



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

ANNUAL STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2020

OF THE CONDITION AND AFFAIRS OF THE SEPARATE ACCOUNTS OF THE

Massachusetts Mutual Life Insurance Company

NAIC Group Code 0435 0435 NAIC Company Code 65935 Employer's ID Number 04-1590850
(Current) (Prior)

Organized under the Laws of Massachusetts, State of Domicile or Port of Entry MA

Country of Domicile United States of America

Type of Separate Accounts Insulated [X] Non-Insulated []

Incorporated/Organized 05/15/1851 Commenced Business 08/01/1851

Statutory Home Office 1295 State Street, Springfield, MA, US 01111
(Street and Number) (City or Town, State, Country and Zip Code)

Main Administrative Office 1295 State Street
(Street and Number)
Springfield, MA, US 01111 413-788-8411
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Mail Address 1295 State Street, Springfield, MA, US 01111
(Street and Number or P.O. Box) (City or Town, State, Country and Zip Code)

Primary Location of Books and Records 1295 State Street
(Street and Number)
Springfield, MA, US 01111 413-788-8411
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Internet Website Address www.massmutual.com

Statutory Statement Contact Yin Wang, 617-695-4071
(Name) (Area Code) (Telephone Number)
YWang67@massmutual.com, 413-226-4086
(E-mail Address) (FAX Number)

OFFICERS

President and Chief Executive Officer Roger William Crandall Treasurer Todd Garrett Picken
Secretary Akintokunbo Akinbajo Appointed Actuary Vy Quoc Ho #

OTHER

Elizabeth Ward Chicares, Chief Financial Officer Michael Robert Fanning, Head of MassMutual U.S. Melvin Timothy Corbett, Chief Investment Officer
Adnan Omar Ahmed, Head of MassMutual International Geoffrey James Craddock, Chief Risk Officer Pia Denise Flanagan, Chief Operating Officer of CARE
Susan Marie Cicco, Head of Human Resources & Employee Experience Michael James O'Connor, General Counsel Gareth Fielding Ross, Head of Enterprise Technology & Experience

DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Karen Hall Bechtel Mark Thomas Bertolini
Kathleen Ann Corbet James Henry DeGraffenreidt, Jr. Isabella Davidov Goren
Jeffrey Marc Leiden Laura Jeanne Sen William Taylor Spitz
Howard Todd Stitzer - Lead Director Shelley Beth Leibowitz

State of Massachusetts SS:
County of Hampden

The officers of this reporting entity being duly sworn, each depose and say that they are the described officers of said reporting entity, and that on the reporting period stated above, all of the herein described assets were the absolute property of the said reporting entity, free and clear from any liens or claims thereon, except as herein stated, and that this statement, together with related exhibits, schedules and explanations therein contained, annexed or referred to, is a full and true statement of all the assets and liabilities and of the condition and affairs of the said reporting entity as of the reporting period stated above, and of its income and deductions therefrom for the period ended, and have been completed in accordance with the NAIC Annual Statement Instructions and Accounting Practices and Procedures manual except to the extent that: (1) state law may differ; or, (2) that state rules or regulations require differences in reporting not related to accounting practices and procedures, according to the best of their information, knowledge and belief, respectively. Furthermore, the scope of this attestation by the described officers also includes the related corresponding electronic filing with the NAIC, when required, that is an exact copy (except for formatting differences due to electronic filing) of the enclosed statement. The electronic filing may be requested by various regulators in lieu of or in addition to the enclosed statement.

Roger William Crandall
President and Chief Executive Officer

Akintokunbo Akinbajo
Secretary

Todd Garrett Picken
Treasurer

Subscribed and sworn to before me this _____ day of _____

- a. Is this an original filing? Yes [X] No []
b. If no,
1. State the amendment number.....
2. Date filed
3. Number of pages attached.....

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

ASSETS

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Bonds (Schedule D).....		21,311,898,658	21,311,898,658	18,427,735,157
2. Stocks (Schedule D):				
2.1 Preferred stocks				
2.2 Common stocks		51,444,643,591	51,444,643,591	48,548,641,283
3. Mortgage loans on real estate (Schedule B).....				1,684,716
4. Real estate (Schedule A):				
4.1 Properties held for the production of income (less \$ encumbrances).....				
4.2 Properties held for sale (less \$ encumbrances).....				
5. Cash (\$180,226,402 Schedule E - Part 1), and cash equivalents (\$412,198,600 , Schedule E - Part 2).....		592,425,002	592,425,002	938,205,307
6. Short-term investments (Schedule DA).....		315,361,765	315,361,765	866,030,199
7. Derivatives (Schedule DB).....		9,928,029	9,928,029	98,385,934
8. Other invested assets (Schedule BA).....		1,832,017,109	1,832,017,109	965,207,436
9. Securities lending reinvested collateral assets (Schedule DL).....				
10. Aggregate write-ins for invested assets				
11. Subtotals, cash and invested assets (Lines 1 to 10).....		75,506,274,154	75,506,274,154	69,845,890,032
12. Investment income due and accrued		129,495,769	129,495,769	123,677,010
13. Receivables for securities		329,808,092	329,808,092	261,132,245
14. Net adjustment in assets and liabilities due to foreign exchange rates		7,899	7,899	(118)
15. Aggregate write-ins for other than invested assets.....		(10)	(10)	17
16. Total (Lines 11 to 15)		75,965,585,904	75,965,585,904	70,230,699,186
DETAILS OF WRITE-INS				
1001.				
1002.				
1003.				
1098. Summary of remaining write-ins for Line 10 from overflow page				
1099. Totals (Lines 1001 thru 1003 plus 1098)(Line 10 above)				
1501. Foreign income tax recoverable		(10)	(10)	17
1502.				
1503.				
1598. Summary of remaining write-ins for Line 15 from overflow page				
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)		(10)	(10)	17

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

LIABILITIES AND SURPLUS

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Aggregate reserve for life, annuity and accident and health contracts (Exhibit 3, Line 9999999, Col. 2)		62,111,072,397	62,111,072,397	58,625,943,378
2. Liability for deposit-type contracts (Exhibit 4, Line 9, Col. 1)		13,298,224,865	13,298,224,865	10,869,720,443
3. Interest Maintenance Reserve				
4. Charges for investment management, administration and contract guarantees due or accrued		9,174,928	9,174,928	8,674,223
5. Investment expenses due or accrued (Exhibit 1, Line 24)		712,869	712,869	1,181,383
6. Investment taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 2, Line 8)				
7. Federal and foreign income taxes due or accrued (excluding deferred taxes)				
8. Reserve for future federal income taxes				
9. Unearned investment income				
10. Other transfers to general account due or accrued (net) (including \$101,832,620 accrued expense allowances recognized in reserves)		102,813,792	102,813,792	125,825,730
11. Remittances and items not allocated		132,018,164	132,018,164	181,021,623
12. Derivatives		4,524,581	4,524,581	2,567,041
13. Payable for securities		308,831,707	308,831,707	416,012,210
14. Payable for securities lending				
15. Net adjustment in assets and liabilities due to foreign exchange rates				
16. Aggregate write-ins for liabilities		(1,787,399)	(1,787,399)	(246,844)
17. Total liabilities (including \$111,988,720 due or accrued net transfers to or (from) the general account)		75,965,585,904	75,965,585,904	70,230,699,186
18. Contributed surplus				
19. Aggregate write-ins for special surplus funds				
20. Unassigned funds				
21. Surplus (Lines 18 through 20)				
22. Totals		75,965,585,904	75,965,585,904	70,230,699,186
DETAILS OF WRITE-INS				
1601. Derivatives accrued interest on swaps		(2,436,774)	(2,436,774)	(815,108)
1602. Claims in course of settlement		(191,130)	(191,130)	(145,001)
1603. Annuitant mortality fluctuation fund		840,505	840,505	713,265
1698. Summary of remaining write-ins for Line 16 from overflow page				
1699. Totals (Lines 1601 thru 1603 plus 1698)(Line 16 above)		(1,787,399)	(1,787,399)	(246,844)
1901.				
1902.				
1903.				
1998. Summary of remaining write-ins for Line 19 from overflow page				
1999. Totals (Lines 1901 thru 1903 plus 1998)(Line 19 above)				

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

SUMMARY OF OPERATIONS

	1 Current Year	2 Prior Year
1. Transfers to Separate Accounts:		
1.1 Net premiums and annuity considerations for life and accident and health contracts	9,054,979,088	6,293,024,684
1.2 Considerations for supplementary contracts with life contingencies		
1.3 Aggregate write-ins for other transfers to Separate Accounts		
1.4 Totals (Lines 1.1 to 1.3)	9,054,979,088	6,293,024,684
2. Transfers on account of deposit-type contracts (including \$ 4,974,043,031 deposits less \$ 4,162,246,440 withdrawals)	811,796,591	967,294,765
3. Net investment income and capital gains and losses	9,159,794,127	11,460,648,470
4. Aggregate write-ins for other income	11,372	433
5. Totals (Lines 1.4 to 4)	19,026,581,178	18,720,968,352
DEDUCT:		
6. Transfers from the Separate Account on account of contract benefits:		
6.1 Death benefits	12,856,276	14,279,019
6.2 Matured endowments		
6.3 Annuity benefits	175,882,897	164,243,814
6.4 Payments on supplementary contracts with life contingencies		
6.5 Accident and health benefits		
6.6 Surrender benefits and withdrawals for life contracts	14,249,138,765	11,768,537,730
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		
7. Transfers on account of policy loans	14,817,960	17,939,394
8. Net transfer of reserves from or (to) Separate Accounts	(1,730,018,198)	352,214,721
9. Other transfers from the Separate Accounts:		
9.1 Federal and foreign income taxes incurred		
9.2 Change in expense allowances recognized in reserves	(21,625,137)	(4,002,887)
9.3 Aggregate write-ins for other transfers from Separate Accounts	6,282,878	4,108,310
10. Subtotals (Lines 6.1 to 9.3)	12,707,335,441	12,317,320,101
11. Fees associated with charges for investment management, administration and contract guarantees	405,531,185	402,141,261
12. Increase in aggregate reserve for life and accident and health contracts	3,485,129,019	3,312,920,517
13. Increase in liability for deposit-type contracts	2,428,504,422	2,688,462,647
14. Increase in reserve for future federal income taxes		
15. Aggregate write-ins for reserves and funds	81,111	123,826
16. Totals (Lines 10 to 15)	19,026,581,178	18,720,968,352
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)		
SURPLUS ACCOUNT		
18. Surplus, December 31, prior year		
19. Net gain from operations (Line 17)		
20. Surplus contributed or (withdrawn) during year		
21. Change in reserve on account of change in valuation basis, (increase) or decrease		
22. Transfer from Separate Accounts of the change in expense allowances recognized in Line 21		
23. Aggregate write-ins for gains and losses in surplus		
24. Surplus, December 31, current year (Page 3, Line 21)		
DETAILS OF WRITE-INS		
01.301.		
01.302.		
01.303.		
01.398. Summary of remaining write-ins for Line 1.3 from overflow page		
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398)(Line 1.3 above)		
0401. Miscellaneous	11,372	433
0402.		
0403.		
0498. Summary of remaining write-ins for Line 4 from overflow page		
0499. Totals (Lines 0401 thru 0403 plus 0498)(Line 4 above)	11,372	433
06.701.		
06.702.		
06.703.		
06.798. Summary of remaining write-ins for Line 6.7 from overflow page		
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798)(Line 6.7 above)		
09.301. Miscellaneous	6,282,878	4,108,310
09.302.		
09.303.		
09.398. Summary of remaining write-ins for Line 9.3 from overflow page		
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398)(Line 9.3 above)	6,282,878	4,108,310
1501. Change in annuitant mortality fluctuation fund	127,240	178,785
1502. Claims in course of settlement	(46,129)	(54,959)
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)	81,111	123,826
2301.		
2302.		
2303.		
2398. Summary of remaining write-ins for Line 23 from overflow page		
2399. Totals (Lines 2301 thru 2303 plus 2398)(Line 23 above)		

