	**7c(3)**			
	(4) Transferred from separate account	**7c(4)**			
	(5) Other (specify below) ▶	**7c(5)**			
	(6) Total additions			**7c(6)**	
d	Total of balance and additions (add lines **7b** and **7c(6)**)			**7d**	
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	**7e(1)**			
	(2) Administration charge made by carrier	**7e(2)**			
	(3) Transferred to separate account	**7e(3)**			
	(4) Other (specify below) ▶	**7e(4)**			
	(5) Total deductions			**7e(5)**	
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			**7f**	

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

a ☐ Health (other than dental or vision) **b** ☐ Dental **c** ☐ Vision **d** ☐ Life insurance
e ☐ Temporary disability (accident and sickness) **f** ☐ Long-term disability **g** ☐ Supplemental unemployment **h** ☐ Prescription drug
i ☐ Stop loss (large deductible) **j** ☐ HMO contract **k** ☐ PPO contract **l** ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE A (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
C.M. LIFE INSURANCE COMPANY

(b) EIN	**(c)** NAIC code	**(d)** Contract or identification number	**(e)** Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	**(g)** To
06-1041383	93432	A230B	12	02/01/2021	01/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	**(b)** Total amount of fees paid
8	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

LEONARD J MONTANARI
2ND FLOOR 2 FOREST PARK DR
FARMINGTON, CT 06032-1446

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	**(d)** Purpose	**(e)** Organization code
8			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		
	(c) Amount	**(d)** Purpose	**(e)** Organization code

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	**4**	95204
5	Current value of plan's interest under this contract in separate accounts at year end	**5**	

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	**6b**	1807
c	Premiums due but unpaid at the end of the year	**6c**	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	**6d**	

Specify nature of costs ▶

e Type of contract: (1) [X] individual policies (2) [ ] group deferred annuity

(3) [ ] other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ [ ]

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) [ ] deposit administration (2) [ ] immediate participation guarantee

(3) [ ] guaranteed investment (4) [ ] other ▶

b	Balance at the end of the previous year			**7b**	
c	Additions: (1) Contributions deposited during the year	**7c(1)**			
	(2) Dividends and credits	**7c(2)**			
	(3) Interest credited during the year	**7c(3)**			
	(4) Transferred from separate account	**7c(4)**			
	(5) Other (specify below)	**7c(5)**			
	▶				
	(6)Total additions			**7c(6)**	
d	Total of balance and additions (add lines **7b** and **7c(6)**)			**7d**	
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	**7e(1)**			
	(2) Administration charge made by carrier	**7e(2)**			
	(3) Transferred to separate account	**7e(3)**			
	(4) Other (specify below)	**7e(4)**			
	▶				
	(5) Total deductions			**7e(5)**	
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			**7f**	

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

a ☐ Health (other than dental or vision) **b** ☐ Dental **c** ☐ Vision **d** ☐ Life insurance
e ☐ Temporary disability (accident and sickness) **f** ☐ Long-term disability **g** ☐ Supplemental unemployment **h** ☐ Prescription drug
i ☐ Stop loss (large deductible) **j** ☐ HMO contract **k** ☐ PPO contract **l** ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE A (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

(b) EIN	**(c)** NAIC code	**(d)** Contract or identification number	**(e)** Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	**(g)** To
04-1590850	65935	SF 1550-1	23641	01/01/2021	12/31/2021

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	**(b)** Total amount of fees paid

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	4	
5	Current value of plan's interest under this contract in separate accounts at year end	5	2961707240

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	6b	
c	Premiums due but unpaid at the end of the year	6c	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	6d	

Specify nature of costs ▶

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity

(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ ☐

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee

(3) ☐ guaranteed investment (4) ☒ other ▶ GROUP ANNUITY CONTRACT

b	Balance at the end of the previous year			7b	1174644297
c	Additions: (1) Contributions deposited during the year	7c(1)	172705851		
	(2) Dividends and credits	7c(2)	0		
	(3) Interest credited during the year	7c(3)	33955683		
	(4) Transferred from separate account	7c(4)	11516716		
	(5) Other (specify below)	7c(5)	76448335		
	▶ LOAN DEFAULT, LOAN DEFAULT OFFSET, TRANS ASSETS, TRANS FORFS MM TRANSFER, ROLLOVER,				
	(6) Total additions			7c(6)	294626585
d	Total of balance and additions (add lines **7b** and **7c(6)**)			7d	1469270882
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)	126081180		
	(2) Administration charge made by carrier	7e(2)	132311		
	(3) Transferred to separate account	7e(3)	204307123		
	(4) Other (specify below)	7e(4)	1896388		
	▶ INSUR PREM WD, LN DISTRIB				
	(5) Total deductions			7e(5)	332417002
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			7f	1136853880

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

a ☐ Health (other than dental or vision) **b** ☐ Dental **c** ☐ Vision **d** ☐ Life insurance
e ☐ Temporary disability (accident and sickness) **f** ☐ Long-term disability **g** ☐ Supplemental unemployment **h** ☐ Prescription drug
i ☐ Stop loss (large deductible) **j** ☐ HMO contract **k** ☐ PPO contract **l** ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE C (Form 5500)	Service Provider Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ **File as an attachment to Form 5500.**	**2021** **This Form is Open to Public Inspection.**

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan	**B** Three-digit plan number (PN) ▶	
MASSMUTUAL THRIFT PLAN		004
C Plan sponsor's name as shown on line 2a of Form 5500	**D** Employer Identification Number (EIN)	
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	

Part I Service Provider Information (see instructions)

You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions). . . . . ☐ Yes ☒ No

b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

MASSACHUSETTS MUTUAL LIFE INSURANCE

04-1590850

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
62 64	SERVICE PROVIDER	848999	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes [ ] No [ ]	Yes [ ] No [ ]		Yes [ ] No [ ]

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes [ ] No [ ]	Yes [ ] No [ ]		Yes [ ] No [ ]

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	**(c)** Relationship to employer, employee organization, or person known to be a party-in-interest	**(d)** Enter direct compensation paid by the plan. If none, enter -0-.	**(e)** Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	**(f)** Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	**(g)** Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	**(h)** Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	**(c)** Relationship to employer, employee organization, or person known to be a party-in-interest	**(d)** Enter direct compensation paid by the plan. If none, enter -0-.	**(e)** Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	**(f)** Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	**(g)** Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	**(h)** Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	**(c)** Relationship to employer, employee organization, or person known to be a party-in-interest	**(d)** Enter direct compensation paid by the plan. If none, enter -0-.	**(e)** Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	**(f)** Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	**(g)** Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	**(h)** Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received $1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

Part III	**Termination Information on Accountants and Enrolled Actuaries (see instructions)** (complete as many entries as needed)

a Name:

b EIN:

c Position:

d Address:

e Telephone:

Explanation:

a Name:

b EIN:

c Position:

d Address:

e Telephone:

Explanation:

a Name:

b EIN:

c Position:

d Address:

e Telephone:

Explanation:

a Name:

b EIN:

c Position:

d Address:

e Telephone:

Explanation:

a Name:

b EIN:

c Position:

d Address:

e Telephone:

Explanation:

SCHEDULE D (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

DFE/Participating Plan Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2021

This Form is Open to Public Inspection.