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY

	1	2	3	4	5	6	7
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Other Lines of Business
1. Transfers to Separate Accounts:							
1.1 Net premiums and annuity considerations for life and accident and health contracts	9,054,979,088	59,838,430	3,293,408	270,759,124	8,721,088,127		
1.2 Considerations for supplementary contracts with life contingencies		XXX	XXX			XXX	
1.3 Aggregate write-ins for other transfers to Separate Accounts							
1.4 Totals (Lines 1.1 to 1.3)	9,054,979,088	59,838,430	3,293,408	270,759,124	8,721,088,127		
2. Transfers on account of deposit-type contracts (including \$ 4,974,043,031 deposits less \$ 4,162,246,440 withdrawals)	811,796,591				811,796,591		
3. Net investment income and capital gains and losses	9,159,794,127	221,461,974	71,044,474	1,385,270,729	7,482,016,949		
4. Aggregate write-ins for other income	11,372			11,372			
5. Totals (Lines 1.4 to 4)	19,026,581,178	281,300,405	74,337,883	1,656,041,224	17,014,901,666		
DEDUCT:							
6. Transfers from the Separate Account on account of contract benefits:							
6.1 Death benefits	12,856,276	5,031,479	7,824,797			XXX	
6.2 Matured endowments						XXX	
6.3 Annuity benefits	175,882,897	XXX	XXX	175,882,897		XXX	
6.4 Payments on supplementary contracts with life contingencies		XXX	XXX			XXX	
6.5 Accident and health benefits		XXX	XXX	XXX	XXX		
6.6 Surrender benefits and withdrawals for life contracts	14,249,138,765	40,896,268	6,364,954	1,833,155,860	12,368,721,684	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							
7. Transfers on account of policy loans	14,817,960	13,144,655	1,757,533	(442,998)	358,770	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(1,730,018,198)	(8,739,857)	(36,611)	(139,035,501)	(1,582,206,228)		
9. Other transfers from the Separate Accounts:							
9.1 Federal and foreign income taxes incurred						XXX	
9.2 Change in expense allowances recognized in reserves	(21,625,137)	108,183		(21,733,320)		XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts	6,282,878	3,695		15,301	6,263,882		
10. Subtotals (Lines 6.1 to 9.3)	12,707,335,440	50,444,422	15,910,673	1,847,842,238	10,793,138,107		
11. Fees associated with charges for investment management, administration and contract guarantees	405,531,185	47,087,962	19,583,098	176,163,943	162,696,183		
12. Increase in aggregate reserve for life and accident and health contracts	3,485,129,019	183,814,150	38,844,111	(368,117,458)	3,630,588,216		
13. Increase in liability for deposit-type contracts	2,428,504,422			25,262	2,428,479,160	XXX	
14. Increase in reserve for future federal income taxes							
15. Aggregate write-ins for reserves and funds	81,111	(46,129)		127,239			
16. Totals (Lines 10 to 15)	19,026,581,177	281,300,405	74,337,882	1,656,041,224	17,014,901,666		
17. Net gain from operations (including \$ 0 unrealized capital gains) (Line 5 minus Line 16)							
18. Policies/certificates in force end of year	684,847	24,565	6,655	114,354	539,273		
DETAILS OF WRITE-INS							
01.301. Miscellaneous	11,372			11,372			
01.302.							
01.303.							
01.398. Summary of remaining write-ins for Line 1.3 from overflow page							
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)							
0401. Miscellaneous	11,372			11,372			
0402.							
0403.							
0498. Summary of remaining write-ins for Line 4 from overflow page							
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)	11,372			11,372			
06.701.							
06.702.							
06.703.							
06.798. Summary of remaining write-ins for Line 6.7 from overflow page							
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)							
09.301. Miscellaneous	6,282,878	3,695		15,301	6,263,882		
09.302.							
09.303.							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	6,282,878	3,695		15,301	6,263,882		
1501. Change in annuitant mortality fluctuation fund	127,240			127,239			
1502. Claims in course of settlement	(46,129)	(46,129)					
1503.							
1598. Summary of remaining write-ins for Line 15 from overflow page							
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	81,111	(46,129)		127,239			

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL LIFE INSURANCE (b)

	1	2	3	4	5	6	7	8	9	10	11
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life with Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (N/A Fraternal)	Other Individual Life
1. Transfers to Separate Accounts:											
1.1 Net premiums for life contracts (a)	59,838,430	XXX						36,244	59,802,186	XXX	
1.2 Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts		XXX							XXX	XXX	
1.4 Totals (Lines 1.1 to 1.3)	59,838,430	XXX						36,244	59,802,186	XXX	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)		XXX								XXX	
3. Net investment income and capital gains and losses	221,461,974	XXX						115,441	221,346,534	XXX	
4. Aggregate write-ins for other income		XXX							XXX	XXX	
5. Totals (Lines 1.4 to 4)	281,300,405	XXX						151,685	281,148,719	XXX	
DEDUCT:											
6. Transfers from the Separate Account on account of contract benefits:											
6.1 Death benefits	5,031,479	XXX						75,342	4,956,137	XXX	
6.2 Matured endowments		XXX							XXX	XXX	
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	40,896,268	XXX						18,809	40,877,459	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		XXX							XXX	XXX	
7. Transfers on account of policy loans	13,144,655	XXX						8,901	13,135,754	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(8,739,857)	XXX							(8,739,857)	XXX	
9. Other transfers from the Separate Accounts:											
9.1 Federal and foreign income taxes incurred		XXX								XXX	
9.2 Change in expense allowances recognized in reserves	108,183	XXX							108,183	XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts	3,695	XXX							3,695	XXX	
10. Subtotals (Lines 6.1 to 9.3)	50,444,422	XXX						103,051	50,341,372	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	47,087,962	XXX						70,929	47,017,032	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	183,814,150	XXX						(22,295)	183,836,445	XXX	
13. Increase in liability for deposit-type contracts		XXX							XXX	XXX	
14. Increase in reserve for future federal income taxes		XXX							XXX	XXX	
15. Aggregate write-ins for reserves and funds	(46,129)	XXX							(46,129)	XXX	
16. Totals (Lines 10 to 15)	281,300,405	XXX						151,685	281,148,720	XXX	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)		XXX								XXX	
18. Policies/certificates in force end of year	24,565	XXX						53	24,512	XXX	
DETAILS OF WRITE-INS											
01.301.		XXX								XXX	
01.302.		XXX								XXX	
01.303.		XXX								XXX	
01.398. Summary of remaining write-ins for Line 1.3 from overflow page		XXX								XXX	
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)		XXX								XXX	
0401.		XXX								XXX	
0402.		XXX								XXX	
0403.		XXX								XXX	
0498. Summary of remaining write-ins for Line 4 from overflow page		XXX								XXX	
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)		XXX								XXX	
06.701.		XXX								XXX	
06.702.		XXX								XXX	
06.703.		XXX								XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page		XXX								XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)		XXX								XXX	
09.301. Miscellaneous	3,695	XXX							3,695	XXX	
09.302.		XXX								XXX	
09.303.		XXX								XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page		XXX								XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	3,695	XXX							3,695	XXX	
1501. Claims in course of settlement	(46,129)	XXX							(46,129)	XXX	
1502.		XXX								XXX	
1503.		XXX								XXX	
1598. Summary of remaining write-ins for Line 15 from overflow page		XXX								XXX	
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	(46,129)	XXX							(46,129)	XXX	

(a) Include premium amounts for preneed plans included in Line 1
(b) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

5.1

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP LIFE INSURANCE (c)
(N/A Fraternal)

	1	2	3	4	5	6	7	8
	Total	Whole Life	Term Life	Variable Life	Universal Life	Variable Universal Life	Credit Life	Other Group Life (a)
1. Transfers to Separate Accounts:								
1.1 Net premiums for life contracts (b)	3,293,408					3,293,408	XXX	
1.2 Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts							XXX	
1.4 Totals (Lines 1.1 to 1.3)	3,293,408					3,293,408	XXX	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)							XXX	
3. Net investment income and capital gains and losses	71,044,474					71,044,474	XXX	
4. Aggregate write-ins for other income							XXX	
5. Totals (Lines 1.4 to 4)	74,337,883					74,337,883	XXX	
DEDUCT:								
6. Transfers from the Separate Account on account of contract benefits:								
6.1 Death benefits	7,824,797					7,824,797	XXX	
6.2 Matured endowments							XXX	
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	6,364,954					6,364,954	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							XXX	
7. Transfers on account of policy loans	1,757,533					1,757,533	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(36,611)					(36,611)	XXX	
9. Other transfers from the Separate Accounts:								
9.1 Federal and foreign income taxes incurred							XXX	
9.2 Change in expense allowances recognized in reserves							XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts							XXX	
10. Subtotals (Lines 6.1 to 9.3)	15,910,673					15,910,673	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	19,583,098					19,583,098	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	38,844,111					38,844,111	XXX	
13. Increase in liability for deposit-type contracts							XXX	
14. Increase in reserve for future federal income taxes							XXX	
15. Aggregate write-ins for reserves and funds							XXX	
16. Totals (Lines 10 to 15)	74,337,882					74,337,882	XXX	
17. Net gain from operations (including \$ 0 unrealized capital gains) (Line 5 minus Line 16)							XXX	
18. Policies/certificates in force end of year	6,655					6,655	XXX	
DETAILS OF WRITE-INS								
01.301.							XXX	
01.302.							XXX	
01.303.							XXX	
01.398. Summary of remaining write-ins for Line 1.3 from overflow page							XXX	
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)							XXX	
0401.							XXX	
0402.							XXX	
0403.							XXX	
0498. Summary of remaining write-ins for Line 4 from overflow page							XXX	
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)							XXX	
06.701.							XXX	
06.702.							XXX	
06.703.							XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page							XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)							XXX	
09.301.							XXX	
09.302.							XXX	
09.303.							XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)							XXX	
1501.							XXX	
1502.							XXX	
1503.							XXX	
1598. Summary of remaining write-ins for Line 15 from overflow page							XXX	
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)							XXX	

(a) Includes the following amounts for FEGLI/SGLI: Line 1, Line 10, Line 16, Line 23, Line 24

(b) Include premium amounts for preneed plans included in Line 1

(c) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL ANNUITIES (a)

	1 Total	Deferred			6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees			5 Variable Annuities Without Guarantees
1. Transfers to Separate Accounts:						
1.1 Net annuity considerations for annuity contracts	270,759,124			270,614,628	144,496	
1.2 Considerations for supplementary contracts with life contingencies		XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts						
1.4 Totals (Lines 1.1 to 1.3)	270,759,124			270,614,628	144,496	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)						
3. Net investment income and capital gains and losses	1,385,270,729			1,361,961,727	14,623,257	8,685,745
4. Aggregate write-ins for other income	11,372					11,372
5. Totals (Lines 1.4 to 4)	1,656,041,225			1,632,576,355	14,767,752	8,697,117
DEDUCT:						
6. Transfers from the Separate Account on account of contract benefits:						
6.1 Death benefits						
6.2 Matured endowments						
6.3 Annuity benefits	175,882,897			167,606,952	1,880,398	6,395,548
6.4 Payments on supplementary contracts with life contingencies		XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	1,833,155,860			1,824,821,175	8,324,167	10,517
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits						
7. Transfers on account of policy loans	(442,998)			(442,998)		
8. Net transfer of reserves from or (to) Separate Accounts	(139,035,501)			(139,297,065)	3,625	257,939
9. Other transfers from the Separate Accounts:						
9.1 Federal and foreign income taxes incurred						
9.2 Change in expense allowances recognized in reserves	(21,733,320)			(21,727,360)	(5,960)	
9.3 Aggregate write-ins for other transfers from Separate Accounts	15,301			15,301		
10. Subtotals (Lines 6.1 to 9.3)	1,847,842,237			1,830,976,004	10,202,230	6,664,004
11. Fees associated with charges for investment management, administration and contract guarantees	176,163,943			175,805,411	776,310	(417,777)
12. Increase in aggregate reserve for life and accident and health contracts	(368,117,458)			(374,341,970)	3,773,622	2,450,891
13. Increase in liability for deposit-type contracts	25,262			25,262		
14. Increase in reserve for future federal income taxes						
15. Aggregate write-ins for reserves and funds	127,240			111,649	15,590	
16. Totals (Lines 10 to 15)	1,656,041,225			1,632,576,356	14,767,752	8,697,117
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)						
18. Policies/certificates in force end of year	114,354			112,122	1,627	605
DETAILS OF WRITE-INS						
01.301.						
01.302.						
01.303.						
01.398. Summary of remaining write-ins for Line 1.3 from overflow page						
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)						
0401. Miscellaneous	11,372					11,372
0402.						
0403.						
0498. Summary of remaining write-ins for Line 4 from overflow page						
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)	11,372					11,372
06.701.						
06.702.						
06.703.						
06.798. Summary of remaining write-ins for Line 6.7 from overflow page						
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)						
09.301. Miscellaneous	15,301			15,301		
09.302.						
09.303.						
09.398. Summary of remaining write-ins for Line 9.3 from overflow page						
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	15,301			15,301		
1501. Change in annuitant mortality fluctuation fund	127,240			111,649	15,590	
1502.						
1503.						
1598. Summary of remaining write-ins for Line 15 from overflow page						
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	127,240			111,649	15,590	

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP ANNUITIES (a)
(N/A Fraternal)

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Transfers to Separate Accounts:							
1.1 Net annuity considerations for annuity contracts	8,721,088,127			5,512,222,023	3,208,866,103		
1.2 Considerations for supplementary contracts with life contingencies		XXX	XXX	XXX	XXX		XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts							
1.4 Totals (Lines 1.1 to 1.3)	8,721,088,127			5,512,222,023	3,208,866,103		
2. Transfers on account of deposit-type contracts (including \$ 4,974,043,031 deposits less \$ 4,162,246,440 withdrawals)	811,796,591				811,796,591		
3. Net investment income and capital gains and losses	7,482,016,949			1,339,894,813	6,142,122,135		
4. Aggregate write-ins for other income							
5. Totals (Lines 1.4 to 4)	17,014,901,666			6,852,116,837	10,162,784,829		
DEDUCT:							
6. Transfers from the Separate Account on account of contract benefits:							
6.1 Death benefits							
6.2 Matured endowments							
6.3 Annuity benefits							
6.4 Payments on supplementary contracts with life contingencies		XXX	XXX	XXX	XXX		XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	12,368,721,684			157,229,194	12,211,492,490		
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							
7. Transfers on account of policy loans	358,770				358,770		
8. Net transfer of reserves from or (to) Separate Accounts	(1,582,206,228)			3,854,821,137	(5,437,027,365)		
9. Other transfers from the Separate Accounts:							
9.1 Federal and foreign income taxes incurred							
9.2 Change in expense allowances recognized in reserves							
9.3 Aggregate write-ins for other transfers from Separate Accounts	6,263,882				6,263,882		
10. Subtotals (Lines 6.1 to 9.3)	10,793,138,108			4,012,050,331	6,781,087,777		
11. Fees associated with charges for investment management, administration and contract guarantees	162,696,183			90,900,024	71,796,159		
12. Increase in aggregate reserve for life and accident and health contracts	3,630,588,216			2,749,166,482	881,421,734		
13. Increase in liability for deposit-type contracts	2,428,479,160				2,428,479,160		
14. Increase in reserve for future federal income taxes							
15. Aggregate write-ins for reserves and funds							
16. Totals (Lines 10 to 15)	17,014,901,666			6,852,116,837	10,162,784,830		
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)							
18. Policies/certificates in force end of year	539,273			254,900	284,373		
DETAILS OF WRITE-INS							
01.301.							
01.302.							
01.303.							
01.398. Summary of remaining write-ins for Line 1.3 from overflow page							
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)							
0401.							
0402.							
0403.							
0498. Summary of remaining write-ins for Line 4 from overflow page							
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)							
06.701.							
06.702.							
06.703.							
06.798. Summary of remaining write-ins for Line 6.7 from overflow page							
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)							
09.301. Miscellaneous	6,263,882				6,263,882		
09.302.							
09.303.							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	6,263,882				6,263,882		
1501.							
1502.							
1503.							
1598. Summary of remaining write-ins for Line 15 from overflow page							
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)							

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - ACCIDENT AND HEALTH (a)

	1 Total	Comprehensive		4 Medicare Supplement	5 Vision Only	6 Dental Only	7 Federal Employees Health Benefits Plan	8 Title XVIII Medicare	9 Title XIX Medicaid	10 Credit A&H	11 Disability Income	12 Long-Term Care	13 Other Health
		2 Individual	3 Group										
1. Transfers to Separate Accounts:													
1.1 Net Premiums for accident and health contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.2 Considerations for supplementary contracts with life contingencies													
1.3 Aggregate write-ins for other transfers to Separate Accounts													
1.4 Totals (Lines 1.1 to 1.3)													
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)													
3. Net investment income and capital gains and losses													
4. Aggregate write-ins for other income													
5. Totals (Lines 1.4 to 4)													
DEDUCT:													
6. Transfers from the Separate Account on account of contract benefits:													
6.1 Death benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.2 Matured endowments	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits													
6.6 Surrender benefits and withdrawals for life contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits													
7. Transfers on account of policy loans	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
8. Net transfer of reserves from or (to) Separate Accounts													
9. Other transfers from the Separate Accounts:													
9.1 Federal and foreign income taxes incurred	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
9.2 Change in expense allowances recognized in reserves	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
9.3 Aggregate write-ins for other transfers from Separate Accounts													
10. Subtotals (Lines 6.1 to 9.3)													
11. Fees associated with charges for investment management, administration and contract guarantees													
12. Increase in aggregate reserve for life and accident and health contracts													
13. Increase in liability for deposit-type contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
14. Increase in reserve for future federal income taxes													
15. Aggregate write-ins for reserves and funds													
16. Totals (Lines 10 to 15)													
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)													
18. Policies/certificates in force end of year													
DETAILS OF WRITE-INS													
01.301.													
01.302.													
01.303.													
01.398. Summary of remaining write-ins for Line 1.3 from overflow page													
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)													
0401.													
0402.													
0403.													
0498. Summary of remaining write-ins for Line 4 from overflow page													
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)													
06.701.													
06.702.													
06.703.													
06.798. Summary of remaining write-ins for Line 6.7 from overflow page													
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)													
09.301.													
09.302.													
09.303.													
09.398. Summary of remaining write-ins for Line 9.3 from overflow page													
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)													
1501.													
1502.													
1503.													
1598. Summary of remaining write-ins for Line 15 from overflow page													
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)													

NONE

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL LIFE INSURANCE (a)

	1	2	3	4	5	6	7	8	9	10	11
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (N/A Fraternal)	Other Individual Life
1. Reserve December 31 of prior year	1,241,198,390	XXX						2,300,166	1,238,898,224	XXX	
2. Tabular net premiums and considerations for annuities and supplementary contracts with life contingencies	59,838,430	XXX						36,244	59,802,186	XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes	221,461,974	XXX						115,441	221,346,533	XXX	
4. Tabular less actual reserve released		XXX								XXX	
5. Increase in reserve on account of change in valuation basis		XXX								XXX	
5.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve		XXX								XXX	
6. Other increases (net)	(3,693)	XXX						2	(3,695)	XXX	
7. Totals (Lines 1 to 6)	1,522,495,101	XXX						2,451,853	1,520,043,248	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(8,739,857)	XXX							(8,739,857)	XXX	
9. Tabular cost	40,003,512	XXX						60,929	39,942,583	XXX	
10. Reserves released by death	5,031,479	XXX						75,342	4,956,137	XXX	
11. Reserves released by other terminations (net)	40,896,268	XXX						18,809	40,877,459	XXX	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Charges for investment management, administration and contract guarantees	7,084,450	XXX						10,000	7,074,450	XXX	
14. Aggregate write-ins for other decreases in reserves	13,206,709	XXX						8,901	13,197,808	XXX	
15. Total deductions (Lines 8 to 14)	97,482,561	XXX						173,981	97,308,580	XXX	
16. Reserve December 31 of current year	1,425,012,540	XXX						2,277,872	1,422,734,668	XXX	
Cash Surrender Value and Policy Loans											
17. CSV ending balance December 31, current year	1,415,410,509	XXX						1,458,219	1,413,952,290	XXX	
18. Amount available for policy loans based upon Line 17 CSV	1,132,328,407	XXX						1,166,575	1,131,161,832	XXX	
DETAILS OF WRITE-INS											
1401. Change in policy loans	13,144,655	XXX						8,901	13,135,754	XXX	
1402. Change in surrender charge offset	108,183	XXX							108,183	XXX	
1403. Claims in course of settlement	(46,129)	XXX							(46,129)	XXX	
1498. Summary of remaining write-ins for Line 14 from overflow page		XXX								XXX	
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	13,206,709	XXX						8,901	13,197,808	XXX	