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan or DFE sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I **Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs)**
(Complete as many entries as needed to report all interests in DFEs)

a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-CHX (INTL GROWTH)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	130452192
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-CJN (COMMODITY RL RTN STRAT)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	14911421
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-CKD (BLUE CHIP GROWTH)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	350065645
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-CMG (REAL ESTATE)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	54293503
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-ED (CORE BOND)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0342299-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	80989621
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-EV (HIGH YIELD)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	35140691
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-IA (SMALL CAP GROWTH EQTY)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0342299-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	145882653

a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCD (TARGET RETIREMENT INCOME)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	14802105
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCF (TARGET RETIREMENT 2015)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	6719707
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCG (TARGET RETIREMENT 2020)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	50921498
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCH (TARGET RETIREMENT 2025)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	75965746
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCI (TARGET RETIREMENT 2030)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	111424001
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCJ (TARGET RETIREMENT 2035)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	88080377
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCK (TARGET RETIREMENT 2040)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	116767138
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCL (TARGET RETIREMENT 2045)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	68115329
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCM (TARGET RETIREMENT 2050)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	85833622
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCN (TARGET RETIREMENT 2055)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	36396362

a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JCO (TARGET RETIREMENT 2060)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	29740080
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JG4 (TOTL BND MRKT INDX)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	40115304
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JG5 (TOT INTL STK IDX)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	116288041
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-JRY (TARGET RETIREMENT 2065)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	4898910
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-KY (FUNDAMENTAL VALUE)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0342299-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	195147194
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-QY (STRATEGC EMRG MRKTS)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	39202218
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-SM (INFL-PROT AND INC)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0779283-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	41286626
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-TA (EQUITY OPPORTUNITIES)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0342299-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	127201550
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-UH (MID CAP GROWTH)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0342299-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	119683776
a Name of MTIA, CCT, PSA, or 103-12 IE:	SIA-UY (SMALL COMPANY VALUE)		
b Name of sponsor of entity listed in (a):	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY		
c EIN-PN 90-0342299-000	**d** Entity code P	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	65106061

Part II **Information on Participating Plans (to be completed by DFEs)**
(Complete as many entries as needed to report all participating plans)

a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN
a Plan name	
b Name of plan sponsor	**c** EIN-PN

SCHEDULE H (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Financial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I Asset and Liability Statement

1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. **Round off amounts to the nearest dollar.** MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.

Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)		
(2) Participant contributions	1b(2)		
(3) Other	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)		
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)	30499857	25075234
(9) Value of interest in common/collective trusts	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds)	1c(13)	1917815256	2245431369
(14) Value of funds held in insurance company general account (unallocated contracts)	1c(14)	1174644297	1136853880
(15) Other	1c(15)	739318802	718172389

			(a) Beginning of Year	**(b)** End of Year
1d	Employer-related investments:			
	(1) Employer securities	1d(1)		
	(2) Employer real property	1d(2)		
e	Buildings and other property used in plan operation	1e		
f	Total assets (add all amounts in lines 1a through 1e)	1f	3862278212	4125532872
	Liabilities			
g	Benefit claims payable	1g		
h	Operating payables	1h		
i	Acquisition indebtedness	1i		
j	Other liabilities	1j		
k	Total liabilities (add all amounts in lines 1g through1j)	1k	0	0
	Net Assets			
l	Net assets (subtract line 1k from line 1f)	1l	3862278212	4125532872

Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

	Income		**(a)** Amount	**(b)** Total
a	**Contributions:**			
	(1) Received or receivable in cash from: **(A)** Employers	2a(1)(A)	51204485	
	(B) Participants	2a(1)(B)	121617568	
	(C) Others (including rollovers)	2a(1)(C)	55150086	
	(2) Noncash contributions	2a(2)		
	(3) Total contributions. Add lines **2a(1)(A), (B), (C),** and line **2a(2)**	2a(3)		227972139
b	**Earnings on investments:**			
	(1) Interest:			
	(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
	(B) U.S. Government securities	2b(1)(B)		
	(C) Corporate debt instruments	2b(1)(C)		
	(D) Loans (other than to participants)	2b(1)(D)		
	(E) Participant loans	2b(1)(E)	1544065	
	(F) Other	2b(1)(F)	33955683	
	(G) Total interest. Add lines **2b(1)(A)** through **(F)**	2b(1)(G)		35499748
	(2) Dividends: **(A)** Preferred stock	2b(2)(A)		
	(B) Common stock	2b(2)(B)		
	(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)		
	(D) Total dividends. Add lines **2b(2)(A)**, **(B)**, and **(C)**	2b(2)(D)		0
	(3) Rents	2b(3)		
	(4) Net gain (loss) on sale of assets: **(A)** Aggregate proceeds	2b(4)(A)		
	(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
	(C) Subtract line **2b(4)(B)** from line **2b(4)(A)** and enter result	2b(4)(C)		0
	(5) Unrealized appreciation (depreciation) of assets: **(A)** Real estate	2b(5)(A)		
	(B) Other	2b(5)(B)		
	(C) Total unrealized appreciation of assets. Add lines **2b(5)(A)** and **(B)**	2b(5)(C)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		288968772
c Other income	2c		141103731
d Total income. Add all **income** amounts in column (b) and enter total	2d		693544390
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	428966547	
(2) To insurance carriers for the provision of benefits	2e(2)	35890	
(3) Other	2e(3)		
(4) Total benefit payments. Add lines **2e(1)** through **(3)**	2e(4)		429002437
f Corrective distributions (see instructions)	2f		29036
g Certain deemed distributions of participant loans (see instructions)	2g		409258
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)		
(2) Contract administrator fees	2i(2)	848999	
(3) Investment advisory and management fees	2i(3)		
(4) Other	2i(4)		
(5) Total administrative expenses. Add lines **2i(1)** through **(4)**	2i(5)		848999
j Total expenses. Add all **expense** amounts in column (b) and enter total	2j		430289730
Net Income and Reconciliation			
k Net income (loss). Subtract line **2j** from line **2d**	2k		263254660
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) [X] Unmodified **(2)** [ ] Qualified **(3)** [ ] Disclaimer **(4)** [ ] Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) [ ] DOL Regulation 2520.103-8 **(2)** [ ] DOL Regulation 2520.103-12(d) **(3)** [X] neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: KPMG, LLC **(2)** EIN: 13-5565207

d The opinion of an independent qualified public accountant is **not attached** because:

(1) [ ] This form is filed for a CCT, PSA, or MTIA. **(2)** [ ] It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

		Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)	4a		X	

			Yes	No	Amount
b	Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)	**4b**		X	
c	Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)	**4c**		X	
d	Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)	**4d**		X	
e	Was this plan covered by a fidelity bond?	**4e**	X		100000000
f	Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	**4f**		X	
g	Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?	**4g**		X	
h	Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?	**4h**		X	
i	Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	**4i**	X		
j	Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)	**4j**		X	
k	Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	**4k**		X	
l	Has the plan failed to provide any benefit when due under the plan?	**4l**		X	
m	If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	**4m**		X	
n	If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3	**4n**			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No

If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	**5b(2)** EIN(s)	**5b(3)** PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☐ Yes ☐ No ☐ Not determined

If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____.

SCHEDULE R (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Retirement Plan Information

This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2021

This Form is Open to Public Inspection.

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
MASSMUTUAL THRIFT PLAN

B Three-digit plan number (PN) ▶ 004

C Plan sponsor's name as shown on line 2a of Form 5500
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

D Employer Identification Number (EIN)
04-1590850

Part I Distributions

All references to distributions relate only to payments of benefits during the plan year.

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions ..... | **1** |

2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits):

EIN(s): _____ _____

Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.

3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year ..... | **3** | 3007

Part II Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)

4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ..... ☐ **Yes** ☐ **No** ☒ **N/A**

If the plan is a defined benefit plan, go to line 8.

5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. **Date:** Month _____ Day _____ Year _____

If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.

6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived) ..... | **6a** |

b Enter the amount contributed by the employer to the plan for this plan year ..... | **6b** |

c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount) ..... | **6c** |

If you completed line 6c, skip lines 8 and 9.

7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ..... ☐ **Yes** ☐ **No** ☒ **N/A**

8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ..... ☐ **Yes** ☐ **No** ☒ **N/A**

Part III Amendments

9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box. ..... ☐ **Increase** ☐ **Decrease** ☐ **Both** ☐ **No**

Part IV ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.

10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ..... ☐ **Yes** ☒ **No**

11 a Does the ESOP hold any preferred stock? ..... ☐ **Yes** ☒ **No**

b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ..... ☐ **Yes** ☒ **No**

12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ..... ☐ **Yes** ☒ **No**

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14 Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:

a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment)	**14a**	
b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	**14b**	
c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	**14c**	

15 Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year	**15a**	
b The corresponding number for the second preceding plan year	**15b**	

16 Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year	**16a**	
b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers	**16b**	

17 If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

18 If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

19 If the total number of participants is 1,000 or more, complete lines (a) through (c)

a Enter the percentage of plan assets held as:
Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate line 19(b)?
☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify):

20 **PBGC missed contribution reporting requirements.** If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No

b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:

☐ Yes.

☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.

☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.

☐ No. Other. Provide explanation _____

KPMG LLP
One Financial Plaza
755 Main Street
Hartford, CT 06103

Independent Auditors' Report

The Participants and Plan Administrative Committee
MassMutual Thrift Plan:

Opinion

We have audited the financial statements of MassMutual Thrift Plan (the Plan), an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), which comprise the statements of net assets available for benefits (modified cash basis) as of December 31, 2021 and 2020, and the related statements of changes in net assets available for benefits (modified cash basis) for the years ended December 31, 2021 and 2020, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2021 and 2020, and the changes in its net assets available for benefits for the years ended December 31, 2021 and 2020, in accordance with modified cash basis of accounting, which is a comprehensive basis of accounting other than U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with modified cash basis of accounting, which is a comprehensive basis of accounting other than U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the plan, and determining that the plan's transactions that are presented and disclosed in the financial statements are in conformity with the plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.

KPMG LLP, a Delaware limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Supplemental Schedules Required by ERISA

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The supplemental schedule of Schedule H, Line 4i – Schedule of Assets (Held at End of Year) is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS.

In forming our opinion on the supplemental schedule, we evaluated whether the supplemental schedule, including their form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion, the information in the accompanying schedule is fairly stated, in all material respects, in relation to the financial statements as a whole, and the form and content are presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

KPMG LLP

Hartford, Connecticut
August 23, 2022

MASSMUTUAL THRIFT PLAN
Statements of Net Assets Available for Benefits (Modified Cash Basis)

	As of December 31,	
	2021	2020
	(In thousands)	
Assets:		
Investments at fair value:		
Pooled separate investment accounts	$ 2,245,431	$ 1,917,815
Non-pooled separate investment accounts	716,276	737,413
Life insurance policies (note 4)	1,897	1,906
Total investments at fair value	2,963,604	2,657,134
Fully benefit-responsive investment contract at contract value	1,136,854	1,174,644
Notes receivable from participants	25,075	30,500
Net assets available for benefits	$ 4,125,533	$ 3,862,278

See accompanying notes to financial statements

MASSMUTUAL THRIFT PLAN

Financial Statements and Supplemental Schedule

(Modified Cash Basis)

As of and for the years ended December 31, 2021 and 2020

MASSMUTUAL THRIFT PLAN

FINANCIAL STATEMENTS AND SUPPLEMENTAL SCHEDULE

Table of Contents

	Page Number
Independent Auditors' Report	1
Financial Statements:	
Statements of Net Assets Available for Benefits (Modified Cash Basis)	4
Statements of Changes in Net Assets Available for Benefits (Modified Cash Basis)	5
Notes to Financial Statements (Modified Cash Basis):	
1 Description of Plan	6
2 Summary of Significant Accounting Policies	11
3 Contract with Massachusetts Mutual Life Insurance Company	11
4 Life Insurance Policies	12
5 Fair Value Measurements	12
6 Related Party Transactions (Parties-in-Interest)	16
7 Tax Status	16
8 Risks and Uncertainties	17
9 Subsequent Events	17
Supplemental Schedule:	
Schedule H, Line 4i – Schedule of Assets (Held at End of Year) (Modified Cash Basis)	18

Note: Schedules of reportable transactions, delinquent participant contributions, nonexempt transactions, investment assets both acquired and disposed of within the plan year, loans or fixed income obligations in default or classified as uncollectible, and leases in default or classified as uncollectible as required by Section 103(b)(3) of the Employee Retirement Income Security Act of 1974 (ERISA) are not applicable.