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP LIFE INSURANCE (a)
(N/A Fraternal)

	1	2	3	4	5	6	7	8
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life	Other Group Life
1. Reserve December 31 of prior year	1,632,575,028					1,632,575,028	XXX	
2. Tabular net premiums and considerations	3,293,408					3,293,408	XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes	71,044,474					71,044,474	XXX	
4. Tabular less actual reserve released							XXX	
5. Increase in reserve on account of change in valuation basis							XXX	
6. Other increases (net)							XXX	
7. Totals (Lines 1 to 6)	1,706,912,910					1,706,912,910	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(36,612)					(36,612)	XXX	
9. Tabular cost						XXX	XXX	
10. Reserves released by death	7,824,797					7,824,797	XXX	
11. Reserves released by other terminations (net)	6,364,954					6,364,954	XXX	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Charges for investment management, administration and contract guarantees	19,583,098					19,583,098	XXX	
14. Aggregate write-ins for other decreases in reserves	1,757,533					1,757,533	XXX	
15. Total deductions (Lines 8 to 14)	35,493,770					35,493,770	XXX	
16. Reserve December 31 of current year	1,671,419,140					1,671,419,140	XXX	
Cash Surrender Value and Policy Loans								
17. CSV ending balance December 31, current year	1,642,366,321					1,642,366,321	XXX	
18. Amount available for policy loans based upon line 17 CSV	1,313,893,057					1,313,893,057	XXX	
DETAILS OF WRITE-INS								
1401. Change in policy loans	1,757,533					1,757,533	XXX	
1402.							XXX	
1403.							XXX	
1498. Summary of remaining write-ins for Line 14 from overflow page							XXX	
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	1,757,533					1,757,533	XXX	

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL ANNUITIES (a)

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Reserve December 31 of prior year	11,132,298,486			10,972,946,286	101,213,580	58,138,620	
2. Tabular net premiums and considerations	270,759,124			270,614,628	144,496		
3. Increase or (decrease) from investment results after provision for federal income taxes	1,385,257,292			1,362,261,516	14,310,031	8,685,745	
4. Tabular less actual reserve released							
5. Increase in reserve on account of change in valuation basis							
6. Other increases (net)	11,382			1,532	(1,522)	11,372	
7. Totals (Lines 1 to 6)	12,788,326,284			12,605,823,962	115,666,585	66,835,737	
8. Net transfer of reserves from or (to) Separate Accounts	(139,035,501)			(139,296,810)	3,371	257,938	
9. Tabular cost							
10. Reserves released by death .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
11. Reserves released by other terminations (net)	1,833,155,860			1,824,955,023	8,190,320	10,517	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	175,882,897			167,797,434	1,689,915	6,395,548	
13. Charges for investment management, administration and contract guarantees	176,191,080			175,838,679	770,178	(417,777)	
14. Aggregate write-ins for other decreases in reserves	(22,049,078)			(22,058,754)	9,676		
15. Total deductions (Lines 8 to 14)	2,024,145,258			2,007,235,572	10,663,460	6,246,226	
16. Reserve December 31 of current year	10,764,181,026			10,598,588,390	105,003,125	60,589,511	
Cash Surrender Value and Policy Loans							
17. CSV ending balance December 31, current year	10,635,912,312			10,531,347,805	104,564,507		
18. Amount available for policy loans based upon line 17 CSV	163,950,895			163,950,895			
DETAILS OF WRITE-INS							
1401. Change in surrender charge offset	(21,733,320)			(21,727,360)	(5,960)		
1402. Change in policy loans	(442,998)			(442,998)			
1403. Change in annuitant mortality fluctuation fund	127,240			111,604	15,636		
1498. Summary of remaining write-ins for Line 14 from overflow page							
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	(22,049,078)			(22,058,754)	9,676		

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP ANNUITIES (a)
(N/A Fraternal)

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Reserve December 31 of prior year	44,619,871,474			16,133,208,521	28,486,662,953		
2. Tabular net premiums and considerations	8,721,088,127			2,879,914,999	5,841,173,128		
3. Increase or (decrease) from investment results after provision for federal income taxes	5,832,242,367			1,327,337,412	4,504,904,955		
4. Tabular less actual reserve released							
5. Increase in reserve on account of change in valuation basis							
6. Other increases (net)	(6,263,881)			494	(6,264,375)		
7. Totals (Lines 1 to 6)	59,166,938,087			20,340,461,427	38,826,476,660		
8. Net transfer of reserves from or (to) Separate Accounts	(1,582,206,228)			4,065,331,341	(5,647,537,569)		
9. Tabular cost							
10. Reserves released by death	xxx	xxx	xxx	xxx	xxx	xxx	xxx
11. Reserves released by other terminations (net)	12,368,721,684			157,229,194	12,211,492,490		
12. Transfers on account of annuity and supplementary contract payments involving life contingencies							
13. Charges for investment management, administration and contract guarantees	129,604,172			90,574,694	39,029,478		
14. Aggregate write-ins for other decreases in reserves	358,770				358,770		
15. Total deductions (Lines 8 to 14)	10,916,478,398			4,313,135,229	6,603,343,169		
16. Reserve December 31 of current year	48,250,459,689			16,027,326,198	32,223,133,491		
Cash Surrender Value and Policy Loans							
17. CSV ending balance December 31, current year	48,250,459,689			16,027,326,198	32,223,133,491		
18. Amount available for policy loans based upon line 17 CSV	48,250,459,689			16,027,326,198	32,223,133,491		
DETAILS OF WRITE-INS							
1401. Change in policy loans	358,770				358,770		
1402.							
1403.							
1498. Summary of remaining write-ins for Line 14 from overflow page							
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	358,770				358,770		

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

ANALYSIS OF RESERVES DURING THE YEAR - ACCIDENT AND HEALTH^(a)

	1 Total	Comprehensive		4 Medicare Supplement	5 Vision Only	6 Dental Only	7 Federal Employees Health Benefits Plan	8 Title XVIII Medicare	9 Title XIX Medicaid	10 Credit A&H	11 Disability Income	12 Long-Term Care	13 Other Health
		2 Individual	3 Group										
ACTIVE LIFE RESERVE													
1. Unearned premium reserves													
2. Additional contract reserves (a)													
3. Additional actuarial reserves-Asset/Liability analysis													
4. Reserve for future contingent benefits													
5. Reserve for rate credits													
6. Aggregate write-ins for reserves													
7. Totals (Gross)													
8. Reinsurance ceded													
9. Totals (Net)													
CLAIM RESERVE													
10. Present value of amounts not yet due on claims													
11. Additional actuarial reserves-Asset/Liability analysis													
12. Reserve for future contingent benefits													
13. Aggregate write-ins for reserves													
14. Totals (Gross)													
15. Reinsurance ceded													
16. Totals (Net)													
17. TOTAL (Net)													
18. TABULAR FUND INTEREST													
DETAILS OF WRITE-INS													
0601.													
0602.													
0603.													
0698. Summary of remaining write-ins for Line 6 from overflow page													
0699. TOTALS (Lines 0601 thru 0603 plus 0698) (Line 6 above)													
1301.													
1302.													
1303.													
1398. Summary of remaining write-ins for Line 13 from overflow page													
1399. TOTALS (Lines 1301 thru 1303 plus 1398) (Line 13 above)													

NONE

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT OF NET INVESTMENT INCOME

	1 Collected During Year	2 Earned During Year
1. U.S. Government bonds	(a) 45,309,996	51,494,682
1.1 Bonds exempt from U.S. tax	(a)	
1.2 Other bonds (unaffiliated)	(a) 595,165,033	597,978,748
1.3 Bonds of affiliates	(a)	
2.1 Preferred stocks (unaffiliated)	(b)	
2.11 Preferred stocks of affiliates	(b)	
2.2 Common stocks (unaffiliated)	2,566,875,951	2,566,958,317
2.21 Common stocks of affiliates		
3. Mortgage loans	(c) 87,235	79,979
4. Real estate	(d) 78,315	78,315
5. Contract loans		
6. Cash, cash equivalents and short-term investments	(e) 6,197,170	4,754,506
7. Derivative instruments	(f) (1,617,866)	(1,808,289)
8. Other invested assets		
9. Aggregate write-ins for investment income	84,439	84,439
10. Total gross investment income	3,212,180,273	3,219,620,697
11. Investment expenses		(g) 3,026,647
12. Investment taxes, licenses and fees, excluding federal income taxes		(g)
13. Interest expense		(h)
14. Depreciation on real estate and other invested assets		(i)
15. Aggregate write-ins for deductions from investment income		
16. Total deductions (Lines 11 through 15)		3,026,647
17. Net investment income (Line 10 minus Line 16)		3,216,594,050
DETAILS OF WRITE-INS		
0901. Miscellaneous	84,439	84,439
0902.		
0903.		
0998. Summary of remaining write-ins for Line 9 from overflow page		
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)	84,439	84,439
1501.		
1502.		
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15, above)		

- (a) Includes \$ accrual of discount less \$ amortization of premium and less \$ 75,465,817 paid for accrued interest on purchases.
- (b) Includes \$ accrual of discount less \$ amortization of premium and less \$ paid for accrued dividends on purchases.
- (c) Includes \$ accrual of discount less \$ amortization of premium and less \$ paid for accrued interest on purchases.
- (d) Includes \$ for company's occupancy of its own buildings; and excludes \$ interest on encumbrances.
- (e) Includes \$ 33,078 accrual of discount less \$ 659 amortization of premium and less \$ 25,882 paid for accrued interest on purchases.
- (f) Includes \$ accrual of discount less \$ amortization of premium.
- (g) Includes \$ investment expenses and \$ investment taxes, licenses and fees, excluding federal income taxes, attributable to segregated and Separate Accounts.
- (h) Includes \$ interest on surplus notes and \$ interest on capital notes.
- (i) Includes \$ depreciation on real estate and \$ depreciation on other invested assets.

EXHIBIT OF CAPITAL GAINS (LOSSES)

	1	2	3	4	5
	Realized Gain (Loss) On Sales or Maturity	Other Realized Adjustments	Total Realized Capital Gain (Loss) (Columns 1 + 2)	Change in Unrealized Capital Gain (Loss)	Change in Unrealized Foreign Exchange Capital Gain (Loss)
1. U.S. Government bonds	223,568,053		223,568,053	(43,297,144)	
1.1 Bonds exempt from U.S. tax					
1.2 Other bonds (unaffiliated)	237,561,552	(7)	237,561,545	372,609,373	55,165
1.3 Bonds of affiliates					
2.1 Preferred stocks (unaffiliated)					
2.11 Preferred stocks of affiliates					
2.2 Common stocks (unaffiliated)	520,557,374		520,557,374	4,327,400,876	
2.21 Common stocks of affiliates					
3. Mortgage loans	43,059		43,059	30,159	
4. Real estate					
5. Contract loans					
6. Cash, cash equivalents and short-term investments	25,383,537		25,383,537		
7. Derivative instruments	218,641,217	(302,371)	218,338,846	12,426,101	(18,285)
8. Other invested assets	3,422,787		3,422,787	45,112,423	
9. Aggregate write-ins for capital gains (losses)		(1,809)	(1,809)		8,017
10. Total capital gains (losses)	1,229,177,579	(304,187)	1,228,873,392	4,714,281,788	44,897
DETAILS OF WRITE-INS					
0901. Capital gain (loss) on foreign currency		(1,809)	(1,809)		8,017
0902.					
0903.					
0998. Summary of remaining write-ins for Line 9 from overflow page					
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)		(1,809)	(1,809)		8,017

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT 1 - INVESTMENT EXPENSES

	1 Amount
1. Rent	
2. Salaries and wages	
3. Contributions for benefit plans for employees (a)	
4. Payments to employees under non-funded benefit plans	
5. Other employee welfare	
6. Legal fees and expenses	
7. Fees of public accountants and consulting actuaries	273,017
8. Traveling expenses	
9. Postage, express, telegraph and telephone	
10. Printing and stationery	
11. Cost or depreciation of furniture and equipment	
12. Rental of equipment	
13. Books and periodicals	
14. Bureau and association fees	
15. Insurance, except on real estate	
16. Miscellaneous losses	
17. Collection and bank service charges	2,753,630
18. Sundry general expenses	
19. Real estate expenses	
20. Investment expenses not included elsewhere	
21. Aggregate write-ins for other investment expenses	
22. Investment expenses incurred	3,026,647
Reconciliation with Exhibit 5	
23. Investment expenses unpaid December 31, prior year	1,181,383
24. Investment expenses unpaid December 31, current year	712,869
25. Investment expenses paid during year (Lines 22 + 23 - 24) (to Exhibit 5, Line 12)	3,495,161
DETAILS OF WRITE-INS	
2101.	
2102.	
2103.	
2198. Summary of remaining write-ins for Line 21 from overflow page	
2199. Totals (Lines 2101 thru 2103 plus 2198) (Line 21 above)	

(a) Includes \$ on account of prior service.

**EXHIBIT 2 - INVESTMENT TAXES, LICENSES AND FEES
(EXCLUDING FEDERAL INCOME TAXES)**

	1 Amount
1. Real estate taxes	
2. State insurance department fees	
3. Other state taxes, including \$ for employee benefits	
4. U.S. Social Security taxes	
5. All other taxes	
6. Taxes, licenses and fees incurred	
Reconciliation with Exhibit 5	
7. Taxes, licenses and fees unpaid December 31, prior year	
8. Taxes, licenses and fees unpaid December 31, current year	
9. Taxes, licenses and fees paid during year (Lines 6 + 7 - 8) (to Exhibit 5, Line 13)	

NONE

EXHIBIT 3 - AGGREGATE RESERVE FOR LIFE, ANNUITY AND ACCIDENT AND HEALTH CONTRACTS

1	2	3	4
Description of Valuation Basis	Total ^(a)	Ordinary	Group
0100001. 58 CSO 4.00% Mod CRVM	2,277,872	2,277,872	
0100002. 80 CSO 5.50% CRVM	25,950,271	25,950,271	
0100003. 80 CSO 5.00% CRVM	368,157	368,157	
0100004. 80 CSO 4.50% CRVM	825,565,832	825,565,832	
0100005. 80 CSO 4.00% CRVM	150,799,244	150,799,244	
0100006. 2001 CSO 4.00% CRVM	21,262,219	21,262,219	
0100007. 2001 CSO 3.50% CRVM	30,454,709	30,454,709	
0100008. 17 CSO 3.5% CRVM	3,514,679	3,514,679	
0100009. 80 CSO Account Value	1,948,600,628	295,456,576	1,653,144,052
0100010. 2001 CSO Account Value	86,841,462	68,661,544	18,179,918
0100011. 17 CSO Account Value	796,607	701,437	95,170
0199999. Life Insurance: Totals	3,096,431,680	1,425,012,540	1,671,419,140
0200001. Deferred Annuity 4.75% to 10.00% CARVM	10,674,095,925	10,674,095,925	
0200002. Annuity Reserve	46,272,604,884	90,085,103	46,182,519,781
0200003. Group Home Office and Field Plans	2,067,939,908		2,067,939,908
0299999. Annuities: Totals	59,014,640,717	10,764,181,028	48,250,459,689
9999999. Totals (to Page 3, Line 1)	62,111,072,397	12,189,193,568	49,921,878,829

(a) Included in the above table are amounts of deposit-type contracts that originally contained a mortality risk. Amounts of deposit-type contracts that no longer contain a mortality risk in Column 2 are: Life Insurance \$; Annuities \$; Supplementary Contracts with Life Contingencies \$; Accident and Health Contracts \$; Miscellaneous Reserves \$

EXHIBIT 3 - INTERROGATORIES

- 1.1 Has the reporting entity ever issued both participating and non-participating variable life insurance contracts?..... Yes [X] No []
- 2.1 Does the reporting entity at present issue both participating and non-participating variable life insurance contracts?..... Yes [X] No []
- 2.2 If not, state which kind is issued
- 3.1 Is any surrender value promised in excess of the reserve as legally computed? Yes [] No [X] N/A []
- 3.2 If so, the amount of such excess must be included in surrender values in excess of reserves otherwise required and carried in this schedule. Has this been done? Yes [] No [] N/A [X]
 Attach a statement of methods employed in the valuation of variable life insurance contracts issued at, or subsequently subject to, an extra premium or in the valuation of contracts otherwise issued on lives classified as substandard for the plan of contract issued or on special class lives (including paid-up variable life insurance).

EXHIBIT 3A - CHANGES IN BASIS OF VALUATION DURING THE YEAR

(Including supplementary contracts set up on a basis other than that used to determine benefits)

1	2	3	4
Description of Valuation Class	Valuation Basis	Valuation Basis	Increase in Actuarial Reserve Due to Change
	Changed From	Changed To	
NONE			
9999999 - Totals (Page 6, Line 5, Analysis of Increase in Reserve)			

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT 4 - DEPOSIT TYPE CONTRACTS

	1	2	3	4	5	6
	Total	Guaranteed Interest Contracts	Annuities Certain	Supplemental Contracts	Dividend Accumulations or Refunds	Premium and Other Deposit Funds
1. Balance at the beginning of the year	10,869,720,443	1,557,953,767				9,311,766,676
2. Deposits received during the year	4,974,043,031					4,974,043,031
3. Investment earnings credited to account	1,680,312,382	123,358,982				1,556,953,400
4. Other net change in reserves	(325,447)					(325,447)
5. Fees and other charges assessed	63,279,104	3,024,689				60,254,415
6. Surrender charges						
7. Net surrender or withdrawal payments	4,162,246,440					4,162,246,440
8. Other net transfer to or (from) general account						
9. Balance at the end of current year (Lines 1+2+3+4-5-6-7-8)	13,298,224,865	1,678,288,060				11,619,936,805

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT 5 - RECONCILIATION OF CASH AND INVESTED ASSETS

DEVELOPMENT OF INCREASE IN CASH		1 Amount
1. Transfers to Separate Accounts on account of:		
1.1 Net premiums and considerations for annuities and supplementary contracts with life contingencies		9,054,979,088
1.2 Aggregate write-ins for other transfers to Separate Accounts		
2. Deposits on deposit-type contract funds and other liabilities without life or disability contingencies		4,974,043,031
3. Investment income collected		3,212,169,972
4. Consideration on disposal of short-term bonds net of purchases		566,283,096
5. Consideration on disposal of investments (excluding short-term bonds)		38,788,313,464
6. Aggregate write-ins for other increases in funds from operations		
7. Total (Lines 1 to 6)		56,595,788,651
8. Cost of investments acquired (excluding short-term bonds)		39,415,609,578
9. Transfers from Separate Accounts on account of contract benefits:		
9.1 Death benefits		13,849,174
9.2 Matured endowments		
9.3 Annuity benefits		175,882,897
9.4 Supplementary contract benefits with life contingencies		
9.5 Accident and health benefits		
9.6 Surrender benefits and withdrawals for life contracts		14,249,138,765
9.7 Policy loans (net)		14,817,960
9.8 Transfers of reserves (net)		(1,730,018,198)
9.9 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		
10. Other transfers from Separate Accounts:		
10.1 Federal income taxes		
10.2 Aggregate write-ins for other transfers from Separate Accounts		55,658,541
11. Withdrawals on deposit-type contract funds and other liabilities without life or disability contingencies		4,162,246,440
12. Investment expenses (Exhibit 1, Line 25)		3,495,161
12.1 Fees associated with investment management, administration and contract guarantees		405,030,479
13. Investment taxes, licenses and fees, excluding federal income taxes (Exhibit 2, Line 9)		
14. Total (Lines 8 to 13)		56,765,710,797
15. Funds from operations (Line 7 minus Line 14)		(169,922,146)
16. Surplus contributed or (withdrawn) during year		
17. Aggregate write-ins for other changes in funds		
18. Total funds (includes \$ net transfers from general account) (Lines 15 to 17)		(169,922,146)
19. Increase in payable for investments acquired, net of receivable for investments sold		(175,856,350)
20. Decrease in policy loans		
21. Aggregate write-ins for other reconciling items		(1,809)
22. Increase in cash (Line 18 to 21)		(345,780,305)
RECONCILIATION BETWEEN YEARS		
23. Cash and invested assets, December 31st of prior year		69,845,890,032
24. Increase in cash (Line 22)		(345,780,305)
25. Cost of invested assets acquired		42,671,692,233
26. Adjusted cost of assets disposed of		41,379,878,888
27. Increase in policy loans		
28. Accrual of discount less amortization of premium		32,419
29. Depreciation on real estate and other invested assets		
30. Increase in net unrealized gains		4,714,318,662
31. Aggregate write-ins for other reconciling items		
32. Cash and invested assets, December 31st of current year		75,506,274,154
DETAILS OF WRITE-INS		
01.201.		
01.202.		
01.203.		
01.298. Summary of remaining write-ins for Line 1.2 from overflow page		
01.299. Totals (Lines 01.201 thru 01.203 plus 01.298) (Line 1.2 above)		
0601.		
0602.		
0603.		
0698. Summary of remaining write-ins for Line 6 from overflow page		
0699. Totals (Lines 0601 thru 0603 plus 0698) (Line 6 above)		
09.901.		
09.902.		
09.903.		
09.998. Summary of remaining write-ins for Line 9.9 from overflow page		
09.999. Totals (Lines 09.901 thru 09.903 plus 09.998) (Line 9.9 above)		
10.201. Change in remittances and items not allocated		48,993,158
10.202. Miscellaneous		6,271,506
10.203. Change in other transfers due and accrued		393,903
10.298. Summary of remaining write-ins for Line 10.2 from overflow page		(26)
10.299. Totals (Lines 10.201 thru 10.203 plus 10.298) (Line 10.2 above)		55,658,541
1701.		
1702.		
1703.		
1798. Summary of remaining write-ins for Line 17 from overflow page		
1799. Totals (Lines 1701 thru 1703 plus 1798) (Line 17 above)		
2101. Foreign currency loss		(1,809)
2102.		
2103.		
2198. Summary of remaining write-ins for Line 21 from overflow page		
2199. Totals (Lines 2101 thru 2103 plus 2198) (Line 21 above)		(1,809)
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page		
3199. Totals (Lines 3101 thru 3103 plus 3198) (Line 31 above)		