KPMG LLP
One Financial Plaza
755 Main Street
Hartford, CT 06103

Independent Auditors' Report

The Participants and Plan Administrative Committee
MassMutual Thrift Plan:

Opinion

We have audited the financial statements of MassMutual Thrift Plan (the Plan), an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), which comprise the statements of net assets available for benefits (modified cash basis) as of December 31, 2021 and 2020, and the related statements of changes in net assets available for benefits (modified cash basis) for the years ended December 31, 2021 and 2020, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2021 and 2020, and the changes in its net assets available for benefits for the years ended December 31, 2021 and 2020, in accordance with modified cash basis of accounting, which is a comprehensive basis of accounting other than U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with modified cash basis of accounting, which is a comprehensive basis of accounting other than U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the plan, and determining that the plan's transactions that are presented and disclosed in the financial statements are in conformity with the plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.

KPMG LLP, a Delaware limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Supplemental Schedules Required by ERISA

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The supplemental schedule of Schedule H, Line 4i – Schedule of Assets (Held at End of Year) is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS.

In forming our opinion on the supplemental schedule, we evaluated whether the supplemental schedule, including their form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion, the information in the accompanying schedule is fairly stated, in all material respects, in relation to the financial statements as a whole, and the form and content are presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

KPMG LLP

Hartford, Connecticut
August 23, 2022

MASSMUTUAL THRIFT PLAN
Statements of Net Assets Available for Benefits (Modified Cash Basis)

	As of December 31,	
	2021	2020
	(In thousands)	
Assets:		
Investments at fair value:		
Pooled separate investment accounts	$ 2,245,431	$ 1,917,815
Non-pooled separate investment accounts	716,276	737,413
Life insurance policies (note 4)	1,897	1,906
Total investments at fair value	2,963,604	2,657,134
Fully benefit-responsive investment contract at contract value	1,136,854	1,174,644
Notes receivable from participants	25,075	30,500
Net assets available for benefits	$ 4,125,533	$ 3,862,278

See accompanying notes to financial statements

MASSMUTUAL THRIFT PLAN
Statements of Changes in Net Assets Available for Benefits (Modified Cash Basis)

	Years Ended December 31,	
	2021	2020
	(In thousands)	
Additions:		
Investment income:		
Net appreciation in fair value of investments	$ 430,082	$ 400,594
Interest income from Guaranteed Investment Account	33,956	32,620
Net depreciation (appreciation) and net cash flows for life insurance policies	(9)	24
Net investment income	464,029	433,238
Interest income from notes receivable from participants	1,544	2,028
Contributions:		
Participant	121,618	132,184
Company	51,088	60,940
Rollovers	55,266	65,225
Total contributions	227,972	258,349
Total additions	693,545	693,615
Deductions:		
Benefits paid	429,441	214,951
Administrative expenses	849	986
Total deductions	430,290	215,937
Net increase in net assets available for benefits	263,255	477,678
Net assets available for benefits:		
Beginning of year	3,862,278	3,384,600
End of year	$ 4,125,533	$ 3,862,278

See accompanying notes to financial statements

1. Description of Plan

The following is a brief description of the MassMutual Thrift Plan (the Plan) provided for general information purposes only. The Plan document and Summary Plan Description should be consulted for a more complete description of the Plan's provisions.

a. General

The Plan is a long-term savings and investment defined contribution plan, which offers participating employees and active career contract agents certain tax deferral advantages including a 401(k) account. The following individuals may participate if they meet certain eligibility requirements: (1) any employee of Massachusetts Mutual Life Insurance Company (the Company) or of an affiliated company that has adopted the Plan with the consent of the Company, other than an intern, an employee of an agent, a general agent, a leased employee or a temporary employee, who is employed by the Company as an employee at the Company's home offices, field offices, regional offices or agency offices in various locations in the United States; and (2) any active career contract agent who is contracted with the Company as a statutory employee under Internal Revenue Code (IRC) Section 7701(a)(20).

The Plan is subject to the provisions of ERISA, as amended.

b. Participation

An employee or statutory employee under IRC Section 7701(a)(20) becomes eligible to participate in the Plan upon completion of one hour of service.

Unless they elect otherwise, newly eligible employees and statutory employees are automatically enrolled in the Plan 30 days following date of hire or date of contract endorsement with a 5% before-tax contribution. Investment allocations for participants who do not make an election, including those who participate through automatic enrollment, will be made to the default fund designated by the Investment Fiduciary Committee.

c. Payment of Benefits

Benefits are paid to participants at retirement in the form of a lump sum distribution, purchase of an annuity, or monthly installments in equal amounts or a specific number of payments. Pre-retirement withdrawals may be made from after tax contributions, rollover contributions, and vested Company contributions. The Plan also provides for distribution of benefits upon termination of employment, death, disability, and under certain hardship circumstances. Distributions made to individuals who have not attained the age of 59 ½ may be subject to a 10% early distribution penalty. Available annuities under this Plan are a life annuity and a joint and survivor 50% , 75% , 100% annuity.

d. Contributions

The Company matches 100% of participant contributions up to 5% of eligible compensation, as defined in the Plan. The Plan permits participants to contribute up to 100% of eligible compensation, no more than 8% of which may be contributed as after tax dollars. Before tax and Roth contributions are generally limited by IRC regulations to $19,500 for both 2021 and 2020. Participants who are age 50 or older by year end are eligible to contribute an additional $6,500 pretax for both 2021 and 2020 to the Plan as catch-up contributions.

Contributions are subject to certain limitations imposed by applicable provisions of the Plan and the IRC.

e. Vesting

Participants are immediately vested in their own contributions plus any earnings thereon. Each participant shall become vested in the value of the Company matching contributions, plus any earnings attributable thereto in accordance with the following vesting schedule:

Years of vesting service	Percentage vested
1	40%
2	80%
3	100%

Company contributions are 100% vested at attainment of age 65, retirement, disability, or death.

f. Participant Accounts

Each participant's account is credited with the participant's own contributions and allocations of (a) the Company's matching contribution, and (b) investment earnings or losses less expenses. The investment earnings or losses are reflected in net appreciation in fair value of investments on statements of changes in net assets available for benefits. A participant is entitled to the benefit that can be provided from the participant's vested account.

g. Forfeitures

If a participant terminates employment with the Company, the nonvested portion of the participant's Company matching contributions and any earnings thereon are forfeited. If the participant is re-employed within five years from the calendar year of termination, the forfeited amount of the Company match may be restored, subject to certain Plan provisions, requiring repayment of distributed amounts, and if no distribution was made, restoration upon rehire.

Forfeitures are used to reduce employer contributions. In 2021 and 2020, forfeitures used to reduce the employer contributions were $1,674,754 and $674,704 respectively.

h. Amendment or Termination of the Plan

The Plan's participating employer definition was amended effective January 1, 2021 to remove Barings Multifamily Capital LLC and to add C.M. Life Insurance Company. The Plan was further amended June 1, 2021 to provide vesting service credit to certain participants previously employed by Great American Financial Resources.

Although the Company has not expressed any intent to do so, it has the right, under the Plan, to discontinue its contributions at any time and amend or terminate the Plan subject to the provisions of ERISA. In the event of Plan termination, participants would become 100% vested.

i. Notes Receivable from Participants

Participant loans are available under the terms of the Plan document. Participants may borrow a minimum of $1,000, and a maximum equal to the lesser of $50,000 or 50% of their vested account balance, reduced by the highest outstanding loan balance in the last 12 months, from their accounts. The loan is deducted proportionally from the investment funds in which the participant's account is invested. The rate of interest charged on these loans is the prime rate (at the time of loan application), plus 2%. The range of interest rates on loans outstanding was 5.25% to 11.50% at December 31, 2021 and December 31, 2020.

j. Administrative Expenses

Recordkeeping expenses are deducted from participant accounts. Certain administrative expenses of the Plan are paid by the Company, except for certain participant transactional fees for loans and other withdrawal charges that are paid to the recordkeeper from the participant's account.

k. Investment Options

The Company and its subsidiaries and external investment managers, on behalf of the Plan, act as investment managers for the investment options currently offered by the Plan. Expenses for investing and managing the assets of the Plan are paid by the Plan, and charged to each investment fund option within the Plan.

Investments in the separate investment accounts are held in both pooled and non-pooled separate investment accounts. A pooled separate investment account is an account to which the assets of more than one group annuity contract are assigned for the purposes of allocating investment returns and asset gains and losses.

Participants may direct their current account balance and future contributions unless otherwise noted, to any of the following investment options that are offered through a group annuity contract issued by the Company to the Plan. All separate investment accounts are pooled unless otherwise noted:

Guaranteed Investment Account – is designed to provide stable, long-term investment growth. The guaranteed rate of return is reset semi-annually.

Separate Investment Account CKD – consists of shares of MassMutual Select Blue Chip Growth Fund, which invests primarily in common stocks of companies that are well established in their industries and have potential for above average earnings growth.

Separate Investment Account KY – consists of shares of MassMutual Select Fundamental Value Fund, which invests at least 80% of assets in equity securities and may invest in companies with a broad range of market capitalization; generally capitalization above $2 billion.

Separate Investment Account IA – consists of shares of MassMutual Select Small Cap Growth Equity Fund, which invests primarily in common stocks and equity securities of smaller companies believed to offer potential for long-term growth.

Separate Investment Account CHX – consists of shares of Invesco Oppenheimer International Growth I Fund, which invests in common stocks of growth companies located outside the US.

Separate Investment Account UH – consists of shares of MassMutual Select Mid Cap Growth Fund, which invests in companies with medium sized market capitalizations.

Separate Investment Account TA – consists of shares of MassMutual Select Equity Opportunities Fund, which invests in a diversified portfolio of large capitalization U.S. equity securities.

Separate Investment Account JG5 – consists of shares of Vanguard Total International Stock Index Fund, which invests in stocks issued by companies located in developed and emerging markets, excluding the United States.

Separate Investment Account JCI – consists of shares of Vanguard Institutional Target Retirement 2030 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for the investors expecting to retire around the year 2030.

Separate Investment Account JCK – consists of shares of Vanguard Institutional Target Retirement 2040 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2040.

Separate Investment Account ED – consists of shares of MassMutual Premier Core Bond Fund, which invests primarily in a diversified selection of investment-grade, publicly traded bonds including corporate, mortgage-backed securities and government bonds.

Separate Investment Account JCJ – consists of shares of Vanguard Institutional Target Retirement 2035 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2035.

Separate Investment Account JCM – consists of shares of Vanguard Institutional Target Retirement 2050 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for the investors expecting to retire around the year 2050.

Separate Investment Account JCL – consists of shares of Vanguard Institutional Target Retirement 2045 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2045.

Separate Investment Account JCG – consists of shares of Vanguard Institutional Target Retirement 2020 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2020.

Separate Investment Account JG4 – consists of shares of Vanguard Total Bond Market Index Fund, which invests in a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States including government, corporate and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities all with maturities of more than one year.

Separate Investment Account QY – consists of shares of MassMutual Premier Strategic Emerging Markets Fund, which invests primarily in equity investments, whose values are based on stock prices in economically emerging markets such as Asia and Latin America.

Separate Investment Account CMG – consists of shares of Invesco Oppenheimer Real Estate I Fund, which invests in a combination of common stocks and other equity securities issued by real estate companies such as real estate investment trusts and real estate operating companies. This is a non-pooled separate investment account.

Separate Investment Account UY – consists of shares of MassMutual Select Small Company Value Fund, which invests in stocks and securities convertible into stocks of small U.S. companies.

Separate Investment Account SM – consists of shares of MassMutual Premier Inflation-Protected and Income Fund, which invests primarily in inflation indexed bonds of varying maturities issued by U.S. and non U.S. governments.

Separate Investment Account EV – consists of shares of MassMutual Premier High Yield Fund, which invests at least 80% of its net assets in lower rated fixed income securities. The fund may also invest in convertible securities, preferred stocks, warrants, bank loans and other fixed income securities.

Separate Investment Account JCN – consists of shares of Vanguard Institutional Target Retirement 2055 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2055.

Separate Investment Account CJN – consists of shares of PIMCO Commodity Real Return Strategy Admin Fund, which invests in commodity-linked derivative instruments backed by a portfolio of inflation-indexed securities and other fixed income instruments.

Separate Investment Account JCH – consists of shares of Vanguard Institutional Target Retirement 2025 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2025.

Separate Investment Account JCO – consists of shares of Vanguard Institutional Target Retirement 2060 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2060.

Separate Investment Account JCD – consists of shares of Vanguard Institutional Target Income Fund, which invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors currently in retirement.

Separate Investment Account JCF – consists of shares of Vanguard Institutional Target Retirement 2015 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2015.

Separate Investment Account JRY – consists of shares of Vanguard Institutional Target Retirement 2065 Fund, which invests in a combination of domestic and international mutual funds, and money market funds using an asset allocation strategy designed for investors expecting to retire around the year 2065.

Separate Investment Account JG3 – consists of shares of Vanguard Institutional Index Fund, which invests in the stocks which make up the Standard and Poors 500 index, holding each stock in approximately the same proportion as its weighing in the index. This is a non-pooled separate investment account.