EXHIBIT 6 - GUARANTEED INSURANCE AND ANNUITY PRODUCTS

	1 Amount	2 Percent of Total
1. Aggregate reserve for life, annuity and accident and health contracts (Included in Exhibit 3):		
1.1 Life insurance		
1.2 Annuities		
1.3 Supplementary contracts with life contingencies		
1.4 Accident and health		
1.5 Miscellaneous reserves		
1.6 Total		
2. Liability for deposit-type contracts (included in Exhibit 4):		
2.1 Guaranteed interest contracts		
2.2 Annuities certain		
2.3 Supplemental contracts		
2.4 Dividend accumulations or refunds		
2.5 Premium and other deposit funds		
2.6 Total		
3. Other liabilities (included in Page 3, Lines 4, 10, 13 & 14)		
4. Total liabilities associated with guarantees (Lines 1.6 + 2.6 + 3)		
5. Total liabilities not associated with guarantees	75,965,585,904	100.0
6. Total Separate Accounts liabilities (Lines 4 + 5 = Page 3, Line 17)	75,965,585,904	100.0 %

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

GENERAL INTERROGATORIES

Product Mix

1.01 Identify the product types in the separate account, quantify the assets associated with those products, indicate if there are any guarantees associated with those products, quantify seed money and quantify other fees and expenses due to the general account:

Note: A distinct product identifier shall be used for each product and shall be used consistently throughout the interrogatory.

1 Product Identifier	Separate Account Assets		4 Guarantees Associated with the Product Yes/No	5 Seed Money	6 Fees and Expenses Due to the General Account	7 Additional Required Surplus Amounts
	2 Registered with SEC	3 Not Registered with SEC				
Non-guaranteed Retirement Services SIAs		41,045,931,995	NO			
Separate Account Guaranteed Interest Contract		20,878,624,623	YES			
Individual Variable Annuity	10,802,590,423	382,258	YES			
Individual Variable Universal Life	1,063,703,108	277,679,735	YES			
Group Variable Universal Life	74,179,629		YES			
Individual Immediate Variable Annuity	60,589,723		YES			
Corporate-owned Life Insurance	144,435,789		YES			
Stable Value Bank-owned Life Insurance		1,616,207,361	YES			
Supplemental Account		1,261,260	NO			1,261,260
Synthetic Guaranteed Interest Contract			YES			
Included in the Separate Account Assets total are 17 contracts totaling \$103,506,533 that are non-insulated, exclusive of seed money and unsettled fees and expenses. Total MassMutual separate account assets are \$75,965,585,904 at 12/31/20. These 17 noninsulated contracts represent and 0.14% of MassMutual's separate account balance at 12/31/20. Given the immateriality of the balances, we are disclosing the existence of these 17 non-insulated contracts, but are not preparing a separate green book blank.						
Totals	12,145,498,673	63,820,087,232	XXX			1,261,260

Note: Additional Required Surplus Amounts is defined as additional or permanent surplus that is required to be retained in the separate account in accordance with state law or regulation. These amounts should not include reinvested separate account investment proceeds that have not been allocated to separate account contract holders.

1.01A For the products (and related assets) that are not registered with the SEC, identify whether the products are considered private placement variable annuity products or private placement life insurance.

1 Product Identifier	Not Registered with SEC		
	2 Private Placement Variable Annuity	3 Private Placement Life Insurance	4 Other (Not PPVA or PPLI)
Non-guaranteed Retirement Services SIAs			41,045,931,995
Separate Account Guaranteed Interest Contract			20,878,624,623
Individual Variable Annuity	19,206		363,052
Individual Variable Universal Life			277,679,735
Stable Value Bank-owned Life Insurance			1,616,207,361
Supplemental Account			1,261,260
Totals	19,206		63,820,068,025

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

- 1.02 Did the reporting entity remit seed money, other fees and expenses or additional required surplus amounts to the general account during the current year? Yes [] No [X]
- 1.03 If yes, provide information on the total gross amount of seed money, other fees and expenses or additional required surplus amounts remitted to the general account during the current year (these amounts should not be reflected in the seed money totals in 1.01):
- 1.031 Seed Money.....\$
- 1.032 Other Fees and Expenses.....\$
- 1.033 Additional Required Surplus Amounts ..\$
- 1.04 Did the reporting entity receive seed money from the general account in the current year? Yes [] No [X]
- 1.05 If yes, provide information on the total gross amount of seed money received in the current year: (If amounts were both received and remitted in the current year, include the gross amounts in both 1.031 and 1.051.)
- 1.051 Seed Money Received.....\$
- 1.06 Does the reporting entity consider any of the seed money reflected in separate accounts to be insulated from the general account? Yes [] No [] N/A [X]
- 1.07 If yes, provide information on the amount of seed money the reporting entity considers insulated from the general account:
- 1.071 Insulated Seed Money \$
- 1.08 Does the reporting entity have a policy for repatriating seed money or remitting fees and expenses due and additional required surplus amounts to the general account:
- 1.081 Seed Money..... Yes [X] No []
- 1.082 Other Fees and Expenses..... Yes [X] No []
- 1.083 Additional Required Surplus Amounts Yes [X] No []

1.09 Provide detail on the time duration for which seed money, other fees and expenses due to the general account and additional required surplus amounts have been held in the separate account:

	1 Seed Money	2 Fees and Expenses Due to the General Account	3 Additional Required Surplus Amounts
1.091 Under 1 Year			
1.092 1 Year - 3 Years			
1.093 Over 3 Years - 5 Years			
1.094 Over 5 Years			1,261,260
1.095 Total			1,261,260

- 1.10 For seed money, other fees and expenses, and additional required surplus amounts held in the separate account, does the reporting entity invest these funds in accordance with investment directives of the general account:
- 1.101 Seed Money..... Yes [] No [X] N/A []
- 1.102 Other Fees and Expenses..... Yes [] No [X] N/A []
- 1.103 Additional Required Surplus Amounts Yes [] No [X] N/A []

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

GENERAL INTERROGATORIES

- 1.11 If no, does the reporting entity have stated policy and procedure for the investment of seed money, other fees and expenses, and additional required surplus amounts that are retained with the separate account?
- 1.111 Seed Money..... Yes [X] No [] N/A []
 1.112 Other Fees and Expenses..... Yes [X] No [] N/A []
 1.113 Additional Required Surplus Amounts Yes [X] No [] N/A []

Separate Account Products with General Account Guarantees

- 2.1 Does the reporting entity have products with guarantees provided by the general account? Yes [X] No []
- 2.2 Has the separate account collected amounts from the general account within the past five years related to separate account guarantees? Yes [X] No []
- 2.3 If yes, provide detail on these guarantees paid by the general account:

	1 Year	2 Amount
2.301 As of December 31, 2020		\$ 6,925,020
2.302 As of December 31, 2019		\$ 8,183,620
2.303 As of December 31, 2018		\$ 6,161,058
2.304 As of December 31, 2017		\$ 7,568,186
2.305 As of December 31, 2016		\$ 4,619,165

- 2.4 To compensate the general account for the risk taken, for any separate account products with general account guarantees, does the separate account remit risk charges to the general account related to separate account guarantees? Yes [X] No []
- 2.5 If yes, identify the separate account products with risk charges that are remitted to the general account and whether the risk charge for that product is reviewed and opined upon:

1 Product Identifier with Risk Charges	2 Risk Charge Reviewed and Opined Upon	3 Name and Title of Individual who Provided Opinion on Risk Charges
Synthetic Guaranteed Interest Contract	Yes	Vy Ho, FSA, MAAA, Head of Insurance Valuation and Appointed Actuary
Separate Account Guaranteed Interest Contract	Yes	Vy Ho, FSA, MAAA, Head of Insurance Valuation and Appointed Actuary
Individual Variable Annuity	No; the risk charges associated with this product are reviewed for reasonableness and accuracy by the appropriate actuary, but no formal opinion on these product risk charges is required by the NAIC.	
Individual Immediate Variable Annuity	No; the risk charges associated with this product are reviewed for reasonableness and accuracy by the appropriate actuary, but no formal opinion on these product risk charges is required by the NAIC.	

- 2.6 Provide detail on the risk charges paid to the general account related to separate account guarantees for the past five years:

	1 Year	2 Amount
2.601 As of December 31, 2020		\$ 103,722,568
2.602 As of December 31, 2019		\$ 104,346,980
2.603 As of December 31, 2018		\$ 97,690,286
2.604 As of December 31, 2017		\$ 91,538,349
2.605 As of December 31, 2016		\$ 88,772,303

Investment Directive of Separate Account Activity

- 3.1 Does the reporting entity have products classified within the separate account for which the investment directive is not determined by the contract holder? (Situations in which the investments directive mirrors the general account would not be considered determined by the contract holder; however, having the contract holder select an investment direction from multiple options would meet this criteria.) Yes [X] No []
- 3.2 If yes, if these investments would have been included in the general account, would the reporting entity have exceeded the investment limitations imposed on the general account? Yes [] No [X] N/A []
- 3.3 Provide detail on the separate account investment portfolio and state investment limitations. (This includes the combined separate account and general investments, excluding separate account assets with investment direction determined by the contract holder):

1 Investment Type	2 State Investment Limitation	3 Combined Investment (Separate and General Account)

Allocation of Investment Proceeds of Separate Account Activity

- 4.1 Does the reporting entity have separate account assets in which less than 100% of investment proceeds (net of contract fees and assessments) are attributed to a contract holder? (This should identify any situations where there is a ceiling on investment performance results.) Yes [X] No []

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

GENERAL INTERROGATORIES

4.2 If yes, provide detail on the net investment proceeds that were attributed to the contract holder, transferred to the general account and reinvested within the separate account:

1 Product Identifier	2 Net Investment Proceeds	3 Attributed to Contract Holder	4 Transferred to General Account	5 Reinvested Within the Separate Account
Non-guaranteed Retirement Services SIAs .....	..(6,092,808,769)	..(6,092,808,769)		
Separate Account Guaranteed Interest Contract .....	..(1,557,990,892)	..(1,557,990,892)		
Supplemental Account .....	..(177,353)	..(177,353)		

4.3 For items reinvested within the Separate Account, does the reporting entity invest these assets in accordance with investment directives of the general account? Yes [] No [] N/A [X]

4.4 If no, does the reporting entity have a stated policy and procedure for the reinvestment of investment proceeds within the separate account? Yes [] No [] N/A [X]

4.5 Did the reinvestment of investment proceeds within the separate account result with the company having a combined investment portfolio that exceeded the state investment limitations imposed on the general account? Yes [] No [] N/A [X]

Measurement of Separate Account Assets

5.1 Does the reporting entity report all separate account assets at fair value? Yes [X] No []

5.2 For items not reported at fair value, does the reporting entity report separate account assets at amortized cost, and/or under different measurement methods?
 5.21 Amortized Cost Yes [] No [X]
 5.22 Other Measurement Methods..... Yes [] No [X]

5.3 If other measurement methods are used, provide explanation on these measurement methods.

5.4 Identify the assets measured at fair value, amortized cost or another measurement method and the percentage of separate account assets measured under each measurement method:

Description	1 Amount	2 Percentage
5.41 Fair Value	\$..75,965,585,904	.....100.0 %
5.42 Amortized Cost	\$ %
5.43 Other Measurement Methods	\$ %

5.5 For the assets not measured at fair value, provide a comparison of the reported value to current fair value and identify the unrealized gain or loss that would have been recorded if the assets had been reported at fair value:

1 Assets Held at Amortized Cost	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.51... \$	\$	\$

1 Assets Held at Other Measurement Method	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.52... \$	\$	\$

Securities Lending Transactions Within Separate Accounts

6.1 Does the reporting entity engage in securities lending transactions with separate account assets? Yes [] No [X]

6.2 If yes, does the reporting entity have written policies and procedures for such transactions? Yes [] No [] N/A [X]

6.3 Does the reporting entity obtain approval, or otherwise provide notification to contract holders, regarding securities lending transactions that occur with separate account assets? Yes [] No [] N/A [X]

6.4 Are all securities lending transactions reported on balance sheet? Yes [] No [] N/A [X]

6.5 Provide a description of the reporting entity's securities lending transaction program, specifically identifying any variations from the securities lending transaction program administered by the general account.

6.6 Provide detail on the current status of separate account transactions by separate account product:

6.61 Amount of any loaned securities within the separate account and the percentage of separate account assets lent
 6.611 Amount\$
 6.612 Percentage..... %
 6.62 Identify whether securities lent are reported at book value or market value
 6.621 Book Value\$
 6.622 Market Value.....\$

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

GENERAL INTERROGATORIES

6.63 Detail on collateral received:

6.631 Aggregate Amount Collateral Received

6.6311 Open	\$
6.6312 30 Days or Less.....	\$
6.6313 31 to 60 Days.....	\$
6.6314 61 to 90 Days.....	\$
6.6315 Greater than 90 Days.....	\$
6.6316 Total Collateral Received.....	\$

6.632 The aggregate fair value of all securities acquired from the sale, trade or use of the accepted collateral (reinvested collateral) \$

6.633 Narrative discussion about sources and uses of collateral:
.....

6.634 Collateral for transactions that extend beyond one year from the reporting date \$

6.7 For the reporting entity's security lending program state the amount of the following as December 31 of the current year:

6.71 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 (Sum of Schedule DL, Parts 1 and 2, Column 5)	\$
6.72 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 (Sum of Schedule DL, Parts 1 and 2, Column 6)	\$
6.73 Total payable for securities lending reported on the liability page (Page 3, Line 14, Column 3)	\$

FHLB Funding Agreements

7.1 Does the reporting entity report Federal Home Loan Bank (FHLB) funding agreements within the separate account? Yes [] No [X]

7.2 Provide detail on the elements that support the classification of FHLB funding agreements within the separate account
.....

7.3 Provide detail regarding the FHLB funding agreements classified within the separate account:

1 Amount of FHLB Stock Purchased or Owned	2 Amount of Collateral Pledged to the FHLB	3 Total Borrowing or Funding Capacity Currently Available	4 Total Reserves Related to FHLB Agreements
\$	\$	\$	\$

7.4 For funding agreements within the separate account, provide a general description on the nature of the agreement, type of funding (lines of credit, borrowed money, etc) and intended use of funding.
.....

Reporting Differences Between GAAP and SAP Financial Statements (This disclosure is applicable to all reporting entities regardless if they file GAAP financial statements)

8.1 Does the reporting entity file GAAP financial statements? Yes [] No [X]

8.2 In accordance with the different separate account reporting requirements between GAAP (SOP 03-1) and statutory accounting, does the reporting entity have products that are classified within the separate account that were, or would have been if GAAP financial statements had been completed, required to be reported within the general account under GAAP financials? Pursuant to SOP 03-1, all of the following conditions must be met to receive separate account reporting classification under GAAP: Yes [X] No [] N/A []

- a. Legal Recognition - The separate account is legally recognized. That is, the separate account is established, approved, and regulated under special rules such as state insurance laws, federal securities laws, or similar foreign laws.
- b. Legally Insulated - The separate account assets supporting the contract liabilities are legally insulated from the general account liabilities of the insurance enterprise (that is, the contract holder is not subject to insurer default risk to the extent of the assets held in the separate account).
- c. Investment Directive - The insurer must, as a result of contractual, statutory, or regulatory requirements, invest the contract holder's funds within the separate account as directed by the contract holder in designated investment alternatives or in accordance with specific investment objectives or policies.
- d. Investment Performance - All investment performance, net of contract fees and assessments, must as a result of contractual, statutory, or regulatory requirements be passed through to the individual contract holder. Contracts may specify conditions under which there may be a minimum guarantee, but not a ceiling, as a ceiling would prohibit all investment performance from being passed through to the contract holder

GENERAL INTERROGATORIES

8.3 Identify all separate account products and identify whether each product was classified within a separate account for GAAP reporting purposes. (For non-GAAP filers, this disclosure should reflect whether the GAAP classification would have been the same if GAAP financials had been completed.) For products that were (or would have been) reported differently, identify which SOP 03-1 condition prevented separate account GAAP classification for that particular product.

1	2
Product Identifier	Same as GAAP / Condition that Requires GAAP General Account Reporting
Separate Account Guaranteed Interest Contract	GAAP GIA Classification due to Investment Performance
Synthetic Guaranteed Interest Contract	GAAP GIA Classification due to Investment Performance
Supplemental Account	GAAP GIA Classification due to Investment Performance
Stable Value Bank-owned Life Insurance	GAAP GIA Classification due to Investment Performance
Non-guaranteed Retirement Services SIAs	Same as GAAP
Individual Variable Annuity	Same as GAAP
Individual Variable Universal Life	Same as GAAP
Group Variable Universal Life	Same as GAAP
Individual Immediate Variable Annuity	Same as GAAP
Corporate-owned Life Insurance	Same as GAAP

Interest Maintenance Reserve

N O N E

Interest Maintenance Reserve - Amortization

N O N E

Asset Valuation Reserve - Default Component

N O N E

Asset Valuation Reserve - Equity Component

N O N E

Asset Valuation Reserve - Replications (Synthetic) Assets

N O N E

OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Exhibit 5 Line 10.2

	1 Amount
10.204. Foreign income tax recoverable	(26)
10.297. Summary of remaining write-ins for Line 10.2 from overflow page	(26)

SCHEDULE A - VERIFICATION BETWEEN YEARS

Real Estate

1.	Book/adjusted carrying value, December 31 of prior year	
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 6)	
2.2	Additional investment made after acquisition (Part 2, Column 9)	
3.	Current year change in encumbrances:	
3.1	Totals, Part 1, Column 13	
3.2	Totals, Part 3, Column 11	
4.	Total gain (loss) on disposals, Part 3, Column 18	
5.	Deduct amounts received on disposals, Part 3, Column 15	
6.	Total foreign exchange change in book/adjusted carrying value:	
6.1	Totals, Part 1, Column 15	
6.2	Totals, Part 3, Column 13	
7.	Deduct current year's other than temporary impairment recognized:	
7.1	Totals, Part 1, Column 12	
7.2	Totals, Part 3, Column 10	
8.	Deduct current year's depreciation:	
8.1	Totals, Part 1, Column 11	
8.2	Totals, Part 3, Column 9	
9.	Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)	
10.	Deduct total nonadmitted amounts	
11.	Statement value at end of current period (Line 9 minus Line 10)	

NONE

SCHEDULE B - VERIFICATION BETWEEN YEARS

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year		1,684,716
2.	Cost of acquired:		
2.1	Actual cost at time of acquisition (Part 2, Column 7)		
2.2	Additional investment made after acquisition (Part 2, Column 8)		
3.	Capitalized deferred interest and other:		
3.1	Totals, Part 1, Column 12		
3.2	Totals, Part 3, Column 11		
4.	Accrual of discount		
5.	Unrealized valuation increase (decrease):		
5.1	Totals, Part 1, Column 9		
5.2	Totals, Part 3, Column 8	30,159	30,159
6.	Total gain (loss) on disposals, Part 3, Column 18		43,059
7.	Deduct amounts received on disposals, Part 3, Column 15		1,757,934
8.	Deduct amortization of premium and mortgage interest points and commitment fees		
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest:		
9.1	Totals, Part 1, Column 13		
9.2	Totals, Part 3, Column 13		
10.	Deduct current year's other than temporary impairment recognized:		
10.1	Totals, Part 1, Column 11		
10.2	Totals, Part 3, Column 10		
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)		
12.	Total valuation allowance		
13.	Subtotal (Line 11 plus 12)		
14.	Deduct total nonadmitted amounts		
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14)		

SCHEDULE BA - VERIFICATION BETWEEN YEARS

Other Long-Term Invested Assets

1. Book/adjusted carrying value, December 31 of prior year	965,207,436
2. Cost of acquired:	
2.1 Actual cost at time of acquisition (Part 2, Column 8)	738,474,234
2.2 Additional investment made after acquisition (Part 2, Column 9)	119,708,412
3. Capitalized deferred interest and other:	
3.1 Totals, Part 1, Column 16	
3.2 Totals, Part 3, Column 12	
4. Accrual of discount	
5. Unrealized valuation increase (decrease):	
5.1 Totals, Part 1, Column 13	49,825,896
5.2 Totals, Part 3, Column 9	(4,713,473)
6. Total gain (loss) on disposals, Part 3, Column 19	3,422,787
7. Deduct amounts received on disposals, Part 3, Column 16	39,908,183
8. Deduct amortization of premium and depreciation	
9. Total foreign exchange change in book/adjusted carrying value:	
9.1 Totals, Part 1, Column 17	
9.2 Totals, Part 3, Column 14	
10. Deduct current year's other than temporary impairment recognized:	
10.1 Totals, Part 1, Column 15	
10.2 Totals, Part 3, Column 11	
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	1,832,017,109
12. Deduct total nonadmitted amounts	
13. Statement value at end of current period (Line 11 minus Line 12)	1,832,017,109