Separate Investment Account JG2 – consists of shares of Vanguard Extended Market Index Fund, which invests in small and mid-capitalization stocks. This a non-pooled separate investment account.

2. Summary of Significant Accounting Policies

a. Basis of Accounting

The financial statements of the Plan are prepared on the modified cash basis of accounting, which is a comprehensive basis of accounting other than U.S. generally accepted accounting principles. The modified cash basis of accounting is a cash receipts and disbursement method of accounting with the investments stated at fair value. Contributions, interest and dividend income, benefit payments and expenses are recorded when received or paid. Although a modified cash basis of accounting represents a departure from U.S. generally accepted accounting principles, it is an allowable method of accounting for employee benefits plans filing under the reporting requirements of ERISA.

b. Use of Estimates

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

c. Investment Valuation and Income Recognition

The Plan's investments are stated at fair value. The value of the participation units owned by the Plan in the Company's Separate Investment Accounts is based on redemption values of units held by the Plan as determined using the fair value of the underlying assets on the last business day of the year. Purchases and sales of securities and units of participation are recorded on a trade date basis.

The Guaranteed Investment Account (Fully benefit-responsive contract) is reported at contract value in the statements of net assets available for benefits. Contract value is the amount participants would receive if they were to initiate certain transactions under the terms of the plan. A benefit-responsive contract provides for a stated return on principal invested over a specified period and permits withdrawals at contract value for benefit payments, loans, or transfers to other investment options offered to the participant by the Plan.

d. Payment of Benefits

Benefits are recorded when paid to the participant or when an annuity is purchased for the benefit of a participant.

3. Contract with Massachusetts Mutual Life Insurance Company

The Plan's assets are primarily invested in the Group Annuity Contract, managed by the Company, who is also the Plan sponsor, which provides for Separate Investment Accounts as well as the Guaranteed Investment Account. The Company, the Guaranteed Investment Account issuer, is contractually obligated to repay the Plan a specified guaranteed interest rate, which is reset twice a year. The Company was rated AA+ by Standard & Poor's as of December 31, 2021.

The investment in the Guaranteed Investment Account (fully benefit-responsive contract) is valued at contract value which represents contributions made under the contract, plus earnings, less participant withdrawals and administrative expenses. Participants may ordinarily direct withdrawal or transfer all or a portion of their investment at contract value. No reserve has been recorded for credit risk.

Certain events limit the ability of the Plan participants to transact at contract value with the Company. Such events include the following: (1) amendments to the Plan documents (including complete or partial

plan termination or merger with another plan), (2) changes to the Plan's prohibition on competing investment options, (3) bankruptcy of the Company or other Company events (for example, divestitures or spin-offs of a subsidiary) that cause a significant withdrawal from the plan, or (4) the failure of the trust to qualify for exemption from federal income taxes or any required prohibited transaction exemption under ERISA of 1974. The Plan administrator believes the occurrence of any such event, which would limit the Plan's ability to transact at contract value with participants, would be less than remote.

The interest rate used in the MassMutual Guaranteed Investment Account is based on a formula that takes into account the investment earnings of the assets that support the contract using the Investment Year Method, but not less than 3.00% as stipulated in the contract. Interest rates are reviewed on a semi-annual basis for resetting.

The crediting rates and the rates earned for the contracts in the Guaranteed Investment Account was 3.00% for the years 2021 and 2020.

The table below represents both the crediting rates and the rates earned for the Guaranteed Investment Account

	2021	2020
January - June	3.00 %	3.00 %
July - December	3.00 %	3.00 %
Average	3.00 %	3.00 %

4. Life Insurance Policies

Certain plans that were merged into this Plan provided for the purchase of life insurance as an investment alternative for participants as plan assets. After the plans were merged into this Plan, the existing life insurance policies continued as an investment option under the Plan. With respect to the life insurance investments, the cash surrender value of these policies is reported on the statements of net assets available for benefits. Cash surrender value approximates fair value. No additional policies can be purchased.

5. Fair Value Measurements

The plan uses a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical investments (level 1 measurement) and the lowest priority to unobservable inputs (level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1 Observable inputs in the form of quoted market prices for identical investments in active markets.

Level 2 Observable inputs other than Level 1 prices, such as quoted market prices for similar investments, 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 investments.

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 investments. Level 3 investments include investments whose value is determined using internal models, as well as investments for which the determination of fair value requires significant management judgment or estimation.

An investment's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

The following is a description of the valuation methodologies used to measure fair value for investments.

Separate Investment Accounts: There are two methods of determining unit value for the separate investment accounts. The portfolio method is used when the separate investment account invests in a portfolio of securities or two or more underlying mutual funds, bank collective trust funds or other investment vehicles (each an "Underlying fund"). Under this method, the unit value of a separate investment account is determined by dividing the market value of such separate investment account on any valuation date by the total number of units in the separate investment account. The net investment factor method (NIF) is used when the separate investment account invests in shares or units of a single underlying fund. Under this method, the unit value of a separate investment account is determined by taking the unit value for the prior valuation day and multiplying it by the NIF for the current valuation day. Under both of these methods the separate investment accounts are therefore classified as Level 2.

Life Insurance Contracts: Policy cash surrender values which are stated in policy contract approximates fair value. No observable price.

As of December 31, 2021, the Plan had no specific plans or intentions to sell investments at amounts other than Net Asset Value (NAV). These investments can be redeemed on a daily basis and have no lockups or funding commitments.

The following table sets forth by level, within the fair value hierarchy, the Plan's investments at fair value:

	Fair Value as of December 31, 2021			
	Level 1	Level 2	Level 3	Total
		(In thousands)		
Investments at fair value:				
Pooled Separate Investment Accounts:				
MM Select Blue Chip Growth Fund (SIA-CKD)	$ -	$ 350,065	$ -	$ 350,065
MM Select Fundamental Value Fund (SIA-KY)	-	195,147	-	195,147
MM Select Small Cap Growth Equity Fund (SIA-IA)	-	145,883	-	145,883
Invesco Oppenheimer International Growth I Fund (SIA-CHX)	-	130,452	-	130,452
MM Select Equity Opportunities Fund (SIA-TA)	-	127,202	-	127,202
MM Select Mid Cap Growth Fund (SIA-UH)	-	119,684	-	119,684
Vanguard Instl Target Retire 2040 Fund (SIA-JCK)	-	116,767	-	116,767
Vanguard Total International Stock Index Fund (SIA-JG5)	-	116,288	-	116,288
Vanguard Instl Target Retire 2030 Fund (SIA-JCI)	-	111,424	-	111,424
Vanguard Instl Target Retire 2035 Fund (SIA-JCJ)	-	88,080	-	88,080
Vanguard Instl Target Retire 2050 Fund (SIA-JCM)	-	85,834	-	85,834
MM Premier Core Bond Fund (SIA-ED)	-	80,990	-	80,990
Vanguard Instl Target Retire 2025 Fund (SIA-JCH)	-	75,966	-	75,966
Vanguard Instl Target Retire 2045 Fund (SIA-JCL)	-	68,115	-	68,115
MM Select Small Company Value Fund (SIA-UY)	-	65,106	-	65,106
Invesco Oppenheimer Real Estate I Fund (SIA-CMG)	-	54,294	-	54,294
Vanguard Instl Target Retire 2020 Fund (SIA-JCG)	-	50,921	-	50,921
MM Premier Inflation-Protected and Income Fund (SIA-SM)	-	41,287	-	41,287
Vanguard Total Bond Market Index Fund (SIA-JG4)	-	40,115	-	40,115
MM Premier Strategic Emerging Markets Fund (SIA-QY)	-	39,202	-	39,202
Vanguard Instl Target Retire 2055 Fund (SIA-JCN)	-	36,396	-	36,396
MM Premier High Yield Fund (SIA-EV)	-	35,141	-	35,141
Vanguard Instl Target Retire 2060 Fund (SIA-JCO)	-	29,740	-	29,740
PIMCO Commodity Real Ret Strat Admin Fund (SIA-CJN)	-	14,911	-	14,911
Vanguard Instl Target Income Fund (SIA-JCD)	-	14,802	-	14,802
Vanguard Instl Target Retire 2015 Fund (SIA-JCF)	-	6,720	-	6,720
Vanguard Instl Target Retire 2065 Fund (SIA-JRY)	-	4,899	-	4,899
Total Pooled Separate Investment Accounts	-	2,245,431	-	2,245,431
Non-Pooled Separate Investment Accounts:				
Vanguard Institutional Index Fund (SIA-JG3)	-	509,860	-	509,860
Vanguard Extended Market Index Fund (SIA-JG2)	-	206,416	-	206,416
Total Non-Pooled Separate Investment Accounts	-	716,276	-	716,276
Life Insurance Policies	-	-	1,897	1,897
Total Investments	$ -	$ 2,961,707	$ 1,897	$ 2,963,604

The following table sets forth by level, within the fair value hierarchy, the Plan's investments at fair value:

	Fair Value as of December 31, 2020			
	Level 1	Level 2	Level 3	Total
		(In thousands)		
Investments at fair value:				
Pooled Separate Investment Accounts:				
MM Select Blue Chip Growth Fund (SIA-CKD)	$ -	$ 331,262	$ -	$ 331,262
MM Select Fundamental Value Fund (SIA-KY)	-	155,107	-	155,107
MM Select Small Cap Growth Equity Fund (SIA-IA)	-	147,286	-	147,286
Invesco Oppenheimer International Growth I Fund (SIA-CHX)	-	127,128	-	127,128
MM Select Mid Cap Growth Fund (SIA-UH)	-	115,830	-	115,830
MM Select Equity Opportunities Fund (SIA-TA)	-	110,900	-	110,900
Vanguard Total International Stock Index Fund (SIA-JG5)	-	107,707	-	107,707
Vanguard Instl Target Retire 2030 Fund (SIA-JCI)	-	103,121	-	103,121
Vanguard Instl Target Retire 2040 Fund (SIA-JCK)	-	100,550	-	100,550
MM Premier Core Bond Fund (SIA-ED)	-	85,440	-	85,440
Vanguard Instl Target Retire 2035 Fund (SIA-JCJ)	-	82,298	-	82,298
Vanguard Instl Target Retire 2050 Fund (SIA-JCM)	-	70,732	-	70,732
Vanguard Instl Target Retire 2045 Fund (SIA-JCL)	-	55,302	-	55,302
Vanguard Instl Target Retire 2020 Fund (SIA-JCG)	-	55,079	-	55,079
Vanguard Total Bond Market Index Fund (SIA-JG4)	-	48,976	-	48,976
MM Premier Strategic Emerging Markets Fund (SIA-QY)	-	43,811	-	43,811
Invesco Oppenheimer Real Estate I Fund (SIA-CMG)	-	37,657	-	37,657
MM Select Small Company Value Fund (SIA-UY)	-	36,765	-	36,765
MM Premier Inflation-Protected and Income Fund (SIA-SM)	-	36,382	-	36,382
MM Premier High Yield Fund (SIA-EV)	-	34,529	-	34,529
Vanguard Instl Target Retire 2055 Fund (SIA-JCN)	-	25,992	-	25,992
PIMCO Commodity Real Ret Strat Admin Fund (SIA-CJN)	-	5,961	-	5,961
Total Pooled Separate Investment Accounts	-	1,917,815	-	1,917,815
Non-Pooled Separate Investment Accounts:				
Vanguard Institutional Index Fund (SIA-JG3)	-	422,395	-	422,395
Vanguard Extended Market Index Fund (SIA-JG2)	-	199,564	-	199,564
Vanguard Instl Target Retire 2025 Fund (SIA-JCH)	-	67,744	-	67,744
Vanguard Instl Target Retire 2060 Fund (SIA-JCO)	-	21,747	-	21,747
Vanguard Instl Target Income Fund (SIA-JCD)	-	15,664	-	15,664
Vanguard Instl Target Retire 2015 Fund (SIA-JCF)	-	7,307	-	7,307
Vanguard Instl Target Retire 2065 Fund (SIA-JRY)	-	2,992	-	2,992
Total Non-Pooled Separate Investment Accounts	-	737,413	-	737,413
Life Insurance Policies	-	-	1,906	1,906
Total Investments	$ -	$ 2,655,228	$ 1,906	$ 2,657,134

Level 3 Gains and Losses

The tables below set forth a summary of changes in the fair value of the Plan's level 3 investments:

	Life Insurance Policies
	(In Thousands)
Balance, beginning of year 2020	$ 1,883
Cash flow activity:	
Depreciation and cash flow	
From life insurance policies	23
Balance, end of year 2020	1,906
Cash flow activity:	
Appreciation and cash flow	
From life insurance policies	(9)
Balance, end of year 2021	$ 1,897

There were no level transfers between levels 1, 2, or 3 in 2021 or 2020.

6. Related Party Transactions (Parties-in-Interest)

The Company and its subsidiaries, on behalf of the Plan, act as the investment manager for each of the investment options currently offered by the Plan. Expenses for investing and managing the assets of the Plan are paid by the Plan, and charged to each investment fund option within the Plan.

Prior to 2021, the Company's Workplace Solutions business provided recordkeeping and administrative services to the Plan. Effective January 1, 2021, Empower Retirement began providing these recordkeeping and administrative services following the sale of the Company's Workplace Solutions business to Empower.

The Company is the Plan Sponsor, and therefore, these transactions qualify as party-in-interest transactions. However, they are exempt from the prohibited transaction rules of ERISA.

7. Tax Status

The Internal Revenue Service has determined and informed the Plan by a letter dated May 12, 2017, that the Plan and related trust are established in accordance with applicable sections of the Code. Although the Plan has been amended since receiving this determination, legal counsel believes that the Plan is designed and is currently being operated in compliance with applicable requirements of the Internal Revenue Code.

U.S. generally accepted accounting principles require the Plan's management to evaluate tax positions taken by the Plan and recognize a tax liability if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the Internal Revenue Service. The Plan

administrator has concluded that as of December 31, 2021, there are no uncertain positions taken or expected to be taken that would require recognition of a liability or disclosure in the financial statements.

The Plan is subject to routine audits by taxing jurisdictions, however, there are currently no audits for any tax periods in progress. The Plan administrator believes that the Plan is no longer subject to examinations for years prior to 2015.

8. Risks and Uncertainties

The Plan provides for various investment options in several investment securities and instruments. Investment securities are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risks associated with certain investment securities and the level of uncertainty related to changes in the value of investment securities, it is at least reasonably possible that changes in risks and values in the near term could materially affect investment balances and the amounts reported in the statements of net assets available for benefits and the statements of changes in net assets available for benefits.

Investigations

In 2013, the Company received notice that the U.S. Department of Labor ("DOL") initiated an investigation of the Plan. The Company understands that the likely basis of the investigation is the Gordan lawsuit filed by Plan participants alleging fiduciary violations of ERISA (which was resolved in November 2016). MassMutual has produced documents in response to the DOL's request relating to the Plan and its administration. At this time, the investigation remains in progress and no final recommendations or written findings have been produced.

9. Subsequent Events

Effective January 1, 2022, the Plan was amended to revise the definition of compensation to exclude certain deferred compensation and student loan reimbursements. The Plan was amended on February 5, 2022 to add HITPS LLC as a participating employer, and amended again effective March 28, 2022 to add a new discretionary contribution for eligible HITPS employees.

Effective May 6, 2022, Fidelity Investments began providing administrative and recordkeeping services to the Plan. The portion of the Plan's assets held in group annuity contract separate investment account investments prior to May 6, 2022 were distributed to the Plan through the re-registration of the underlying mutual fund shares in the name of the Plan on May 6, 2022, and are held under the MassMutual Defined Contribution Plan Master Trust (Trust), a Section 501(a) trust trusteed by Fidelity Management Trust Co. The Plan's remaining assets continue to be held under the group annuity contract in the General Investment Account.

The Plan has evaluated events and transactions subsequent from December 31, 2021 to August 23, 2022 and determined that there are no other events or transactions that would require adjustments or additional disclosure in the 2021 financial statements.

MASSMUTUAL THRIFT PLAN
EIN #04-1590850
Plan #004
Schedule H. Line 4i – Schedule of Assets (Held at End of Year) (Modified Cash Basis)
December 31, 2021

(a)	(b) Identity of issue, borrower, lessor, or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par, or maturity value	(d) Cost	(e) Current value
				(In thousands)
*	Massachusetts Mutual Life Insurance Company	Pooled Separate Investment Accounts:		
		MM Select Blue Chip Growth Fund (SIA-CKD)	**	$ 350,065
		MM Select Fundamental Value Fund (SIA-KY)	**	195,147
		MM Select Small Cap Growth Equity Fund (SIA-IA)	**	145,883
		Invesco Oppenheimer International Growth I Fund (SIA-CHX)	**	130,452
		MM Select Equity Opportunities Fund (SIA-TA)	**	127,202
		MM Select Mid Cap Growth Fund (SIA-UH)	**	119,684
		Vanguard Instl Target Retire 2040 Fund (SIA-JCK)	**	116,767
		Vanguard Total International Stock Index Fund (SIA-JG5)	**	116,288
		Vanguard Instl Target Retire 2030 Fund (SIA-JCI)	**	111,424
		Vanguard Instl Target Retire 2035 Fund (SIA-JCJ)	**	88,080
		Vanguard Instl Target Retire 2050 Fund (SIA-JCM)	**	85,834
		MM Premier Core Bond Fund (SIA-ED)	**	80,990
		Vanguard Instl Target Retire 2025 Fund (SIA-JCH)	**	75,966
		Vanguard Instl Target Retire 2045 Fund (SIA-JCL)	**	68,115
		MM Select Small Company Value Fund (SIA-UY)	**	65,106
		Invesco Oppenheimer Real Estate I Fund (SIA-CMG)	**	54,294
		Vanguard Instl Target Retire 2020 Fund (SIA-JCG)	**	50,921
		MM Premier Inflation-Protected and Income Fund (SIA-SM)	**	41,287
		Vanguard Total Bond Market Index Fund (SIA-JG4)	**	40,115
		MM Premier Strategic Emerging Markets Fund (SIA-QY)	**	39,202
		Vanguard Instl Target Retire 2055 Fund (SIA-JCN)	**	36,396
		MM Premier High Yield Fund (SIA-EV)	**	35,141
		Vanguard Instl Target Retire 2060 Fund (SIA-JCO)	**	29,740
		PIMCO Commodity Real Ret Strat Admin Fund (SIA-CJN)	**	14,911
		ssVanguard Instl Target Income Fund (SIA-JCD)	**	14,802
		Vanguard Instl Target Retire 2015 Fund (SIA-JCF)	**	6,720
		Vanguard Instl Target Retire 2065 Fund (SIA-JRY)	**	4,899
		Total Pooled Separate Investment Accounts		2,245,431
*	Massachusetts Mutual Life Insurance Company	Non-Pooled Separate Investment Accounts:		
		Vanguard Institutional Index Fund (SIA-JG3)	**	509,860
		Vanguard Extended Market Index Fund (SIA-JG2)	**	206,416
		Total Non-Pooled Separate Investment Accounts		716,276
*	Massachusetts Mutual Life Insurance Company	Cash surrender value of life insurance contracts	**	1,897
*	Plan participants	Notes Receivable from participants (5.25% – 11.50%)	**	25,075
*	Massachusetts Mutual Life Insurance Company	Fully Benefit Responsive Investment Contract	**	1,136,854
				$ 4,125,533

* Represents party in interest
* * Cost not required for participant - directed investments
See accompanying independent auditors' report.