SCHEDULE D - VERIFICATION BETWEEN YEARS

Bonds and Stocks

1. Book/adjusted carrying value, December 31 of prior year	66,976,376,440
2. Cost of bonds and stocks acquired, Part 3, Column 7	38,753,879,309
3. Accrual of discount	
4. Unrealized valuation increase (decrease):	
4.1. Part 1, Column 12	539,747,497
4.2. Part 2, Section 1, Column 15	
4.3. Part 2, Section 2, Column 13	4,478,089,128
4.4. Part 4, Column 11	(361,123,520)
5. Total gain (loss) on disposals, Part 4, Column 19	981,686,972
6. Deduction consideration for bonds and stocks disposed of, Part 4, Column 7	38,616,920,499
7. Deduct amortization of premium	
8. Total foreign exchange change in book/adjusted carrying value:	
8.1. Part 1, Column 15	55,176
8.2. Part 2, Section 1, Column 19	
8.3. Part 2, Section 2, Column 16	
8.4. Part 4, Column 15	(11)
9. Deduct current year's other than temporary impairment recognized:	
9.1. Part 1, Column 14	
9.2. Part 2, Section 1, Column 17	
9.3. Part 2, Section 2, Column 14	
9.4. Part 4, Column 13	
10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees, Note 5Q, Line 2	4,751,757
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	72,756,542,249
12. Deduct total nonadmitted amounts	
13. Statement value at end of current period (Line 11 minus Line 12)	72,756,542,249

ANNUAL STATEMENT FOR THE YEAR 2020 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE D - SUMMARY BY COUNTRY

Long-Term Bonds and Stocks OWNED December 31 of Current Year

Description		1 Book/Adjusted Carrying Value	2 Fair Value	3 Actual Cost	4 Par Value of Bonds
BONDS					
Governments (Including all obligations guaranteed by governments)	1. United States	4,324,471,208	4,324,471,208	4,319,530,919	3,942,189,902
	2. Canada				
	3. Other Countries	163,531,962	163,531,962	142,940,737	132,330,000
	4. Totals	4,488,003,170	4,488,003,170	4,462,471,656	4,074,519,902
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals	56,582,515	56,582,515	47,454,451	34,060,000
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6. Totals	6,008,049	6,008,049	4,686,342	4,125,000
U.S. Special Revenue and Special Assessment Obligations and all Non- Guaranteed Obligations of Agencies and Authorities of Governments and their Political Subdivisions	7. Totals	2,019,304,025	2,019,304,025	1,979,516,258	1,897,160,212
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans and Hybrid Securities (unaffiliated)	8. United States	11,781,689,060	11,781,689,060	11,144,663,606	10,993,079,743
	9. Canada	330,637,676	330,637,676	297,269,266	294,395,718
	10. Other Countries	2,629,674,163	2,629,674,163	2,501,276,628	2,459,746,443
	11. Totals	14,742,000,899	14,742,000,899	13,943,209,500	13,747,221,904
Parent, Subsidiaries and Affiliates	12. Totals				
	13. Total Bonds	21,311,898,658	21,311,898,658	20,437,338,207	19,757,087,018
PREFERRED STOCKS					
Industrial and Miscellaneous (unaffiliated)	14. United States				
	15. Canada				
	16. Other Countries				
	17. Totals				
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks				
COMMON STOCKS					
Industrial and Miscellaneous (unaffiliated)	20. United States	51,439,584,636	51,439,584,636	44,788,695,535	
	21. Canada	2,335,647	2,335,647	2,807,737	
	22. Other Countries	2,723,308	2,723,308	2,347,906	
	23. Totals	51,444,643,591	51,444,643,591	44,793,851,178	
Parent, Subsidiaries and Affiliates	24. Totals				
	25. Total Common Stocks	51,444,643,591	51,444,643,591	44,793,851,178	
	26. Total Stocks	51,444,643,591	51,444,643,591	44,793,851,178	
	27. Total Bonds and Stocks	72,756,542,249	72,756,542,249	65,231,189,385	

SCHEDULE DA - VERIFICATION BETWEEN YEARS

Short-Term Investments

	1	2	3	4	5
	Total	Bonds	Mortgage Loans	Other Short-term Investment Assets (a)	Investments in Parent, Subsidiaries and Affiliates
1. Book/adjusted carrying value, December 31 of prior year	866,030,199	866,030,199			
2. Cost of short-term investments acquired	3,256,082,655	3,256,082,655			
3. Accrual of discount	16,452	16,452			
4. Unrealized valuation increase (decrease)					
5. Total gain (loss) on disposals	15,614,661	15,614,661			
6. Deduct consideration received on disposals	3,822,381,543	3,822,381,543			
7. Deduct amortization of premium	659	659			
8. Total foreign exchange change in book/adjusted carrying value					
9. Deduct current year's other than temporary impairment recognized					
10. Book adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	315,361,765	315,361,765			
11. Deduct total nonadmitted amounts					
12. Statement value at end of current period (Line 10 minus Line 11)	315,361,765	315,361,765			

(a) Indicate the category of such assets, for example, joint ventures, transportation equipment:

SCHEDULE DB - PART A - VERIFICATION BETWEEN YEARS

Options, Caps, Floors, Collars, Swaps and Forwards

1. Book/adjusted carrying value, December 31, prior year (Line 10, prior year)	95,818,893	
2. Cost paid/(consideration received) on additions:		
2.1 Current year paid/(consideration received) at time of acquisition, still open, Section 1, Column 12	851,157	
2.2 Current year paid/(consideration received) at time of acquisition, terminated, Section 2, Column 14	(38,121,722)	(37,270,565)
3. Unrealized valuation increase/(decrease):		
3.1 Section 1, Column 17	(15,556,495)	
3.2 Section 2, Column 19	10,676,562	(4,879,933)
4. SSAP No. 108 Adjustments		
5. Total gain (loss) on termination recognized, Section 2, Column 22		81,479,976
6. Considerations received/(paid) on terminations, Section 2, Column 15		129,726,848
7. Amortization:		
7.1 Section 1, Column 19		
7.2 Section 2, Column 21	195	195
8. Adjustment to the book/adjusted carrying value of hedged item:		
8.1 Section 1, Column 20		
8.2 Section 2, Column 23		
9. Total foreign exchange change in book/adjusted carrying value:		
9.1 Section 1, Column 18	(26,981)	
9.2 Section 2, Column 20	8,711	(18,270)
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6+7+8+9)		5,403,448
11. Deduct nonadmitted assets		
12. Statement value at end of current period (Line 10 minus Line 11)		5,403,448

SCHEDULE DB - PART B - VERIFICATION

Futures Contracts

1. Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)		
2. Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change Column)		
3.1 Add:		
Change in variation margin on open contracts - Highly effective hedges		
3.11 Section 1, Column 15, current year minus		
3.12 Section 1, Column 15, prior year		
Change in variation margin on open contracts - All other		
3.13 Section 1, Column 18, current year minus	(579,850)	
3.14 Section 1, Column 18, prior year	(17,884,725)	17,304,875
3.2 Add:		
Change in adjustment to basis of hedged item		
3.21 Section 1, Column 17, current year to date minus		
3.22 Section 1, Column 17, prior year		
Change in amount recognized		
3.23 Section 1, Column 19, current year to date minus	(579,850)	
3.24 Section 1, Column 19, prior year plus	(17,884,725)	
3.25 SSAP No. 108 Adjustments		17,304,875
3.3 Subtotal (Line 3.1 minus Line 3.2)		17,304,875
4.1 Cumulative variation margin on terminated contracts during the year (Section 2, Column 15)		136,858,870
4.2 Less:		
4.21 Amount used to adjust basis of hedged item (Section 2, Column 17)		
4.22 Amount recognized (Section 2, Column 16)		136,858,870
4.23 SSAP No. 108 Adjustments		136,858,870
4.3 Subtotal (Line 4.1 minus Line 4.2)		
5. Dispositions gains (losses) on contracts terminated in prior year:		
5.1 Total gain (loss) recognized for terminations in prior year		
5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year		
6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)		
7. Deduct total nonadmitted amounts		
8. Statement value at end of current period (Line 6 minus Line 7)		

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open

N O N E

Schedule DB-Part C-Section 2-Reconciliation of Replication (Synthetic Asset) Transactions Open

N O N E

SCHEDULE DB - VERIFICATION

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

	Book/Adjusted Carrying Value Check
1. Part A, Section 1, Column 14.....	5,403,448
2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance .....	.....
3. Total (Line 1 plus Line 2)	5,403,448
4. Part D, Section 1, Column 5	9,928,028
5. Part D, Section 1, Column 6	(4,524,580)
6. Total (Line 3 minus Line 4 minus Line 5) .....	.....
	Fair Value Check
7. Part A, Section 1, Column 16	5,403,448
8. Part B, Section 1, Column 13	(579,850)
9. Total (Line 7 plus Line 8)	4,823,598
10. Part D, Section 1, Column 8	9,928,028
11. Part D, Section 1, Column 9	(4,524,580)
12. Total (Line 9 minus Line 10 minus Line 11)	(579,850)
	Potential Exposure Check
13. Part A, Section 1, Column 21	131,766,300
14. Part B, Section 1, Column 20	17,619,295
15. Part D, Section 1, Column 11	149,385,595
16. Total (Line 13 plus Line 14 minus Line 15) .....	.....

SCHEDULE E - PART 2 - VERIFICATION BETWEEN YEARS

(Cash Equivalents)

	1 Total	2 Bonds	3 Money Market Mutual funds	4 Other (a)
1. Book/adjusted carrying value, December 31 of prior year	771,707,785	765,296,494	6,411,291	
2. Cost of cash equivalents acquired	25,475,421,278	24,673,583,069	801,838,209	
3. Accrual of discount	16,626	16,626		
4. Unrealized valuation increase (decrease)				
5. Total gain (loss) on disposals	9,768,876	9,768,876		
6. Deduct consideration received on disposals	25,844,715,965	25,039,931,069	804,784,896	
7. Deduct amortization of premium				
8. Total foreign exchange change in book/adjusted carrying value				
9. Deduct current year's other than temporary impairment recognized				
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	412,198,600	408,733,996	3,464,604	
11. Deduct total nonadmitted amounts				
12. Statement value at end of current period (Line 10 minus Line 11)	412,198,600	408,733,996	3,464,604	

(a) Indicate the category of such investments, for example, joint ventures, transportation equipment: