



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

ANNUAL STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2022
OF THE CONDITION AND AFFAIRS OF THE

MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

NAIC Group Code 0435 0435 NAIC Company Code 63312 Employer's ID Number 13-1935920
(Current) (Prior)

Organized under the Laws of Ohio, State of Domicile or Port of Entry OH

Country of Domicile United States of America

Licensed as business type: Life, Accident and Health [X] Fraternal Benefit Societies []

Incorporated/Organized 12/29/1961 Commenced Business 08/13/1963

Statutory Home Office 191 Rosa Parks Street Cincinnati, OH, US 45202
(Street and Number) (City or Town, State, Country and Zip Code)

Main Administrative Office 191 Rosa Parks Street
(Street and Number)
Cincinnati, OH, US 45202 513-361-9000
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Mail Address Post Office Box 5420 Cincinnati, OH, US 45201
(Street and Number or P.O. Box) (City or Town, State, Country and Zip Code)

Primary Location of Books and Records 191 Rosa Parks Street
(Street and Number)
Cincinnati, OH, US 45202 513-361-9000
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Internet Website Address www.massmutualascend.com

Statutory Statement Contact Robert Mayhew Earle II 513-361-9077
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OFFICERS

President Mark Francis Muething Treasurer Brian Patrick Sponaugle #
Secretary John Paul Gruber Appointed Actuary Isaac Cezar Hall #

OTHER

Donna Marie Carrelli # Michael Robert Fanning Michael Harrison Haney

DIRECTORS OR TRUSTEES

<u>Dominic Lusean Blue</u>	<u>Elizabeth Ward Chicares</u>	<u>Susan Marie Cicco</u>
<u>Geoffrey James Craddock</u>	<u>Roger William Crandall</u>	<u>Michael Robert Fanning</u>
<u>Paul Anthony Lapiana</u>	<u>Sears Andrew Merritt #</u>	<u>Mark Francis Muething</u>
<u>Michael James O'Connor</u>	<u>Eric William Partlan</u>	<u>Arthur William Wallace III</u>

State of Ohio SS
County of Hamilton

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.

Mark Francis Muething John Paul Gruber Brian Patrick Sponaugle
President Secretary Treasurer

Subscribed and sworn to before me this 24th day of February 2023
Kelly Buller
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.....

OFFICERS AND DIRECTORS WHO DID NOT OCCUPY THE INDICATED POSITION IN THE PREVIOUS ANNUAL STATEMENT



KELLY BULLER
Notary Public, State of Ohio
My Commission Expires 10-14-2023

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

ASSETS

	Current Year			Prior Year
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	4 Net Admitted Assets
1. Bonds (Schedule D)	33,331,904,289		33,331,904,289	31,141,557,754
2. Stocks (Schedule D):				
2.1 Preferred stocks	184,968,184		184,968,184	394,393,831
2.2 Common stocks	683,285,586		683,285,586	663,654,272
3. Mortgage loans on real estate (Schedule B):				
3.1 First liens	3,088,813,560		3,088,813,560	2,148,469,101
3.2 Other than first liens			0	0
4. Real estate (Schedule A):				
4.1 Properties occupied by the company (less \$0 encumbrances)			0	0
4.2 Properties held for the production of income (less \$0 encumbrances)			0	0
4.3 Properties held for sale (less \$0 encumbrances)			0	0
5. Cash (\$ 65,861,003 , Schedule E - Part 1), cash equivalents (\$ 1,535,691,774 , Schedule E - Part 2) and short-term investments (\$389,684,178 , Schedule DA)	1,991,236,955		1,991,236,955	1,008,880,265
6. Contract loans (including \$ premium notes)	31,459,162		31,459,162	64,178,436
7. Derivatives (Schedule DB)	872,965,902		872,965,902	706,855,811
8. Other invested assets (Schedule BA)	1,363,435,253		1,363,435,253	1,092,315,061
9. Receivables for securities	142,312,266		142,312,266	84,612,970
10. Securities lending reinvested collateral assets (Schedule DL)	0		0	0
11. Aggregate write-ins for invested assets	0	0	0	0
12. Subtotals, cash and invested assets (Lines 1 to 11)	41,690,381,157	0	41,690,381,157	37,304,917,501
13. Title plants less \$ charged off (for Title insurers only)			0	0
14. Investment income due and accrued	424,931,921	10,205,864	414,726,057	278,949,728
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection	2,516,130	36,509	2,479,621	1,112,458
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums)	11,765,406	6,502,575	5,262,831	5,713,840
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)			0	0
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	3,690,014	1,729,036	1,960,978	2,745,117
16.2 Funds held by or deposited with reinsured companies			0	0
16.3 Other amounts receivable under reinsurance contracts	247,110,241		247,110,241	66,743,601
17. Amounts receivable relating to uninsured plans			0	0
18.1 Current federal and foreign income tax recoverable and interest thereon	89,634,229		89,634,229	0
18.2 Net deferred tax asset	74,432,317	2,226,503	72,205,814	61,699,034
19. Guaranty funds receivable or on deposit	2,079,536		2,079,536	2,114,276
20. Electronic data processing equipment and software			0	342,845
21. Furniture and equipment, including health care delivery assets (\$)			0	0
22. Net adjustment in assets and liabilities due to foreign exchange rates			0	0
23. Receivables from parent, subsidiaries and affiliates	43,006		43,006	278,029
24. Health care (\$0) and other amounts receivable			0	0
25. Aggregate write-ins for other than invested assets	264,661,416	11,202,221	253,459,195	656,701,762
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	42,811,245,373	31,902,708	42,779,342,665	38,381,318,191
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts	103,698,994		103,698,994	67,583,584
28. Total (Lines 26 and 27)	42,914,944,367	31,902,708	42,883,041,659	38,448,901,775
DETAILS OF WRITE-INS				
1101.				
1102.				
1103.				
1198. Summary of remaining write-ins for Line 11 from overflow page	0	0	0	0
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)	0	0	0	0
2501. Company-owned life insurance	218,662,787		218,662,787	212,646,798
2502. Accrued contractual fee income	34,796,408		34,796,408	35,607,832
2503. Accounts receivable	11,202,221	11,202,221	0	140,474
2598. Summary of remaining write-ins for Line 25 from overflow page	0	0	0	408,306,658
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)	264,661,416	11,202,221	253,459,195	656,701,762

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

LIABILITIES, SURPLUS AND OTHER FUNDS

	1 Current Year	2 Prior Year
1. Aggregate reserve for life contracts \$ 24,259,873,748 (Exh. 5, Line 9999999) less \$ included in Line 6.3 (including \$ 568,891 Modco Reserve)	24,259,873,748	33,231,720,248
2. Aggregate reserve for accident and health contracts (including \$ 0 Modco Reserve)	50,510,234	58,728,683
3. Liability for deposit-type contracts (Exhibit 7, Line 14, Col. 1) (including \$ Modco Reserve)	779,823,617	592,074,541
4. Contract claims:		
4.1 Life (Exhibit 8, Part 1, Line 4.4, Col. 1 less sum of Cols. 9, 10 and 11)	140,168,179	270,181,600
4.2 Accident and health (Exhibit 8, Part 1, Line 4.4, sum of Cols. 9, 10 and 11)	390,642	423,516
5. Policyholders' dividends/refunds to members \$ and coupons \$ due and unpaid (Exhibit 4, Line 10)	0	0
6. Provision for policyholders' dividends, refunds to members and coupons payable in following calendar year - estimated amounts:		
6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$ Modco)		
6.2 Policyholders' dividends and refunds to members not yet apportioned (including \$ Modco)		
6.3 Coupons and similar benefits (including \$ Modco)		
7. Amount provisionally held for deferred dividend policies not included in Line 6		
8. Premiums and annuity considerations for life and accident and health contracts received in advance less \$ discount; including \$ 14,599 accident and health premiums (Exhibit 1, Part 1, Col. 1, sum of lines 4 and 14)	165,594	265,263
9. Contract liabilities not included elsewhere:		
9.1 Surrender values on canceled contracts		
9.2 Provision for experience rating refunds, including the liability of \$ accident and health experience rating refunds of which \$ 0 is for medical loss ratio rebate per the Public Health Service Act		
9.3 Other amounts payable on reinsurance, including \$ 328,012 assumed and \$ 13,885,362 ceded	14,213,374	4,434,323
9.4 Interest maintenance reserve (IMR, Line 6)	93,254,039	95,332,234
10. Commissions to agents due or accrued-life and annuity contracts \$ 8,900,094 accident and health \$ and deposit-type contract funds \$	8,900,094	4,912,649
11. Commissions and expense allowances payable on reinsurance assumed		
12. General expenses due or accrued (Exhibit 2, Line 12, Col. 7)	48,404,491	55,233,382
13. Transfers to Separate Accounts due or accrued (net) (including \$ 0 accrued for expense allowances recognized in reserves, net of reinsured allowances)	0	0
14. Taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 3, Line 9, Col. 6)	2,060,039	8,464,907
15.1 Current federal and foreign income taxes, including \$ on realized capital gains (losses)		14,856,607
15.2 Net deferred tax liability		
16. Unearned investment income	290,003	310,020
17. Amounts withheld or retained by reporting entity as agent or trustee	1,174,746	650,859
18. Amounts held for agents' account, including \$ 1,071,165 agents' credit balances	1,071,165	936,969
19. Remittances and items not allocated	232,798,384	40,337,453
20. Net adjustment in assets and liabilities due to foreign exchange rates		
21. Liability for benefits for employees and agents if not included above		
22. Borrowed money \$ and interest thereon \$		
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve (AVR, Line 16, Col. 7)	577,063,642	504,145,594
24.02 Reinsurance in unauthorized and certified (\$ 0) companies	0	0
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers	12,677,297,503	
24.04 Payable to parent, subsidiaries and affiliates	1,957,201	3,406,847
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance		
24.08 Derivatives	700,875,712	0
24.09 Payable for securities	120,064,449	163,625,785
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	236,402,971	453,156,089
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	39,946,759,827	35,503,197,569
27. From Separate Accounts Statement	103,698,994	67,583,584
28. Total liabilities (Lines 26 and 27)	40,050,458,821	35,570,781,153
29. Common capital stock	1,507,500	1,507,500
30. Preferred capital stock		
31. Aggregate write-ins for other than special surplus funds	0	0
32. Surplus notes	0	0
33. Gross paid in and contributed surplus (Page 3, Line 33, Col. 2 plus Page 4, Line 51.1, Col. 1)	815,178,800	815,178,800
34. Aggregate write-ins for special surplus funds	0	0
35. Unassigned funds (surplus)	2,015,896,538	2,061,434,322
36. Less treasury stock, at cost:		
36.1 shares common (value included in Line 29 \$)		
36.2 shares preferred (value included in Line 30 \$)		
37. Surplus (Total Lines 31+32+33+34+35-36) (including \$ in Separate Accounts Statement)	2,831,075,338	2,876,613,122
38. Totals of Lines 29, 30 and 37 (Page 4, Line 55)	2,832,582,838	2,878,120,622
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	42,883,041,659	38,448,901,775
DETAILS OF WRITE-INS		
2501. Liability for funds held as collateral	209,544,587	407,526,855
2502. Unclaimed property	23,267,792	17,308,394
2503. Accounts payable	3,590,592	564,740
2598. Summary of remaining write-ins for Line 25 from overflow page	0	27,756,100
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)	236,402,971	453,156,089
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page	0	0
3199. Totals (Lines 3101 thru 3103 plus 3198)(Line 31 above)	0	0
3401.		
3402.		
3403.		
3498. Summary of remaining write-ins for Line 34 from overflow page	0	0
3499. Totals (Lines 3401 thru 3403 plus 3498)(Line 34 above)	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SUMMARY OF OPERATIONS

	1 Current Year	2 Prior Year
1. Premiums and annuity considerations for life and accident and health contracts (Exhibit 1, Part 1, Line 20.4, Col. 1, less Col. 11)	(7,198,257,952)	5,026,991,564
2. Considerations for supplementary contracts with life contingencies	0	0
3. Net investment income (Exhibit of Net Investment Income, Line 17)	1,018,987,195	1,950,977,865
4. Amortization of Interest Maintenance Reserve (IMR, Line 5)	36,421,280	23,520,567
5. Separate Accounts net gain from operations excluding unrealized gains or losses	0	0
6. Commissions and expense allowances on reinsurance ceded (Exhibit 1, Part 2, Line 26.1, Col. 1)	496,787,124	(50,838,072)
7. Reserve adjustments on reinsurance ceded	0	0
8. Miscellaneous Income:		
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	0	0
8.2 Charges and fees for deposit-type contracts	4,705,776	2,982,321
8.3 Aggregate write-ins for miscellaneous income	43,057,256	121,342,110
9. Total (Lines 1 to 8.3)	(5,598,299,321)	7,074,976,355
10. Death benefits	19,313,347	21,971,707
11. Matured endowments (excluding guaranteed annual pure endowments)	22,540,248	2,455,222
12. Annuity benefits (Exhibit 8, Part 2, Line 6.4, Cols. 4 + 8)	460,170,085	872,553,502
13. Disability benefits and benefits under accident and health contracts	3,804,204	4,181,392
14. Coupons, guaranteed annual pure endowments and similar benefits	0	0
15. Surrender benefits and withdrawals for life contracts	1,460,476,453	2,207,951,211
16. Group conversions	0	0
17. Interest and adjustments on contract or deposit-type contract funds	142,273,578	118,678,268
18. Payments on supplementary contracts with life contingencies	(1,213)	368
19. Increase in aggregate reserves for life and accident and health contracts	(8,743,882,548)	3,107,781,456
20. Totals (Lines 10 to 19)	(6,635,305,816)	6,335,573,126
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only) (Exhibit 1, Part 2, Line 31, Col. 1)	364,090,995	284,590,676
22. Commissions and expense allowances on reinsurance assumed (Exhibit 1, Part 2, Line 26.2, Col. 1)	526,914	588,438
23. General insurance expenses and fraternal expenses (Exhibit 2, Line 10, Cols. 1, 2, 3, 4 and 6)	158,746,732	145,295,505
24. Insurance taxes, licenses and fees, excluding federal income taxes (Exhibit 3, Line 7, Cols. 1 + 2 + 3 + 5)	12,160,149	12,632,943
25. Increase in loading on deferred and uncollected premiums	192,875	(145,778)
26. Net transfers to or (from) Separate Accounts net of reinsurance	(22,047,053)	36,813,702
27. Aggregate write-ins for deductions	319,161,240	3,885,365
28. Totals (Lines 20 to 27)	(5,802,473,964)	6,819,233,977
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	204,174,643	255,742,378
30. Dividends to policyholders and refunds to members	10,069	12,787
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	204,164,574	255,729,591
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	13,603,479	45,462,513
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	190,561,095	210,267,078
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ (23,425,026) (excluding taxes of \$ 9,129,175 transferred to the IMR)	(32,534,189)	118,746,759
35. Net income (Line 33 plus Line 34)	158,026,906	329,013,837
CAPITAL AND SURPLUS ACCOUNT		
36. Capital and surplus, December 31, prior year (Page 3, Line 38, Col. 2)	2,878,120,622	2,897,191,788
37. Net income (Line 35)	158,026,906	329,013,837
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ (31,274,905)	(200,664,475)	25,495,993
39. Change in net unrealized foreign exchange capital gain (loss)	8,817,141	0
40. Change in net deferred income tax	(33,120,202)	39,360,559
41. Change in nonadmitted assets	(4,655,490)	(20,714,380)
42. Change in liability for reinsurance in unauthorized and certified companies	0	0
43. Change in reserve on account of change in valuation basis, (increase) or decrease	236,182,404	0
44. Change in asset valuation reserve	(72,918,048)	(93,444,301)
45. Change in treasury stock (Page 3, Lines 36.1 and 36.2, Col. 2 minus Col. 1)	0	0
46. Surplus (contributed to) withdrawn from Separate Accounts during period	0	0
47. Other changes in surplus in Separate Accounts Statement	0	0
48. Change in surplus notes	0	0
49. Cumulative effect of changes in accounting principles	(454,367,260)	0
50. Capital changes:		
50.1 Paid in	0	0
50.2 Transferred from surplus (Stock Dividend)	0	0
50.3 Transferred to surplus	0	0
51. Surplus adjustment:		
51.1 Paid in	0	0
51.2 Transferred to capital (Stock Dividend)	0	0
51.3 Transferred from capital	0	0
51.4 Change in surplus as a result of reinsurance	317,161,240	0
52. Dividends to stockholders	0	(300,000,000)
53. Aggregate write-ins for gains and losses in surplus	0	1,217,126
54. Net change in capital and surplus for the year (Lines 37 through 53)	(45,537,784)	(19,071,166)
55. Capital and surplus, December 31, current year (Lines 36 + 54) (Page 3, Line 38)	2,832,582,838	2,878,120,622
DETAILS OF WRITE-INS		
08.301. Contractual rider fee income	36,447,215	67,569,563
08.302. Interest on company-owned life insurance	6,015,989	6,026,711
08.303. Reinsurance experience refund	506,212	47,552,846
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	87,840	192,990
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398)(Line 8.3 above)	43,057,256	121,342,110
2701. Amortization of ceding commission	317,161,240	0
2702. Reinsurance fee	2,000,000	3,885,365
2703.	0	0
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798)(Line 27 above)	319,161,240	3,885,365
5301. Employee and agent stock option contribution	0	1,218,126
5302. Brothers Management transferred to GAFRI	0	(1,000)
5303.	0	0
5398. Summary of remaining write-ins for Line 53 from overflow page	0	0
5399. Totals (Lines 5301 thru 5303 plus 5398)(Line 53 above)	0	1,217,126

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

CASH FLOW

	1	2
	Current Year	Prior Year
Cash from Operations		
1. Premiums collected net of reinsurance	6,989,285,203	5,028,103,175
2. Net investment income	1,223,725,675	2,392,399,707
3. Miscellaneous income	540,147,485	69,951,201
4. Total (Lines 1 through 3)	8,753,158,363	7,490,454,083
5. Benefit and loss related payments	2,266,789,240	3,052,576,823
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(22,047,053)	36,813,702
7. Commissions, expenses paid and aggregate write-ins for deductions	551,485,249	408,944,468
8. Dividends paid to policyholders	10,069	12,787
9. Federal and foreign income taxes paid (recovered) net of \$(14,295,851) tax on capital gains (losses)	103,798,463	140,276,464
10. Total (Lines 5 through 9)	2,900,035,968	3,638,624,244
11. Net cash from operations (Line 4 minus Line 10)	5,853,122,395	3,851,829,839
Cash from Investments		
12. Proceeds from investments sold, matured or repaid:		
12.1 Bonds	14,058,518,365	6,454,761,202
12.2 Stocks	18,218,012	338,098,745
12.3 Mortgage loans	537,024,492	506,760,031
12.4 Real estate	0	65,817,352
12.5 Other invested assets	274,007,827	716,484,529
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(88,759)	2,595,138
12.7 Miscellaneous proceeds	(22,325,520)	0
12.8 Total investment proceeds (Lines 12.1 to 12.7)	14,865,354,417	8,084,516,997
13. Cost of investments acquired (long-term only):		
13.1 Bonds	16,364,817,270	9,899,663,224
13.2 Stocks	109,234,027	78,640,444
13.3 Mortgage loans	1,107,745,261	1,074,438,517
13.4 Real estate	0	1,147,246
13.5 Other invested assets	300,895,779	232,423,649
13.6 Miscellaneous applications	673,935,708	389,280,435
13.7 Total investments acquired (Lines 13.1 to 13.6)	18,556,628,045	11,675,593,515
14. Net increase (decrease) in contract loans and premium notes	(32,719,274)	(5,818,923)
15. Net cash from investments (Line 12.8 minus Line 13.7 minus Line 14)	(3,658,554,354)	(3,585,257,595)
Cash from Financing and Miscellaneous Sources		
16. Cash provided (applied):		
16.1 Surplus notes, capital notes	0	0
16.2 Capital and paid in surplus, less treasury stock	0	0
16.3 Borrowed funds	0	0
16.4 Net deposits on deposit-type contracts and other insurance liabilities	50,372,894	(1,056,126,755)
16.5 Dividends to stockholders	0	300,000,000
16.6 Other cash provided (applied)	(1,262,584,245)	51,035,532
17. Net cash from financing and miscellaneous sources (Lines 16.1 to 16.4 minus Line 16.5 plus Line 16.6)	(1,212,211,351)	(1,305,091,223)
RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS		
18. Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	982,356,690	(1,038,518,980)
19. Cash, cash equivalents and short-term investments:		
19.1 Beginning of year	1,008,880,265	2,047,399,245
19.2 End of year (Line 18 plus Line 19.1)	1,991,236,956	1,008,880,265

Note: Supplemental disclosures of cash flow information for non-cash transactions:

20.0001. Bond conversions and refinancing	453,096,376	
20.0002. Bonds transferred to mortgage loans	362,734,554	
20.0003. Bonds transferred to other invested assets	119,664,976	
20.0004. Other invested assets transferred to bonds	17,100,287	
20.0005. Net investment income payment-in-kind for bonds	1,072,948	
20.0006. Common stock conversions	205,249	
20.0007. Maturity extensions		385,903,573
20.0008. Exchanges		162,005,653
20.0009. Transfers		29,999,965
20.0010. Securities acquired from dividends/return of capital distributon		7,053,682
20.0011. Capitalized interest		5,571,301
20.0012. Securities acquired as capital contributions		721,839
20.0013. Correction of current year transaction		16,204

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY

	1	2	3	4	5	6	7	8	9
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Fraternal	Other Lines of Business	YRT Mortality Risk Only
1. Premiums and annuity considerations for life and accident and health contracts	(7,198,257,952)	13,012,250	0	(6,710,610,756)	(503,851,224)	3,191,778			0
2. Considerations for supplementary contracts with life contingencies	0	XXX	XXX			XXX	XXX		XXX
3. Net investment income	1,018,987,195	5,000,890	34,040	940,290,960	71,965,608	1,695,697			0
4. Amortization of Interest Maintenance Reserve (IMR)	36,421,280	0	0	34,427,008	1,994,272	0			0
5. Separate Accounts net gain from operations excluding unrealized gains or losses	0	0	0	0	0	0	XXX		0
6. Commissions and expense allowances on reinsurance ceded	496,787,124	2,630,694	0	478,456,496	15,536,457	163,477	XXX	0	0
7. Reserve adjustments on reinsurance ceded	0	0	0	0	0	0	XXX		0
8. Miscellaneous Income:									
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	0	0	0	0	0	0	XXX		0
8.2 Charges and fees for deposit-type contracts	4,705,776	0	0	4,705,776	0	XXX	XXX		0
8.3 Aggregate write-ins for miscellaneous income	43,057,256	502,790	3,422	42,216,826	334,218	0	0	0	0
9. Totals (Lines 1 to 8.3)	(5,598,299,321)	21,146,624	37,462	(5,210,513,690)	(414,020,669)	5,050,952	0	0	0
10. Death benefits	19,313,347	19,197,663	115,684	0	0	XXX	XXX		0
11. Matured endowments (excluding guaranteed annual pure endowments)	22,540,278	22,538,455	1,823	0	0	XXX	XXX		0
12. Annuity benefits	460,170,085	XXX	XXX	391,238,305	68,931,780	XXX	XXX		XXX
13. Disability benefits and benefits under accident and health contracts	3,804,204	0	0	0	0	3,804,204	XXX		0
14. Coupons, guaranteed annual pure endowments and similar benefits	0	0	0	0	0	0	XXX		0
15. Surrender benefits and withdrawals for life contracts	1,460,476,453	2,357,060	797	1,433,349,332	24,769,264	XXX	XXX		0
16. Group conversions	0	0	0	0	0	0	XXX		0
17. Interest and adjustments on contract or deposit-type contract funds	142,273,578	0	0	142,273,578	0	0	XXX		0
18. Payments on supplementary contracts with life contingencies	(1,213)	0	0	(1,213)	0	XXX	XXX		0
19. Increase in aggregate reserves for life and accident and health contracts	(8,743,882,548)	(26,774,113)	(72,534)	(8,155,348,957)	(553,468,488)	(8,218,456)	XXX		0
20. Totals (Lines 10 to 19)	(6,635,305,816)	17,319,065	45,770	(6,188,488,955)	(459,767,444)	(4,414,252)	XXX	0	0
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	364,090,995	425,307	0	363,112,468	389,743	163,477	0	0	XXX
22. Commissions and expense allowances on reinsurance assumed	526,914	(48,824)	0	5,976	0	569,762	XXX	0	0
23. General insurance expenses and fraternal expenses	158,746,732	4,353,848	211,992	134,610,458	19,570,434	0	0	0	0
24. Insurance taxes, licenses and fees, excluding federal income taxes	12,160,149	2,330,545	113,476	8,482,844	1,233,284	0	0	0	0
25. Increase in loading on deferred and uncollected premiums	192,875	187,915	0	0	0	4,960	XXX		0
26. Net transfers to or (from) Separate Accounts net of reinsurance	(22,047,053)	0	0	(22,047,053)	0	0	XXX		0
27. Aggregate write-ins for deductions	319,161,240	0	0	315,812,481	3,348,759	0	0	0	0
28. Totals (Lines 20 to 27)	(5,802,473,964)	24,567,856	371,238	(5,388,511,781)	(435,225,224)	(3,676,053)	0	0	0
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	204,174,643	(3,421,232)	(333,776)	177,998,091	21,204,555	8,727,005	0	0	0
30. Dividends to policyholders and refunds to members	10,069	10,069	0	0	0	0	XXX		0
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	204,164,574	(3,431,301)	(333,776)	177,998,091	21,204,555	8,727,005	0	0	0
32. Federal income taxes incurred (excluding tax on capital gains)	13,603,479	(720,573)	(70,093)	8,108,518	4,452,956	1,832,671			0
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	190,561,095	(2,710,728)	(263,683)	169,889,573	16,751,599	6,894,334	0	0	0
34. Policies/certificates in force end of year	462,255	48,177	2,395	360,336	50,016	1,331	XXX		0
DETAILS OF WRITE-INS									
08.301. Contractual rider fee income	36,447,215			36,447,215					
08.302. Interest on company-owned life insurance	6,015,989			5,686,580	329,409				
08.303. Reinsurance experience refund	506,212	502,790	3,422						
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	87,840	0	0	83,031	4,809	0	0	0	0
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	43,057,256	502,790	3,422	42,216,826	334,218	0	0	0	0
2701. Amortization of ceding commission	317,161,240			313,812,481	3,348,759				
2702. Reinsurance Fee	2,000,000			2,000,000					
2703.									
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0	0	0	0	0	0	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	319,161,240	0	0	315,812,481	3,348,759	0	0	0	0

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND 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	12
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (c)	Other Individual Life	YRT Mortality Risk Only
1. Premiums for life contracts (a)	13,012,250		2,028,463	7,515,199		3,468,588						
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	5,000,890		1,047,593	2,648,702		1,304,595						
4. Amortization of Interest Maintenance Reserve (IMR)	.0											
5. Separate Accounts net gain from operations excluding unrealized gains or losses	.0											
6. Commissions and expense allowances on reinsurance ceded	2,630,694	0	551,081	1,393,337		686,276						
7. Reserve adjustments on reinsurance ceded	.0											
8. Miscellaneous Income:												
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	.0											
8.2 Charges and fees for deposit-type contracts	.0											
8.3 Aggregate write-ins for miscellaneous income	502,790	0	105,325	266,301	0	131,164	0	0	0	0	0	0
9. Totals (Lines 1 to 8.3)	21,146,624	0	3,732,462	11,823,539	0	5,590,623	0	0	0	0	0	0
10. Death benefits	19,197,663		3,196,309	10,328,012		5,673,342						
11. Matured endowments (excluding guaranteed annual pure endowments)	22,538,455		102,853	22,406,219		29,383						
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts	.0											
14. Coupons, guaranteed annual pure endowments and similar benefits	.0											
15. Surrender benefits and withdrawals for life contracts	2,357,060		813,240	64,432		1,479,388						
16. Group conversions	.0											
17. Interest and adjustments on contract or deposit-type contract funds	.0											
18. Payments on supplementary contracts with life contingencies	.0											
19. Increase in aggregate reserves for life and accident and health contracts	(26,774,113)		(1,287,710)	(24,247,229)		(1,239,174)						
20. Totals (Lines 10 to 19)	17,319,065	0	2,824,692	8,551,434	0	5,942,939	0	0	0	0	0	0
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	425,307	0	89,094	225,262		110,951						XXX
22. Commissions and expense allowances on reinsurance assumed	(48,824)	0	(10,228)	(25,859)		(12,737)						
23. General insurance expenses	4,353,848		1,937,787	1,534,467		881,594						
24. Insurance taxes, licenses and fees, excluding federal income taxes	2,330,545		1,037,266	821,376		471,903						
25. Increase in loading on deferred and uncollected premiums	187,915		39,365	99,528		49,022						
26. Net transfers to or (from) Separate Accounts net of reinsurance	.0											
27. Aggregate write-ins for deductions	.0	0	0	0	0	0	0	0	0	0	0	0
28. Totals (Lines 20 to 27)	24,567,856	0	5,917,976	11,206,208	0	7,443,672	0	0	0	0	0	0
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	(3,421,232)	0	(2,185,514)	617,331	0	(1,853,049)	0	0	0	0	0	0
30. Dividends to policyholders and refunds to members	10,069			10,069								
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	(3,431,301)	0	(2,185,514)	607,262	0	(1,853,049)	0	0	0	0	0	0
32. Federal income taxes incurred (excluding tax on capital gains)	(720,573)		(458,958)	127,525		(389,140)						
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(2,710,728)	0	(1,726,556)	479,737	0	(1,463,909)	0	0	0	0	0	0
34. Policies/certificates in force end of year	48,177		21,953	16,081		10,143						
DETAILS OF WRITE-INS												
08.301. Reinsurance Experience Refund	502,790		105,325	266,301		131,164						
08.302.												
08.303.												
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	.0	0	.0	.0	0	.0	0	0	0	0	0	0
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	502,790	0	105,325	266,301	0	131,164	0	0	0	0	0	0
2701.												
2702.												
2703.												
2798. Summary of remaining write-ins for Line 27 from overflow page	.0	0	.0	.0	0	.0	0	0	0	0	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	0	0	0	0	0	0	0	0	0	0	0	0

(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.
(c) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP LIFE INSURANCE (c)

	1	2	3	4	5	6	7	8	9
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life (d)	Other Group Life (a)	YRT Mortality Risk Only
1. Premiums for life contracts (b)	0								
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	34,040	34,040							
4. Amortization of Interest Maintenance Reserve (IMR)	0								
5. Separate Accounts net gain from operations excluding unrealized gains or losses	0								
6. Commissions and expense allowances on reinsurance ceded	0								
7. Reserve adjustments on reinsurance ceded	0								
8. Miscellaneous Income:									
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	0								
8.2 Charges and fees for deposit-type contracts	0								
8.3 Aggregate write-ins for miscellaneous income	3,422	3,422	0	0	0	0	0	0	0
9. Totals (Lines 1 to 8.3)	37,462	37,462	0	0	0	0	0	0	0
10. Death benefits	115,684	115,684							
11. Matured endowments (excluding guaranteed annual pure endowments)	1,823	1,823							
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts	0								
14. Coupons, guaranteed annual pure endowments and similar benefits	0								
15. Surrender benefits and withdrawals for life contracts	797	797							
16. Group conversions	0								
17. Interest and adjustments on contract or deposit-type contract funds	0								
18. Payments on supplementary contracts with life contingencies	0								
19. Increase in aggregate reserves for life and accident and health contracts	(72,534)	(72,534)							
20. Totals (Lines 10 to 19)	45,770	45,770	0	0	0	0	0	0	0
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	0								XXX
22. Commissions and expense allowances on reinsurance assumed	0								
23. General insurance expenses	211,992	211,992							
24. Insurance taxes, licenses and fees, excluding federal income taxes	113,476	113,476							
25. Increase in loading on deferred and uncollected premiums	0								
26. Net transfers to or (from) Separate Accounts net of reinsurance	0								
27. Aggregate write-ins for deductions	0	0	0	0	0	0	0	0	0
28. Totals (Lines 20 to 27)	371,238	371,238	0	0	0	0	0	0	0
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	(333,776)	(333,776)	0	0	0	0	0	0	0
30. Dividends to policyholders and refunds to members	0								
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	(333,776)	(333,776)	0	0	0	0	0	0	0
32. Federal income taxes incurred (excluding tax on capital gains)	(70,093)	(70,093)							
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(263,683)	(263,683)	0	0	0	0	0	0	0
34. Policies/certificates in force end of year	2,395	2,395							
DETAILS OF WRITE-INS									
08.301. Reinsurance experience refund	3,422	3,422							
08.302.									
08.303.									
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	0	0	0	0	0	0	0	0	0
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	3,422	3,422	0	0	0	0	0	0	0
2701.									
2702.									
2703.									
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0	0	0	0	0	0	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	0	0	0	0	0	0	0	0	0

(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. _____

(d) Individual and Group Credit Life are combined and included on _____ page. (Indicate whether included with Individual or Group.)

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL ANNUITIES (a)**

	1 Total	Deferred			6 Life Contingent Payout (Immediate and Annuitalizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees		
1. Premiums for individual annuity contracts	(6,710,610,756)	(848,532,775)	(5,807,978,554)		(54,099,427)	
2. Considerations for supplementary contracts with life contingencies	0	XXX	XXX	XXX	XXX	XXX
3. Net investment income	940,290,960	343,559,848	587,671,589		9,059,523	
4. Amortization of Interest Maintenance Reserve (IMR)	34,427,008	9,694,358	24,447,739		284,911	
5. Separate Accounts net gain from operations excluding unrealized gains or losses	0					
6. Commissions and expense allowances on reinsurance ceded	478,456,496	87,005,604	388,189,879		3,261,013	
7. Reserve adjustments on reinsurance ceded	0					
8. Miscellaneous Income:						
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	0					
8.2 Charges and fees for deposit-type contracts	4,705,776	4,705,776				
8.3 Aggregate write-ins for miscellaneous income	42,216,826	1,655,835	40,513,243	0	47,748	0
9. Totals (Lines 1 to 8.3)	(5,210,513,690)	(401,911,354)	(4,767,156,104)	0	(41,446,232)	0
10. Death benefits	0					
11. Matured endowments (excluding guaranteed annual pure endowments)	0					
12. Annuity benefits	391,238,305	148,173,834	208,102,884		34,961,587	
13. Disability benefits and benefits under accident and health contracts	0					
14. Coupons, guaranteed annual pure endowments and similar benefits	0					
15. Surrender benefits and withdrawals for life contracts	1,433,349,332	284,290,474	1,147,990,054		1,068,804	
16. Group conversions	0					
17. Interest and adjustments on contract or deposit-type contract funds	142,273,578	142,273,578				
18. Payments on supplementary contracts with life contingencies	(1,213)				(1,213)	
19. Increase in aggregate reserves for life and accident and health contracts	(8,155,348,957)	(764,467,091)	(7,326,112,403)		(64,769,463)	
20. Totals (Lines 10 to 19)	(6,188,488,955)	(189,729,205)	(5,970,019,465)	0	(28,740,285)	0
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	363,112,468	73,003,812	290,108,656		0	
22. Commissions and expense allowances on reinsurance assumed	5,976	5,976	0		0	
23. General insurance expenses	134,610,458	43,738,650	85,420,845		5,450,963	
24. Insurance taxes, licenses and fees, excluding federal income taxes	8,482,844	2,756,310	5,383,027		343,507	
25. Increase in loading on deferred and uncollected premiums	0					
26. Net transfers to or (from) Separate Accounts net of reinsurance	(22,047,053)		(22,047,053)			
27. Aggregate write-ins for deductions	315,812,481	76,580,967	236,485,734	0	2,745,780	0
28. Totals (Lines 20 to 27)	(5,388,511,781)	6,356,510	(5,374,668,256)	0	(20,200,035)	0
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	177,998,091	(408,267,864)	607,512,152	0	(21,246,197)	0
30. Dividends to policyholders and refunds to members	0					
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	177,998,091	(408,267,864)	607,512,152	0	(21,246,197)	0
32. Federal income taxes incurred (excluding tax on capital gains)	8,108,518	(17,142,189)	29,712,408		(4,461,701)	
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	169,889,573	(391,125,675)	577,799,744	0	(16,784,496)	0
34. Policies/certificates in force end of year	360,336	118,130	228,144		14,062	
DETAILS OF WRITE-INS						
08.301. Contractual rider fee income	36,447,215	31,161	36,416,054			
08.302. Interest on company-owned life insurance	5,686,580	1,601,293	4,038,226		47,061	
08.303. Miscellaneous income	83,031	23,381	58,963		687	
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	0	0	0	0	0	0
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	42,216,826	1,655,835	40,513,243	0	47,748	0
2701. Amortization of ceding commission	313,812,481	76,580,967	234,485,734		2,745,780	
2702. Reinsurance Fee	2,000,000		2,000,000			
2703.						
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0	0	0	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	315,812,481	76,580,967	236,485,734	0	2,745,780	0

(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 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP ANNUITIES (a)

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees	5 Variable Annuities Without Guarantees		
1. Premiums for group annuity contracts	(503,851,224)	(502,867,010)				(984,214)	
2. Considerations for supplementary contracts with life contingencies	0	XXX	XXX	XXX	XXX		XXX
3. Net investment income	71,965,608	16,206,441				55,759,167	
4. Amortization of Interest Maintenance Reserve (IMR)	1,994,272	761,381				1,232,891	
5. Separate Accounts net gain from operations excluding unrealized gains or losses	0						
6. Commissions and expense allowances on reinsurance ceded	15,536,457	15,536,457					
7. Reserve adjustments on reinsurance ceded	0						
8. Miscellaneous Income:							
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	0						
8.2 Charges and fees for deposit-type contracts	0						
8.3 Aggregate write-ins for miscellaneous income	334,218	127,599	0	0	0	206,619	0
9. Totals (Lines 1 to 8.3)	(414,020,669)	(470,235,132)	0	0	0	56,214,463	0
10. Death benefits	0						
11. Matured endowments (excluding guaranteed annual pure endowments)	0						
12. Annuity benefits	68,931,780	58,562				68,873,218	
13. Disability benefits and benefits under accident and health contracts	0						
14. Coupons, guaranteed annual pure endowments and similar benefits	0						
15. Surrender benefits and withdrawals for life contracts	24,769,264	24,072,405				696,859	
16. Group conversions	0						
17. Interest and adjustments on contract or deposit-type contract funds	0						
18. Payments on supplementary contracts with life contingencies	0						
19. Increase in aggregate reserves for life and accident and health contracts	(553,468,488)	(504,014,538)				(49,453,950)	
20. Totals (Lines 10 to 19)	(459,767,444)	(479,883,571)	0	0	0	20,116,127	0
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	389,743	389,743					
22. Commissions and expense allowances on reinsurance assumed	0						
23. General insurance expenses	19,570,434	12,206,429				7,364,005	
24. Insurance taxes, licenses and fees, excluding federal income taxes	1,233,284	769,221				464,063	
25. Increase in loading on deferred and uncollected premiums	0						
26. Net transfers to or (from) Separate Accounts net of reinsurance	0						
27. Aggregate write-ins for deductions	3,348,759	3,348,759	0	0	0	0	0
28. Totals (Lines 20 to 27)	(435,225,224)	(463,169,419)	0	0	0	27,944,195	0
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	21,204,555	(7,065,713)	0	0	0	28,270,268	0
30. Dividends to policyholders and refunds to members	0						
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	21,204,555	(7,065,713)	0	0	0	28,270,268	0
32. Federal income taxes incurred (excluding tax on capital gains)	4,452,956	(1,483,800)				5,936,756	
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	16,751,599	(5,581,913)	0	0	0	22,333,512	0
34. Policies/certificates in force end of year	50,016	31,149				18,867	
DETAILS OF WRITE-INS							
08.301. Interest on company-owned life insurance	329,409	125,763				203,646	
08.302. Miscellaneous income	4,809	1,836				2,973	
08.303.							
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	0	0	0	0	0	0	0
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	334,218	127,599	0	0	0	206,619	0
2701. Amortization of ceding commission	3,348,759	3,348,759					
2702.							
2703.							
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0	0	0	0	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	3,348,759	3,348,759	0	0	0	0	0

(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 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - ACCIDENT AND HEALTH (a)

	1 Total	Comprehensive (Hospital & Medical)		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. Premiums for accident and health contracts	3,191,778												3,191,778
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	1,695,697												1,695,697
4. Amortization of Interest Maintenance Reserve (IMR)	0												0
5. Separate Accounts net gain from operations excluding unrealized gains or losses	0												0
6. Commissions and expense allowances on reinsurance ceded	163,477									0			163,477
7. Reserve adjustments on reinsurance ceded	0												0
8. Miscellaneous Income:													
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	0												0
8.2 Charges and fees for deposit-type contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
8.3 Aggregate write-ins for miscellaneous income	0	0	0	0	0	0	0	0	0	0	0	0	0
9. Totals (Lines 1 to 8.3)	5,050,952	0	0	0	0	0	0	0	0	0	0	0	5,050,952
10. Death benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11. Matured endowments (excluding guaranteed annual pure endowments)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts	3,804,204												3,804,204
14. Coupons, guaranteed annual pure endowments and similar benefits	0												0
15. Surrender benefits and withdrawals for life contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
16. Group conversions	0												0
17. Interest and adjustments on contract or deposit-type contract funds	0												0
18. Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
19. Increase in aggregate reserves for life and accident and health contracts	(8,218,456)												(8,218,456)
20. Totals (Lines 10 to 19)	(4,414,252)	0	0	0	0	0	0	0	0	0	0	0	(4,414,252)
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	163,477									0			163,477
22. Commissions and expense allowances on reinsurance assumed	569,762									0			569,762
23. General insurance expenses	0												0
24. Insurance taxes, licenses and fees, excluding federal income taxes	0												0
25. Increase in loading on deferred and uncollected premiums	4,960												4,960
26. Net transfers to or (from) Separate Accounts net of reinsurance	0												0
27. Aggregate write-ins for deductions	0	0	0	0	0	0	0	0	0	0	0	0	0
28. Totals (Lines 20 to 27)	(3,676,053)	0	0	0	0	0	0	0	0	0	0	0	(3,676,053)
29. Net gain from operations before dividends to policyholders, and refunds to members and federal income taxes (Line 9 minus Line 28)	8,727,005	0	0	0	0	0	0	0	0	0	0	0	8,727,005
30. Dividends to policyholders and refunds to members	0												0
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	8,727,005	0	0	0	0	0	0	0	0	0	0	0	8,727,005
32. Federal income taxes incurred (excluding tax on capital gains)	1,832,671												1,832,671
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	6,894,334	0	0	0	0	0	0	0	0	0	0	0	6,894,334
34. Policies/certificates in force end of year	1,331												1,331
DETAILS OF WRITE-INS													
08.301.													
08.302.													
08.303.													
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	0	0	0	0	0	0	0	0	0	0	0	0	0
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	0	0	0	0	0	0	0	0	0	0	0	0	0
2701.													
2702.													
2703.													
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0	0	0	0	0	0	0	0	0	0	0	0
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	0	0	0	0	0	0	0	0	0	0	0	0	0

(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 2022 OF THE MASSMUTUAL ASCEND 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	12
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life ^(b) (N/A Fraternal)	Other Individual Life	YRT Mortality Risk Only
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)												
1. Reserve December 31 of prior year	171,562,644	0	33,778,678	95,900,699	0	41,883,267	0	0	0	0	0	0
2. Tabular net premiums or considerations	15,296,471		3,041,609	10,097,829		2,157,033						
3. Present value of disability claims incurred	79,912		4,410	75,502								
4. Tabular interest	6,568,683		1,085,180	3,852,441		1,631,062						
5. Tabular less actual reserve released	(55,978)		(27,888)	(27,839)		(251)						
6. Increase in reserve on account of change in valuation basis	0											
6.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve	0	XXX								XXX		
7. Other increases (net)	(2,275,052)		958,298	(2,803,727)		(429,623)						
8. Totals (Lines 1 to 7)	191,176,680	0	38,840,287	107,094,905	0	45,241,488	0	0	0	0	0	0
9. Tabular cost	20,287,274		3,501,961	13,965,520		2,819,793						
10. Reserves released by death	1,795,276		866,567	143,439		785,270						
11. Reserves released by other terminations (net)	24,256,661		1,978,090	21,286,239		992,332						
12. Annuity, supplementary contract and disability payments involving life contingencies	48,938		2,701	46,237								
13. Net transfers to or (from) Separate Accounts	0											
14. Total Deductions (Lines 9 to 13)	46,388,149	0	6,349,319	35,441,435	0	4,597,395	0	0	0	0	0	0
15. Reserve December 31 of current year	144,788,531	0	32,490,968	71,653,470	0	40,644,093	0	0	0	0	0	0
Cash Surrender Value and Policy Loans												
16. CSV Ending balance December 31, current year	92,816,777		50,678,194			42,138,583						
17. Amount Available for Policy Loans Based upon Line 16 CSV	83,406,037		41,267,454			42,138,583						

(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.
(b) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP LIFE INSURANCE (a)
(N/A Fraternal)

	1 Total	2 Whole Life	3 Term Life	4 Universal Life	5 Variable Life	6 Variable Universal Life	7 Credit Life ^(b)	8 Other Group Life	9 YRT Mortality Risk Only
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)									
1. Reserve December 31 of prior year	1,112,924	1,112,924	0	0	0	0	0	0	0
2. Tabular net premiums or considerations	0								
3. Present value of disability claims incurred	0								
4. Tabular interest	48,184	48,184							
5. Tabular less actual reserve released	0								
6. Increase in reserve on account of change in valuation basis	0								
7. Other increases (net)	0								
8. Totals (Lines 1 to 7)	1,161,108	1,161,108	0	0	0	0	0	0	0
9. Tabular cost	21,829	21,829							
10. Reserves released by death	96,275	96,275							
11. Reserves released by other terminations (net)	2,614	2,614							
12. Annuity, supplementary contract and disability payments involving life contingencies	0								
13. Net transfers to or (from) Separate Accounts	0								
14. Total Deductions (Lines 9 to 13)	120,718	120,718	0	0	0	0	0	0	0
15. Reserve December 31 of current year	1,040,390	1,040,390	0	0	0	0	0	0	0
Cash Surrender Value and Policy Loans									
16. CSV Ending balance December 31, current year	1,040,391	1,040,391							
17. Amount Available for Policy Loans Based upon Line 16 CSV	1,040,391	1,040,391							

(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.
(b) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND 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		
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)							
1. Reserve December 31 of prior year	31,217,034,614	7,991,197,335	22,969,829,984	0	0	256,007,295	0
2. Tabular net premiums or considerations	7,324,216,591	2,616,395,067	4,637,280,721			70,540,803	
3. Present value of disability claims incurred	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4. Tabular interest	619,060,996	269,218,214	339,740,587			10,102,195	
5. Tabular less actual reserve released	(3,133,334)		(884,204)			(2,249,130)	
6. Increase in reserve on account of change in valuation basis	(236,182,404)		(236,182,404)				
7. Other increases (net)	(11,305,873,349)	(2,585,530,053)	(8,613,976,605)			(106,366,691)	
8. Totals (Lines 1 to 7)	27,615,123,114	8,291,280,563	19,095,808,079	0	0	228,034,472	0
9. Tabular cost	0						
10. Reserves released by death	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11. Reserves released by other terminations (net)	4,723,224,365	1,064,524,573	3,657,628,348			1,071,444	
12. Annuity, supplementary contract and disability payments involving life contingencies	35,750,942	25,746				35,725,196	
13. Net transfers to or (from) Separate Accounts	30,644,554		30,644,554				
14. Total Deductions (Lines 9 to 13)	4,789,619,861	1,064,550,319	3,688,272,902	0	0	36,796,640	0
15. Reserve December 31 of current year	22,825,503,253	7,226,730,244	15,407,535,177	0	0	191,237,832	0
Cash Surrender Value and Policy Loans							
16. CSV Ending balance December 31, current year	21,408,027,980	6,548,433,981	14,859,593,999				
17. Amount Available for Policy Loans Based upon Line 16 CSV	21,397,123,416	6,538,751,202	14,858,372,214				

(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 2022 OF THE MASSMUTUAL ASCEND 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 Annuizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees			5 Variable Annuities without Guarantees
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)						
1. Reserve December 31 of prior year	1,842,010,066	849,604,238	0	0	0	992,405,828
2. Tabular net premiums or considerations	6,074,003	6,074,003				
3. Present value of disability claims incurred .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
4. Tabular interest	54,852,731	30,313,803				24,538,928
5. Tabular less actual reserve released	(3,754,820)					(3,754,820)
6. Increase in reserve on account of change in valuation basis	0					
7. Other increases (net)	(491,915,349)	(491,912,100)				(3,249)
8. Totals (Lines 1 to 7)	1,407,266,631	394,079,944	0	0	0	1,013,186,687
9. Tabular cost	0					
10. Reserves released by death .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
11. Reserves released by other terminations (net)	48,468,363	48,468,363				
12. Annuity, supplementary contract and disability payments involving life contingencies	70,256,690	21,881				70,234,809
13. Net transfers to or (from) Separate Accounts	0					
14. Total Deductions (Lines 9 to 13)	118,725,053	48,490,244	0	0	0	70,234,809
15. Reserve December 31 of current year	1,288,541,578	345,589,700	0	0	0	942,951,878
Cash Surrender Value and Policy Loans						
16. CSV Ending balance December 31, current year	341,091,247	341,091,247				
17. Amount Available for Policy Loans Based upon Line 16 CSV	328,908,617	328,908,617				

(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 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT OF NET INVESTMENT INCOME

	1	2
	Collected During Year	Earned During Year
1. U.S. Government bonds	(a) 1,135,943	142,635
1.1 Bonds exempt from U.S. tax	(a)	
1.2 Other bonds (unaffiliated)	(a) 1,727,768,811	1,429,206,453
1.3 Bonds of affiliates	(a) (3,181,095)	6,733,050
2.1 Preferred stocks (unaffiliated)	(b) 4,404,869	4,280,504
2.11 Preferred stocks of affiliates	(b)	
2.2 Common stocks (unaffiliated)	5,116,536	5,002,084
2.21 Common stocks of affiliates		
3. Mortgage loans	(c) 114,954,156	116,485,403
4. Real estate	(d)	
5. Contract loans	4,281,615	4,134,319
6. Cash, cash equivalents and short-term investments	(e) 17,537,032	17,537,034
7. Derivative instruments	(f) 16,739,116	(174,599,616)
8. Other invested assets	96,104,599	96,104,599
9. Aggregate write-ins for investment income	2,838,996	2,838,996
10. Total gross investment income	1,987,700,578	1,507,865,461
11. Investment expenses		(g) 32,917,208
12. Investment taxes, licenses and fees, excluding federal income taxes		(g) 0
13. Interest expense		(h) 2,646,284
14. Depreciation on real estate and other invested assets		(i)
15. Aggregate write-ins for deductions from investment income		453,314,774
16. Total deductions (Lines 11 through 15)		488,878,266
17. Net investment income (Line 10 minus Line 16)		1,018,987,195
DETAILS OF WRITE-INS		
0901. Miscellaneous income	2,838,996	2,838,996
0902.		
0903.		
0998. Summary of remaining write-ins for Line 9 from overflow page	0	0
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)	2,838,996	2,838,996
1501. Ceded investment income		453,314,774
1502.		
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		0
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15, above)		453,314,774

- (a) Includes \$ 161,977,324 accrual of discount less \$ 59,049,938 amortization of premium and less \$ 60,932,173 paid for accrued interest on purchases.
- (b) Includes \$ 0 accrual of discount less \$ 0 amortization of premium and less \$ 0 paid for accrued dividends on purchases.
- (c) Includes \$ 13,017,034 accrual of discount less \$ 7,209,504 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 \$ 14,952,912 accrual of discount less \$ 540 amortization of premium and less \$ 628 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 \$ 0 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	2,286	0	2,286	0	0
1.1 Bonds exempt from U.S. tax			0		
1.2 Other bonds (unaffiliated)	49,876,022	(21,725,501)	28,150,521	(14,197,165)	6,777,575
1.3 Bonds of affiliates	(310,691)	0	(310,691)	0	2,072,732
2.1 Preferred stocks (unaffiliated)	1,479,152	(4,387,814)	(2,908,662)	(42,762,430)	0
2.11 Preferred stocks of affiliates	0	0	0	0	0
2.2 Common stocks (unaffiliated)	244,440	(14,315,939)	(14,071,499)	(9,186,827)	0
2.21 Common stocks of affiliates	0	0	0	12,043,295	0
3. Mortgage loans	0	12	12	0	0
4. Real estate	0	0	0	0	0
5. Contract loans	0	0	0	0	0
6. Cash, cash equivalents and short-term investments	(88,759)	(9,840)	(98,599)		
7. Derivative instruments	(22,325,520)		(22,325,520)	(204,193,405)	(40,966)
8. Other invested assets	0	(924,799)	(924,799)	26,357,151	7,800
9. Aggregate write-ins for capital gains (losses)	0	0	0	0	0
10. Total capital gains (losses)	28,876,930	(41,363,881)	(12,486,951)	(231,939,381)	8,817,141
DETAILS OF WRITE-INS					
0901.					
0902.					
0903.					
0998. Summary of remaining write-ins for Line 9 from overflow page	0	0	0	0	0
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)	0	0	0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
EXHIBIT - 1 PART 1 - PREMIUMS AND ANNUITY CONSIDERATIONS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

	Insurance											
	1 Total	2 Industrial Life	3 Ordinary		5 Credit Life (Group and Individual)	6 Group		8 Accident and Health			11 Aggregate of All Other Lines of Business	12 Fraternal (Fraternal Benefit Societies Only)
			4 Life Insurance	Individual Annuities		Life Insurance	7 Annuities	9 Group	9 Credit (Group and Individual)	10 Other		
FIRST YEAR (other than single)												
1. Uncollected	0											
2. Deferred and accrued	0											
3. Deferred, accrued and uncollected:												
3.1 Direct	0											
3.2 Reinsurance assumed	0											
3.3 Reinsurance ceded	0											
3.4 Net (Line 1 + Line 2)	0	0	0	0	0	0	0	0	0	0	0	0
4. Advance	0											
5. Line 3.4 - Line 4	0	0	0	0	0	0	0	0	0	0	0	0
6. Collected during year:												
6.1 Direct	1,692									1,692		
6.2 Reinsurance assumed	0											
6.3 Reinsurance ceded	1,692									1,692		
6.4 Net	0	0	0	0	0	0	0	0	0	0	0	0
7. Line 5 + Line 6.4	0	0	0	0	0	0	0	0	0	0	0	0
8. Prior year (uncollected + deferred and accrued - advance)	0	0	0	0	0	0	0	0	0	0	0	0
9. First year premiums and considerations:												
9.1 Direct	1,692									1,692		
9.2 Reinsurance assumed	0											
9.3 Reinsurance ceded	1,692									1,692		
9.4 Net (Line 7 - Line 8)	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE												
10. Single premiums and considerations:												
10.1 Direct	7,339,450,972			7,340,260,082			(809,110)					
10.2 Reinsurance assumed	0											
10.3 Reinsurance ceded	370,338,374			370,338,374								
10.4 Net	6,969,112,598	0	0	6,969,921,708	0	0	(809,110)	0	0	0	0	0
RENEWAL												
11. Uncollected	2,209,698		2,160,134							49,564		
12. Deferred and accrued	7,692,038		7,692,038									
13. Deferred, accrued and uncollected:												
13.1 Direct	8,909,763		8,884,344							25,419		
13.2 Reinsurance assumed	1,017,392		967,828							49,564		
13.3 Reinsurance ceded	25,419									25,419		
13.4 Net (Line 11 + Line 12)	9,901,736	0	9,852,172	0	0	0	0	0	0	49,564	0	0
14. Advance	165,594		150,995							14,599		
15. Line 13.4 - Line 14	9,736,142	0	9,701,177	0	0	0	0	0	0	34,965	0	0
16. Collected during year:												
16.1 Direct	39,131,305		23,602,990	4,643,064			5,888,391	73,886		4,922,974		
16.2 Reinsurance assumed	6,729,730		3,251,790	312,905				11,405		3,153,630		
16.3 Reinsurance ceded	14,214,457,748		15,041,951	13,685,488,432			508,930,505	73,886		4,922,974		
16.4 Net	(14,168,596,713)	0	11,812,829	(13,680,532,463)	0	0	(503,042,114)	11,405	0	3,153,630	0	0
17. Line 15 + Line 16.4	(14,158,860,571)	0	21,514,006	(13,680,532,463)	0	0	(503,042,114)	11,405	0	3,188,595	0	0
18. Prior year (uncollected + deferred and accrued - advance)	8,509,979	0	8,501,757	0	0	0	0	0	0	8,222	0	0
19. Renewal premiums and considerations:												
19.1 Direct	40,391,409		24,857,140	4,643,064			5,888,391	73,886		4,928,928		
19.2 Reinsurance assumed	6,701,743		3,197,060	312,905				11,405		3,180,373		
19.3 Reinsurance ceded	14,214,463,702		15,041,951	13,685,488,432			508,930,505	73,886		4,928,928		
19.4 Net (Line 17 - Line 18)	(14,167,370,550)	0	13,012,249	(13,680,532,463)	0	0	(503,042,114)	11,405	0	3,180,373	0	0
TOTAL												
20. Total premiums and annuity considerations:												
20.1 Direct	7,379,844,073	0	24,857,140	7,344,903,146	0	0	5,079,281	73,886	0	4,930,620	0	0
20.2 Reinsurance assumed	6,701,743	0	3,197,060	312,905	0	0	0	11,405	0	3,180,373	0	0
20.3 Reinsurance ceded	14,584,803,768	0	15,041,951	14,055,826,806	0	0	508,930,505	73,886	0	4,930,620	0	0
20.4 Net (Lines 9.4 + 10.4 + 19.4)	(7,198,257,952)	0	13,012,249	(6,710,610,755)	0	0	(503,851,224)	11,405	0	3,180,373	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT - 1 PART 2 - POLICYHOLDERS' DIVIDENDS, REFUNDS TO MEMBERS AND COUPONS APPLIED, REINSURANCE COMMISSIONS AND EXPENSE ALLOWANCES AND COMMISSIONS INCURRED (Direct Business Only)

	1	2	Insurance								11	12
			Ordinary		5	Group		Accident and Health		10		
			3	4		6	7	8	9			
Total	Industrial Life	Life Insurance	Individual Annuities	Credit Life (Group and Individual)	Life Insurance	Annuities	Group	Credit (Group and Individual)	Other	Aggregate of All Other Lines of Business	Fraternal (Fraternal Benefit Societies Only)	
POLICYHOLDERS' DIVIDENDS, REFUNDS TO MEMBERS AND COUPONS APPLIED (included in Part 1)												
21. To pay renewal premiums	0											
22. All other	0											
REINSURANCE COMMISSIONS AND EXPENSE ALLOWANCES INCURRED												
23. First year (other than single):												
23.1 Reinsurance ceded	454									454		
23.2 Reinsurance assumed	0											
23.3 Net ceded less assumed	454	0	0	0	0	0	0	0	0	454	0	0
24. Single:												
24.1 Reinsurance ceded	25,252,567			25,252,567								
24.2 Reinsurance assumed	0											
24.3 Net ceded less assumed	25,252,567	0	0	25,252,567	0	0	0	0	0	0	0	0
25. Renewal:												
25.1 Reinsurance ceded	471,534,102		2,630,694	453,203,928		15,536,457	8,544		154,479			
25.2 Reinsurance assumed	526,914		(48,823)	5,975			953		568,809			
25.3 Net ceded less assumed	471,007,188	0	2,679,517	453,197,953	0	15,536,457	7,591	0	(414,330)	0	0	0
26. Totals:												
26.1 Reinsurance ceded (Page 6, Line 6)	496,787,123	0	2,630,694	478,456,495	0	15,536,457	8,544	0	154,933	0	0	0
26.2 Reinsurance assumed (Page 6, Line 22)	526,914	0	(48,823)	5,975	0	0	953	0	568,809	0	0	0
26.3 Net ceded less assumed	496,260,209	0	2,679,517	478,450,520	0	15,536,457	7,591	0	(413,876)	0	0	0
COMMISSIONS INCURRED (direct business only)												
27. First year (other than single)	454									454		
28. Single	362,535,794			362,525,784		10,010						
29. Renewal	1,355,154		425,307	387,091		379,733	8,544		154,479			
30. Deposit-type contract funds	199,592			199,592								
31. Totals (to agree with Page 6, Line 21)	364,090,994	0	425,307	363,112,467	0	389,743	8,544	0	154,933	0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 2 - GENERAL EXPENSES

	Insurance				5 Investment	6 Fraternal	7 Total
	1 Life	2 Accident and Health		4 All Other Lines of Business			
		2 Cost Containment	3 All Other				
1. Rent	5,204,315						5,204,315
2. Salaries and wages	73,577,389						73,577,389
3.11 Contributions for benefit plans for employees	9,777,570						9,777,570
3.12 Contributions for benefit plans for agents							0
3.21 Payments to employees under non-funded benefit plans							0
3.22 Payments to agents under non-funded benefit plans							0
3.31 Other employee welfare	3,013,895						3,013,895
3.32 Other agent welfare	734,814						734,814
4.1 Legal fees and expenses	1,546,024						1,546,024
4.2 Medical examination fees	201						201
4.3 Inspection report fees							0
4.4 Fees of public accountants and consulting actuaries	10,099,462						10,099,462
4.5 Expense of investigation and settlement of policy claims	39,363						39,363
5.1 Traveling expenses	1,825,084						1,825,084
5.2 Advertising	2,046,092						2,046,092
5.3 Postage, express, telegraph and telephone	2,357,334						2,357,334
5.4 Printing and stationery	2,061,092						2,061,092
5.5 Cost or depreciation of furniture and equipment	268,156						268,156
5.6 Rental of equipment	70,709						70,709
5.7 Cost or depreciation of EDP equipment and software	1,996,230						1,996,230
6.1 Books and periodicals	180,644						180,644
6.2 Bureau and association fees	5,021,772						5,021,772
6.3 Insurance, except on real estate							0
6.4 Miscellaneous losses	21,463						21,463
6.5 Collection and bank service charges	890,658						890,658
6.6 Sundry general expenses	9,715,847						9,715,847
6.7 Group service and administration fees	11,733,431						11,733,431
6.8 Reimbursements by uninsured plans							0
7.1 Agency expense allowance	1,438,054						1,438,054
7.2 Agents' balances charged off (less \$ recovered)							0
7.3 Agency conferences other than local meetings	1,052,634						1,052,634
8.1 Official publication (Fraternal Benefit Societies Only)	XXX	XXX	XXX	XXX	XXX		0
8.2 Expense of supreme lodge meetings (Fraternal Benefit Societies Only)	XXX	XXX	XXX	XXX	XXX		0
9.1 Real estate expenses							0
9.2 Investment expenses not included elsewhere	421,721				32,917,208		33,338,929
9.3 Aggregate write-ins for expenses	13,652,777	0	0	0	0	0	13,652,777
10. General expenses incurred	158,746,731	0	0	0	32,917,208	(b)	(a) 191,663,939
11. General expenses unpaid Dec. 31, prior year	55,233,382						55,233,382
12. General expenses unpaid Dec. 31, current year	48,404,491						48,404,491
13. Amounts receivable relating to uninsured plans, prior year							0
14. Amounts receivable relating to uninsured plans, current year							0
15. General expenses paid during year (Lines 10+11-12-13+14)	165,575,622	0	0	0	32,917,208	0	198,492,830
DETAILS OF WRITE-INS							
09.301. PC & EDP Expenses	13,652,777						13,652,777
09.302.							
09.303.							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page	0	0	0	0	0	0	0
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	13,652,777	0	0	0	0	0	13,652,777

(a) Includes management fees of \$ to affiliates and \$ to non-affiliates.

(b) Show the distribution of this amount in the following categories (Fraternal Benefit Societies Only):

1. Charitable \$; 2. Institutional \$; 3. Recreational and Health \$; 4. Educational \$; 5. Religious \$; 6. Membership \$; 7. Other \$; 8. Total \$ 0

EXHIBIT 3 - TAXES, LICENSES AND FEES (EXCLUDING FEDERAL INCOME TAXES)

	Insurance			4 Investment	5 Fraternal	6 Total
	1 Life	2 Accident and Health	3 All Other Lines of Business			
1. Real estate taxes						0
2. State insurance department licenses and fees	2,766,279					2,766,279
3. State taxes on premiums	1,620,924					1,620,924
4. Other state taxes, including \$ for employee benefits	3,121,814					3,121,814
5. U.S. Social Security taxes	4,575,502					4,575,502
6. All other taxes	75,629					75,629
7. Taxes, licenses and fees incurred	12,160,148	0	0	0	0	12,160,148
8. Taxes, licenses and fees unpaid Dec. 31, prior year	8,464,907					8,464,907
9. Taxes, licenses and fees unpaid Dec. 31, current year	2,060,039					2,060,039
10. Taxes, licenses and fees paid during year (Lines 7 + 8 - 9)	18,565,016	0	0	0	0	18,565,016

EXHIBIT 4 - DIVIDENDS OR REFUNDS

	1 Life	2 Accident and Health
	1. Applied to pay renewal premiums		0
2. Applied to shorten the endowment or premium-paying period		
3. Applied to provide paid-up additions		
4. Applied to provide paid-up annuities		
5. Total Lines 1 through 4	0	0
6. Paid in cash		
7. Left on deposit	10,069	
8. Aggregate write-ins for dividend or refund options	0	0
9. Total Lines 5 through 8	10,069	0
10. Amount due and unpaid		
11. Provision for dividends or refunds payable in the following calendar year		
12. Terminal dividends		
13. Provision for deferred dividend contracts		
14. Amount provisionally held for deferred dividend contracts not included in Line 13		
15. Total Lines 10 through 14	0	0
16. Total from prior year	0	0
17. Total dividends or refunds (Lines 9 + 15 - 16)	10,069	0
DETAILS OF WRITE-INS		
0801.		
0802.		
0803.		
0898. Summary of remaining write-ins for Line 8 from overflow page	0	0
0899. Totals (Lines 0801 thru 0803 plus 0898) (Line 8 above)	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 5 - AGGREGATE RESERVE FOR LIFE CONTRACTS

1	2	3	4	5	6
Valuation Standard	Total ^(a)	Industrial	Ordinary	Credit (Group and Individual)	Group
0100001. AM(5) 3.00% 1948-1952	7,344		7,344		
0100002. 41 CET - NL 3.00% 1952-1962	9,404		9,404		
0100003. 41 CSO - NL 2.50% 1952-1962	14,489		14,489		
0100004. 41 CSO - CRVM 2.50% 1952-1962	946		946		
0100005. 41 CSO - CRVM 2.75% 1952-1962	26,874		26,874		
0100006. 41 CSO - NL 3.00% 1952-1962	2,708,941		2,708,941		
0100007. 41 CSO - CRVM 3.00% 1952-1962	250,704		250,704		
0100008. 58 CSO - NL 2.00% 1963-1974	23,805		23,805		
0100009. 58 CSO - NL 2.50% 1961-1984	290,489		290,489		
0100010. 58 CSO - NL 3.00% 1961-1988	4,138,463		4,138,463		
0100011. 58 CSO - CRVM 3.00% 1961-1988	22,412,070		22,412,070		
0100012. 58 CET - NL 2.50% 1963-1983	92,577		92,577		
0100013. 58 CET - NL 3.00% 1962-2000	572,631		572,631		
0100014. 58 CSO - CRVM 3.50% 1963-1981	7,070,840		7,070,840		
0100015. 58 CSO - NL 3.50% 1963-1988	641,594		641,594		
0100016. 58 CET - NL 3.50% 1963-1988	1,679,783		1,679,783		
0100017. 58 CSO - CRVM to NL 3.50% to 3.00% 1969-1981	0				
0100018. 58 CSO - CRVM to NL 3.50% 1969-1988	1,407,292		1,407,292		
0100019. 58 CSO - NL 4.00% 1974-1988	41,456		41,456		
0100020. 58 CSO - NL 3.25% 1978-1988	74,457				72,772
0100021. 58 CSO - CRVM 4.00% 1975-1988	4,078,875		4,078,875		
0100022. 58 CET - NL 4.00% 1980-1988	30,387		30,387		
0100023. 58 CET - NL 4.50% 1980-1982	80,610		80,610		
0100024. 58 CSO - NL 4.50% 1980-1988	803,941		803,941		
0100025. 58 CSO - CRVM 4.50% 1980-1996	19,251,552		19,251,552		
0100026. 58 CSO - CRVM 4.50% to 3.50% 1980-1982	2,196,780		2,196,780		
0100027. 58 CSO - CRVM 5.50% 1983-1985	16,333		16,333		
0100028. 80 CSO - CRVM 5.00% 1987-1994	3,100,908		3,100,908		
0100029. 80 CSO - CRVM 5.25% 1988-1992	11,056,561		11,056,561		
0100030. 80 CSO - CRVM 5.50% 1988-1992	5,813,906		5,813,906		
0100031. 80 CSO - CRVM 6.00% 1983-1986	1,530,695		1,530,695		
0100032. 80 CSO - NL 6.00% 1983-1994	687,731		687,731		
0100033. 80 CSO - NL 3.50% 1983-1995	1,139		1,139		
0100034. 80 CSO - CRVM 3.50% 1983-1995	201,071		201,071		
0100035. 80 CSO - NL 4.50% 1989-90, 1995-98	179,776		179,776		
0100036. 80 CSO - NL 5.00% 1993-1994	580,384		580,384		
0100037. 80 CSO - NL 5.50% 1988-1989	209,940		209,940		
0100038. 80 CET - NL 5.00% 1993-1994	22,042		22,042		
0100039. 80 CET - NL 3.50% 1983-1985	2,601		2,601		
0100040. 80 CET - NL 5.50% 1988-1992	44,269		44,269		
0100041. 80 CET - NL 6.00% 1983-1986	5,712		5,712		
0100042. 80 CET - NL 4.50% 1987-2006	93,882		93,882		
0100043. EXTENDED DEATH BENEFIT - GROUP	62,591				62,591
0100044. 80 CSO - NL 4.00% 1998-2004	33,438		33,438		
0100045. 80 CSO - CRVM 4.00% 1983-2008	93,682,483		93,682,483		
0100046. 80 CSO - CRVM 4.50% 1989-2005	119,098,800		119,098,800		
0100047. 01 CSO - CRVM 3.5%, 4% 2009-2019	4,197,133		4,197,133		
0100048. 17 CSO - CRVM 3.50% 2020	112,028		112,028		
0100049. 17 CSO - CRVM 3.00% 2021-2022	75,771		75,771		
0100050. Annuity 2000 - NL 5.00% 2004	3,278,957		3,278,957		
0100051. Annuity 2000 - NL 5.50% 2003	17,257,732		17,257,732		
0100052. Annuity 2000 - NL 6.00% 2002	17,447,121		17,447,121		
0100053. 80 CSO - CRVM 4.50% 1996-2000	6,386,460		3,001,167		3,385,293
0100054. 80 CSO - NL 4.50% 1996-2000	11,497,371		5,900,096		5,597,275
0100055. 01 CSO - CRVM 4.00% 2009-2012	1,347,988		1,347,988		
0100056. 01 CSO - NL 4.00% 2006-2012	2,022,135		2,022,135		
0100057. 01 CSO - CRVM 4.50% 2006-2010	44,932		44,932		
0100058. 01 CSO - NL 4.50% 2006-2009	5,148		5,148		
0199997. Totals (Gross)	368,003,342	0	358,885,411	0	9,117,931
0199998. Reinsurance ceded	227,825,529		219,741,218		8,084,311
0199999. Life Insurance: Totals (Net)	140,177,813	0	139,144,193	0	1,033,620
0200001. 71 IAM 6.00% 1975-1982 (Imm)	223,171	XXX	223,171	XXX	
0200002. 71 IAM 11.25% 1983-1984 (Imm)	136,309	XXX	136,309	XXX	
0200003. 71 IAM 11.00% 1985 (Imm)	12,120,468	XXX	93,952	XXX	12,026,516
0200004. 83 IAM 9.25% 1986 (Imm)	1,325,286	XXX	205,937	XXX	1,119,349
0200005. 83 IAM 8.00% 1987 (Imm)	314,375	XXX	314,375	XXX	
0200006. 83 IAM 8.75% 1988-1989 (Imm)	596,601	XXX	596,601	XXX	
0200007. 83 IAM 8.25% 1990-1991 (Imm)	1,109,674	XXX	1,109,674	XXX	
0200008. 83 IAM 7.75% 1992 (Imm)	875,365	XXX	875,365	XXX	
0200009. 83 IAM 7.00% 1993 (Imm)	1,164,589	XXX	1,164,589	XXX	
0200010. 83 IAM 6.50% 1994 (Imm)	1,219,678	XXX	1,219,678	XXX	
0200011. 83 IAM 7.25% 1995 (Imm)	1,166,826	XXX	1,166,826	XXX	
0200012. 83 IAM 6.75% 1996-1997 (Imm)	3,302,967	XXX	3,302,967	XXX	
0200013. 83 IAM 6.25% 1998-1999 (Imm)	2,082,027	XXX	2,082,027	XXX	
0200014. Annuity 2000 6.25% 1999 (Imm)	2,141,303	XXX	2,141,303	XXX	
0200015. Annuity 2000 7.00% 2000 (Imm)	2,118,852	XXX	2,118,852	XXX	
0200016. Annuity 2000 6.75% 2001 (Imm)	2,490,594	XXX	2,490,594	XXX	
0200017. Annuity 2000 6.50% 2002 (Imm)	3,670,056	XXX	3,670,056	XXX	
0200018. Annuity 2000 6.00% 2003 (Imm)	2,342,769	XXX	2,342,769	XXX	
0200019. Annuity 2000 5.50% 2004 (Imm)	2,142,386	XXX	2,142,386	XXX	
0200020. Annuity 2000 5.25% 2005 (Imm)	4,389,710	XXX	4,389,710	XXX	
0200021. Annuity 2000 5.25% 2006 (Imm)	4,969,431	XXX	4,969,431	XXX	
0200022. Annuity 2000 5.50% 2007-2008 (Imm)	8,143,418	XXX	8,143,418	XXX	
0200023. Annuity 2000 5.25% 2009 (Imm)	3,298,880	XXX	3,298,880	XXX	
0200024. Annuity 2000 5.25% 2010 (Imm)	4,203,837	XXX	4,203,837	XXX	
0200025. Annuity 2000 5.00% 2011 (Imm)	3,937,268	XXX	3,937,268	XXX	
0200026. Annuity 2000 4.25% 2012 (Imm)	4,858,550	XXX	4,858,550	XXX	
0200027. Annuity 2000 4.00% 2013 (Imm)	4,260,896	XXX	4,260,896	XXX	
0200028. Annuity 2000 4.50% 2014 (Imm)	6,697,051	XXX	6,697,051	XXX	
0200029. Annuity 2000 4.00% 2015 (Imm)	6,827,741	XXX	6,827,741	XXX	
0200030. 2012 IAR 4.00% 2016 (Imm)	11,241,892	XXX	11,241,892	XXX	

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EXHIBIT 5 - AGGREGATE RESERVE FOR LIFE CONTRACTS

1	2	3	4	5	6
Valuation Standard	Total ^(a)	Industrial	Ordinary	Credit (Group and Individual)	Group
0200031. 2012 IAR 3.75% 2017 (Imm)	12,236,265	XXX	12,236,265	XXX	
0200032. 2012 IAR 3.75% 2018 (Imm)	12,033,065	XXX	12,033,065	XXX	
0200033. 2012 IAR 4.00% 2019 (Imm)	10,533,305	XXX	10,533,305	XXX	
0200034. 2012 IAR 3.25% 2020 (Imm)	13,147,578	XXX	13,147,578	XXX	
0200035. 2012 IAR 3.00% 2021 (Imm)	15,425,843	XXX	15,425,843	XXX	
0200036. 2012 IAR 3.50% 2022 (Imm)	21,230,948	XXX	21,230,948	XXX	
0200037. 2012 IAR VM22 Non Jumbo 2.25 - 2.74 2018 (Imm)	649,841	XXX	649,841	XXX	
0200038. 2012 IAR VM22 Non Jumbo 2.75 - 3.24 2018 (Imm)	5,352,695	XXX	5,352,695	XXX	
0200039. 2012 IAR VM22 Non Jumbo 3.25 - 3.74 2018 (Imm)	5,971,352	XXX	5,971,352	XXX	
0200040. 2012 IAR VM22 Non Jumbo 3.75 - 4.24 2018 (Imm)	1,340,376	XXX	1,340,376	XXX	
0200041. 2012 IAR VM22 Non Jumbo 2.25 - 2.74 2019 (Imm)	1,061,840	XXX	1,061,840	XXX	
0200042. 2012 IAR VM22 Non Jumbo 2.75 - 3.24 2019 (Imm)	3,127,129	XXX	3,127,129	XXX	
0200043. 2012 IAR VM22 Non Jumbo 3.25 - 3.74 2019 (Imm)	936,975	XXX	936,975	XXX	
0200044. 2012 IAR VM22 Non Jumbo 3.75 - 4.24 2019 (Imm)	6,936,845	XXX	6,936,845	XXX	
0200045. 2012 IAR VM22 Non Jumbo 4.25 - 4.74 2019 (Imm)	400,072	XXX	400,072	XXX	
0200046. 2012 IAR VM22 Non Jumbo 1.00 - 1.74 2020 (Imm)	5,881,292	XXX	5,881,292	XXX	
0200047. 2012 IAR VM22 Non Jumbo 2.25 - 2.74 2020 (Imm)	13,526,538	XXX	13,526,538	XXX	
0200048. 2012 IAR VM22 Non Jumbo 2.75 - 3.24 2020 (Imm)	150,688	XXX	150,688	XXX	
0200049. 2012 IAR VM22 Non Jumbo 3.25 - 3.74 2020 (Imm)	4	XXX	4	XXX	
0200050. 2012 IAR VM22 Non Jumbo 1.00 - 1.74 2021 (Imm)	13,648,951	XXX	13,648,951	XXX	
0200051. 2012 IAR VM22 Non Jumbo 2.25 - 2.74 2021 (Imm)	10,158,580	XXX	10,158,580	XXX	
0200052. 2012 IAR VM22 Non Jumbo 2.75 - 3.24 2021 (Imm)	500,953	XXX	500,953	XXX	
0200053. 2012 IAR VM22 Non Jumbo 1.00 - 1.74 2022 (Imm)	3,551,932	XXX	3,551,932	XXX	
0200054. 2012 IAR VM22 Non Jumbo 2.25 - 2.74 2022 (Imm)	12,634,320	XXX	12,634,320	XXX	
0200055. 2012 IAR VM22 Non Jumbo 2.75 - 3.24 2022 (Imm)	664,262	XXX	664,262	XXX	
0200056. 2012 IAR VM22 Non Jumbo 3.25 - 3.74 2022 (Imm)	4,049,327	XXX	4,049,327	XXX	
0200057. 2012 IAR VM22 Non Jumbo 3.75 - 4.24 2022 (Imm)	18,126,735	XXX	18,126,735	XXX	
0200058. 2012 IAR VM22 Non Jumbo 4.25 - 4.74 2022 (Imm)	12,387,839	XXX	12,387,839	XXX	
0200059. 94 GAR 3.75% 2017 (Imm)	4,071,625	XXX		XXX	4,071,625
0200060. 94 GAR VM22 Non Jumbo 0.75 - 1.24 2018-2021 (Imm)	1,703,870	XXX		XXX	1,703,870
0200061. 94 GAR VM22 Non Jumbo 1.25 - 1.74 2018-2021 (Imm)	22,147,746	XXX		XXX	22,147,746
0200062. 94 GAR VM22 Non Jumbo 1.75 - 2.24 2018-2021 (Imm)	135,640,549	XXX		XXX	135,640,549
0200063. 94 GAR VM22 Non Jumbo 2.25 - 2.74 2018-2021 (Imm)	272,650,182	XXX		XXX	272,650,182
0200064. 94 GAR VM22 Non Jumbo 2.75 - 3.24 2018-2021 (Imm)	303,646,126	XXX		XXX	303,646,126
0200065. 94 GAR VM22 Non Jumbo 3.25 - 3.74 2018-2021 (Imm)	40,895,640	XXX		XXX	40,895,640
0200066. 94 GAR VM22 Non Jumbo 3.75 - 4.24 2018-2021 (Imm)	143,924,399	XXX		XXX	143,924,399
0200067. 94 GAR VM22 Non Jumbo 4.25 - 4.74 2018-2021 (Imm)	5,125,876	XXX		XXX	5,125,876
0200068. 71 IAM 4.00% 1971-1978 (Def)	28,956,422	XXX	28,956,422	XXX	
0200069. 71 IAM 4.50% 1979-1982 (Def)	186,279,101	XXX	182,127,146	XXX	4,151,955
0200070. 71 IAM 8.75% 1983 (Def)	50,880,497	XXX	50,171,001	XXX	709,496
0200071. 71 IAM 8.50% 1984-1985 (Def)	162,313,073	XXX	160,576,599	XXX	1,736,474
0200072. 83 IAM 7.25% 1986 (Def)	129,645,326	XXX	128,444,065	XXX	1,201,261
0200073. 83 IAM 6.50% 1987 (Def)	139,757,322	XXX	122,350,128	XXX	17,407,194
0200074. 83 IAM 7.00% 1988-1989 (Def)	290,717,877	XXX	284,576,701	XXX	6,141,176
0200075. 83 IAM 6.50% 1990 (Def)	185,307,690	XXX	173,315,050	XXX	11,992,640
0200076. 83 IAM 6.75% 1991 (Def)	166,679,010	XXX	150,588,050	XXX	16,090,960
0200077. 83 IAM 6.25% 1992 (Def)	124,181,749	XXX	98,195,710	XXX	25,986,039
0200078. 83 IAM 5.75% 1993 (Def)	129,713,343	XXX	72,238,610	XXX	57,474,733
0200079. 83 IAM 5.50% 1994 (Def)	116,727,606	XXX	56,853,194	XXX	59,874,412
0200080. 83 IAM 6.00% 1995 (Def)	128,391,617	XXX	52,995,230	XXX	75,396,387
0200081. 83 IAM 5.50% 1996-1997 (Def)	254,827,079	XXX	93,580,836	XXX	161,246,243
0200082. 83 IAM 5.25% 1998 (Def)	105,479,796	XXX	42,173,104	XXX	63,306,692
0200083. Deferred 3.50% 1989-1998 (Def)	13,771	XXX	13,771	XXX	
0200084. Deferred 4.50% 1989-1998 (Def)	2,907,608	XXX	2,907,608	XXX	
0200085. Deferred 5.50% 1989-1998 (Def)	628,902	XXX	628,902	XXX	
0200086. Annuity 2000, 1994 GAR 5.25% 1999 (Def)	91,374,840	XXX	36,091,710	XXX	55,283,130
0200087. Annuity 2000, 1994 GAR 5.75% 2000 (Def)	88,041,091	XXX	36,160,311	XXX	51,880,780
0200088. Annuity 2000, 1994 GAR 5.50% 2001-2002 (Def)	293,646,091	XXX	145,353,904	XXX	148,292,187
0200089. Annuity 2000, 1994 GAR 5.00% 2003 (Def)	100,540,009	XXX	57,841,331	XXX	42,698,678
0200090. Annuity 2000, 1994 GAR 4.75% 2004 (Def)	64,908,855	XXX	51,361,808	XXX	13,547,047

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 5 - AGGREGATE RESERVE FOR LIFE CONTRACTS

1	2	3	4	5	6
Valuation Standard	Total ^(a)	Industrial	Ordinary	Credit (Group and Individual)	Group
0200091. Annuity 2000, 1994 GAR 4.50% 2005-2006 (Def)	175,792,199	XXX	157,568,770	XXX	18,223,429
0200092. Annuity 2000, 1994 GAR 4.75% 2007-2008 (Def)	499,200,820	XXX	492,543,765	XXX	6,657,055
0200093. Annuity 2000, 1994 GAR 5.00% 2009 (Def)	190,399,489	XXX	188,517,334	XXX	1,882,155
0200094. Annuity 2000, 1994 GAR 4.50% 2010 (Def)	344,257,470	XXX	344,257,470	XXX	
0200095. Annuity 2000, 1994 GAR 4.25% 2011 (Def)	705,402,362	XXX	705,039,897	XXX	362,465
0200096. Annuity 2000, 1994 GAR 3.75% 2012-2013 (Def)	2,551,485,339	XXX	2,551,044,173	XXX	441,166
0200097. Annuity 2000, 1994 GAR 4.00% 2014 (Def)	1,464,328,677	XXX	1,464,328,277	XXX	400
0200098. Annuity 2000, 1994 GAR 3.75% 2015 (Def)	2,225,984,239	XXX	2,225,673,654	XXX	310,585
0200099. 2012 IAR 3.75% 2016 (Def)	3,220,202,985	XXX	3,220,202,985	XXX	
0200100. 2012 IAR 3.50% 2017-2018 (Def)	8,051,291,444	XXX	8,051,291,444	XXX	
0200101. 2012 IAR 3.75% 2019 (Def)	3,993,271,444	XXX	3,993,271,444	XXX	
0200102. 2012 IAR 3.50% 2020 (Def)	3,042,847,138	XXX	3,042,847,138	XXX	
0200103. 2012 IAR 3.00% 2021 (Def)	5,071,675,355	XXX	5,071,675,355	XXX	
0200104. 2012 IAR 3.25% 2022 (Def)	6,810,725,850	XXX	6,810,725,850	XXX	
0299997. Totals (Gross)	42,427,627,019	XXX	40,642,380,402	XXX	1,785,246,617
0299998. Reinsurance ceded	18,314,490,946	XXX	17,817,785,909	XXX	496,705,037
0299999. Annuities: Totals (Net)	24,113,136,073	XXX	22,824,594,493	XXX	1,288,541,580
0300001. 71 IAM 6.00% 1971-1973	214		214		
0300002. 71 IAM 11.25% 1983-1984	0				
0300003. 71 IAM 11.00% 1985	0				
0300004. 71 IAM 7.50%	0				
0300005. 83 IAM 9.25% 1986	7,189		7,189		
0300006. 83 IAM 8.00% 1987	0				
0300007. 83 IAM 5.25% 2005	128,977		128,977		
0300008. 83 IAM 5.50% 1986-2008	67,576		67,576		
0300009. 83 IAM 6.00% 1989-2009	0				
0300010. 83 IAM 6.25% 1989-2008	0				
0300011. 83 IAM 6.50% 1989-2008	88,050		88,050		
0300012. 83 IAM 6.75% 1989-2008	45,887		45,887		
0300013. 83 IAM 8.75% 1988-1989	19,197		19,197		
0300014. 83 IAM 7.00% 1993	3,293		3,293		
0300015. 83 IAM 7.25% 1995	11,576		11,576		
0300016. 83 IAM 7.75% 1992	15,598		15,598		
0300017. 83 IAM 8.00% 1987	31,980		31,980		
0300018. 83 IAM 8.25% 1990-1991	19,095		19,095		
0300019. 83 IAM 8.50% 1986-2008	0				
0300020. 83 IAM 8.75% 1988-1989	0				
0300021. Annuity 2000 7.00% 2000	8,701		8,701		
0300022. Annuity 2000 5.25% 2005, 2010	52,802		52,802		
0300023. Annuity 2000 5.25% 2006	129,709		129,709		
0300024. Annuity 2000 5.50% 2007	0				
0300025. Annuity 2000 4.25% 2012	56,891		56,891		
0300026. Annuity 2000 4.50% 2015	0				
0300027. Annuity 2000 3.75% 2018	12,228		12,228		
0300028. Annuity 2000 3.00% 2021	209,803		209,803		
0399997. Totals (Gross)	908,766	0	908,766	0	0
0399998. Reinsurance ceded	0				
0399999. SCWLC: Totals (Net)	908,766	0	908,766	0	0
0400001. 59 ADB WITH 58 CSO 3.00%	47,556		47,556		
0400002. RESERVE FOR ADDITIONAL ADB	24		24		
0400003. 59 ADB WITH 80 CSO 4.00%	33,600		33,600		
0499997. Totals (Gross)	81,180	0	81,180	0	0
0499998. Reinsurance ceded	40,940		40,940		
0499999. Accidental Death Benefits: Totals (Net)	40,240	0	40,240	0	0
0500001. 52 INTERCO DISA, PER 2 BEN 4 & 5 W/ 58 CSO 3.00%	10,332		10,332		
0500002. 52 INTERCO DISA, PER 2 BEN 4 & 5 W/ 80 CSO 4.00%	19,714		19,714		
0500003. UNEARNED PREMIUM PAYOR	2,100		2,100		
0500004. 85 CIDA 4.50%	33,578		33,578		
0599997. Totals (Gross)	65,724	0	65,724	0	0
0599998. Reinsurance ceded	46,223		46,223		
0599999. Disability-Active Lives: Totals (Net)	19,501	0	19,501	0	0
0600001. 52 INTERCO DISA, PER 2 BEN 4 & 5 3.00%	3,737,924		3,737,924		
0600002. 1964 CDT 3.00%	2,692		2,692		
0600003. 85 CDT 4.50%	0				
0600004. 70 GROUP DIS 3.50%	0				
0600005. INCURRED BUT NOT REPORTED	60,000		60,000		
0699997. Totals (Gross)	3,800,616	0	3,800,616	0	0
0699998. Reinsurance ceded	2,308,916		2,308,916		
0699999. Disability-Disabled Lives: Totals (Net)	1,491,700	0	1,491,700	0	0
0700001. EXCESS OF NET PREMIUMS OVER GROSS	1,914,075		1,914,075		
0700002. NON DEDUCTION OF DEF. FRAC. PREMIUMS	778,919		775,793		3,126
0700003. GUARANTEED INSURABILITY RIDERS	52,471		52,471		
0700004. SUBSTANDARD POLICIES	69,747		69,747		
0700005. UNEARNED PREMIUMS - GROUP	3,497				3,497
0700006. IMMEDIATE PAYMENT OF CLAIMS	3,081,201		3,081,054		147
0799997. Totals (Gross)	5,899,910	0	5,893,140	0	6,770
0799998. Reinsurance ceded	1,800,253		1,800,253		
0799999. Miscellaneous Reserves: Totals (Net)	4,099,657	0	4,092,887	0	6,770
9999999. Totals (Net) - Page 3, Line 1	24,259,873,750	0	22,970,291,780	0	1,289,581,970

(a) Included in the above table are amounts of deposit-type contracts that originally contained a mortality risk. Amounts of deposit-type contracts in Column 2 that no longer contain a mortality risk are Life Insurance \$; Annuities \$ 5,220,560 ; Supplementary Contracts with Life Contingencies \$; Accidental Death Benefits \$; Disability - Active Lives \$; Disability - Disabled Lives \$; Miscellaneous Reserves \$

EXHIBIT 5 - INTERROGATORIES

- 1.1 Has the reporting entity ever issued both participating and non-participating contracts?..... Yes [] No [X]
- 1.2 If not, state which kind is issued.
 Non-Participating
- 2.1 Does the reporting entity at present issue both participating and non-participating contracts?..... Yes [] No [X]
- 2.2 If not, state which kind is issued.
 Non-Participating
- 3. Does the reporting entity at present issue or have in force contracts that contain non-guaranteed elements?..... Yes [X] No []
 If so, attach a statement that contains the determination procedures, answers to the interrogatories and an actuarial opinion as described in the instructions.
- 4. Has the reporting entity any assessment or stipulated premium contracts in force? Yes [] No [X]
 If so, state:
 4.1 Amount of insurance?\$
 4.2 Amount of reserve?\$
 4.3 Basis of reserve:

 4.4 Basis of regular assessments:

 4.5 Basis of special assessments:

 4.6 Assessments collected during the year\$
- 5. If the contract loan interest rate guaranteed in any one or more of its currently issued contracts is less than 5%, not in advance, state the contract loan rate guarantees on any such contracts.

- 6. Does the reporting entity hold reserves for any annuity contracts that are less than the reserves that would be held on a standard basis? Yes [] No [X]
 6.1 If so, state the amount of reserve on such contracts on the basis actually held:.....\$
 6.2 That would have been held (on an exact or approximate basis) using the actual ages of the annuitants; the interest rate(s) used in 6.1; and the same mortality basis used by the reporting entity for the valuation of comparable annuity benefits issued to standard lives. If the reporting entity has no comparable annuity benefits for standard lives to be valued, the mortality basis shall be the table most recently approved by the state of domicile for valuing individual annuity benefits:\$
 Attach statement of methods employed in their valuation.
- 7. Does the reporting entity have any Synthetic GIC contracts or agreements in effect as of December 31 of the current year? Yes [] No [X]
 7.1 If yes, state the total dollar amount of assets covered by these contracts or agreements\$
 7.2 Specify the basis (fair value, amortized cost, etc.) for determining the amount:

 7.3 State the amount of reserves established for this business:\$
 7.4 Identify where the reserves are reported in the blank:

- 8. Does the reporting entity have any Contingent Deferred Annuity contracts or agreements in effect as of December 31 of the current year? Yes [] No [X]
 8.1 If yes, state the total dollar amount of account value covered by these contracts or agreements:\$
 8.2 State the amount of reserves established for this business:\$
 8.3 Identify where the reserves are reported in the blank:

- 9. Does the reporting entity have any Guaranteed Lifetime Income Benefit contracts, agreements or riders in effect as of December 31 of the current year? Yes [X] No []
 9.1 If yes, state the total dollar amount of any account value associated with these contracts, agreements or riders:\$ 4,980,180,235
 9.2 State the amount of reserves established for this business:\$ 5,310,268,145
 9.3 Identify where the reserves are reported in the blank:
 Exhibit 5 Annuities, Ordinary

EXHIBIT 5A - CHANGES IN BASES OF VALUATION DURING THE YEAR

1 Description of Valuation Class	Valuation Basis		4 Increase in Actuarial Reserve Due to Change
	2 Changed From	3 Changed To	
Fixed Indexed Annuities issued since 1998	AG35 MVRM-BSPM	AG35 MVRM-BSPM/OAC 3901-1-67	(236,182,404)
0199999. Subtotal (Page 7, Line 6)	XXX	XXX	(236,182,404)
.....
.....
9999999 - Total (Column 4, only)			(236,182,404)

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 6 - AGGREGATE RESERVES FOR ACCIDENT AND HEALTH CONTRACTS (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	1,683,244			95,029							1,589	1,585,933	693
2. Additional contract reserves (b)	82,371,509			1,030,404							1,670	81,321,188	18,247
3. Additional actuarial reserves-Asset/Liability analysis	0			0							0	0	0
4. Reserve for future contingent benefits	0			0							0	0	0
5. Reserve for rate credits	0			0							0	0	0
6. Aggregate write-ins for reserves	0	0	0	0	0	0	0	0	0	0	0	0	0
7. Totals (Gross)	84,054,753	0	0	1,125,433	0	0	0	0	0	0	3,259	82,907,121	18,940
8. Reinsurance ceded	45,850,048			1,125,433							3,259	44,702,416	18,940
9. Totals (Net)	38,204,705	0	0	0	0	0	0	0	0	0	0	38,204,705	0
CLAIM RESERVE													
10. Present value of amounts not yet due on claims	20,635,951			0							0	20,635,951	0
11. Additional actuarial reserves-Asset/Liability analysis	41,989			0							41,989	0	0
12. Reserve for future contingent benefits	0			0							0	0	0
13. Aggregate write-ins for reserves	0	0	0	0	0	0	0	0	0	0	0	0	0
14. Totals (Gross)	20,677,940	0	0	0	0	0	0	0	0	0	41,989	20,635,951	0
15. Reinsurance ceded	8,372,412			0							41,989	8,330,423	0
16. Totals (Net)	12,305,528	0	0	0	0	0	0	0	0	0	0	12,305,528	0
17. TOTAL (Net)	50,510,233	0	0	0	0	0	0	0	0	0	0	50,510,233	0
18. TABULAR FUND INTEREST	1,957,275			0							0	1,957,275	0
DETAILS OF WRITE-INS													
0601.													
0602.													
0603.													
0698. Summary of remaining write-ins for Line 6 from overflow page	0	0	0	0	0	0	0	0	0	0	0	0	0
0699. TOTALS (Lines 0601 thru 0603 plus 0698) (Line 6 above)	0	0	0	0	0	0	0	0	0	0	0	0	0
1301.													
1302.													
1303.													
1398. Summary of remaining write-ins for Line 13 from overflow page	0	0	0	0	0	0	0	0	0	0	0	0	0
1399. TOTALS (Lines 1301 thru 1303 plus 1398) (Line 13 above)	0	0	0	0	0	0	0	0	0	0	0	0	0

(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.
 (b) Attach statement as to valuation standard used in calculating this reserve, specifying reserve bases, interest rates and methods.

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 7 - 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 before reinsurance	582,786,644	0	382,494,400	0	0	200,292,244
2. Deposits received during the year	9,164,370		9,164,370			
3. Investment earnings credited to the account	21,297,200		12,897,693			8,399,507
4. Other net change in reserves	420,717,961		120,713,021			300,004,940
5. Fees and other charges assessed	4,693,738		4,693,738			
6. Surrender charges	0					
7. Net surrender or withdrawal payments	139,681,819		131,784,257			7,897,562
8. Other net transfers to or (from) Separate Accounts	0					
9. Balance at the end of current year before reinsurance (Lines 1+2+3+4-5-6-7-8) (a)	889,590,618	0	388,791,489	0	0	500,799,129
10. Reinsurance balance at the beginning of the year	9,287,897	0	1,341,207	369,191	5,564,592	2,012,907
11. Net change in reinsurance assumed	(432,849)		(120,522)	(63,592)	(134,000)	(114,735)
12. Net change in reinsurance ceded	118,622,048		118,622,048			
13. Reinsurance balance at the end of the year (Lines 10+11-12)	(109,767,000)	0	(117,401,363)	305,599	5,430,592	1,898,172
14. Net balance at the end of current year after reinsurance (Lines 9 + 13)	779,823,618	0	271,390,126	305,599	5,430,592	502,697,301

(a) FHLB Funding Agreements:

1. Reported as GICs (captured in column 2)	\$	0
2. Reported as Annuities Certain (captured in column 3)	\$	271,390,124
3. Reported as Supplemental Contracts (captured in column 4)	\$	305,599
4. Reported as Dividend Accumulations or Refunds (captured in column 5)	\$	5,430,592
5. Reported as Premium or Other Deposit Funds (captured in column 6)	\$	502,697,302
6. Total Reported as Deposit-Type Contracts (captured in column 1): (Sum of Lines 1 through 5) . \$		779,823,617

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

PART 1 - Liability End of Current Year

	1 Total	2 Industrial Life	Ordinary			6 Credit Life (Group and Individual)	Group		Accident and Health		
			3 Life Insurance	4 Individual Annuities	5 Supplementary Contracts		7 Life Insurance	8 Annuities	9 Group	10 Credit (Group and Individual)	11 Other
1. Due and unpaid:											
1.1 Direct	0										
1.2 Reinsurance assumed	0										
1.3 Reinsurance ceded	0										
1.4 Net	0	0	0	0	0	0	0	0	0	0	0
2. In course of settlement:											
2.1 Resisted											
2.11 Direct	0										
2.12 Reinsurance assumed	0										
2.13 Reinsurance ceded	0										
2.14 Net	0	0	(b) 0	(b) 0	0	(b) 0	(b) 0	0	0	0	0
2.2 Other											
2.21 Direct	295,934,458		8,746,180	283,909,997			12,693	3,088,042			177,546
2.22 Reinsurance assumed	3,514,401		1,981,032	1,162,419			8,000				362,950
2.23 Reinsurance ceded	162,567,087		6,331,298	156,028,149			11,424	18,670			177,546
2.24 Net	136,881,772	0	(b) 4,395,914	(b) 129,044,267	0	(b) 0	(b) 9,269	3,069,372	(b) 0	(b) 0	(b) 362,950
3. Incurred but unreported:											
3.1 Direct	4,612,513		4,134,819	200,031			12,306	66	1,336		263,955
3.2 Reinsurance assumed	1,149,827		1,105,553				16,581		121		27,572
3.3 Reinsurance ceded	2,085,291		1,808,837	28			11,076	59	1,336		263,955
3.4 Net	3,677,049	0	(b) 3,431,535	(b) 200,003	0	(b) 0	(b) 17,811	7	(b) 121	(b) 0	(b) 27,572
4. TOTALS											
4.1 Direct	300,546,971	0	12,880,999	284,110,028	0	0	24,999	3,088,108	1,336	0	441,501
4.2 Reinsurance assumed	4,664,228	0	3,086,585	1,162,419	0	0	24,581	0	121	0	390,522
4.3 Reinsurance ceded	164,652,378	0	8,140,135	156,028,177	0	0	22,500	18,729	1,336	0	441,501
4.4 Net	140,558,821	(a) 0	(a) 7,827,449	129,244,270	0	0	(a) 27,080	3,069,379	121	0	390,522

(a) Including matured endowments (but not guaranteed annual pure endowments) unpaid amounting to \$ in Column 2, \$ in Column 3 and \$ in Column 7.

(b) Include only portion of disability and accident and health claim liabilities applicable to assumed "accrued" benefits. Reserves (including reinsurance assumed and net of reinsurance ceded) for unaccrued benefits for Ordinary Life Insurance \$ Individual Annuities \$, Credit Life (Group and Individual) \$, and Group Life \$, are included in Page 3, Line 1, (See Exhibit 5, Section on Disability Disabled Lives); and for Group Accident and Health \$ Credit (Group and Individual) Accident and Health \$, and Other Accident and Health \$ are included in Page 3, Line 2 (See Exhibit 6, Claim Reserve).

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

PART 2 - Incurred During the Year

	1 Total	2 Industrial Life (a)	Ordinary			6 Credit Life (Group and Individual)	Group		Accident and Health		
			3 Life Insurance (b)	4 Individual Annuities	5 Supplementary Contracts		7 Life Insurance (c)	8 Annuities	9 Group	10 Credit (Group and Individual)	11 Other
1. Settlements During the Year:											
1.1 Direct	1,152,496,992		62,997,300	1,009,252,356	(1,213)		1,181,965	74,897,147	31,858		4,137,579
1.2 Reinsurance assumed	16,205,172		8,140,743	4,227,351							3,837,078
1.3 Reinsurance ceded	532,976,961		29,573,607	497,986,680			1,061,221	186,016	31,858		4,137,579
1.4 Net	(d) 635,725,203	0	41,564,436	515,493,027	(1,213)	0	120,744	74,711,131	0	0	3,837,078
2. Liability December 31, current year from Part 1:											
2.1 Direct	300,546,971	0	12,880,999	284,110,028	0	0	24,999	3,088,108	1,336	0	441,501
2.2 Reinsurance assumed	4,664,228	0	3,086,585	1,162,419	0	0	24,581	0	121	0	390,522
2.3 Reinsurance ceded	164,652,378	0	8,140,135	156,028,177	0	0	22,500	18,729	1,336	0	441,501
2.4 Net	140,558,821	0	7,827,449	129,244,270	0	0	27,080	3,069,379	121	0	390,522
3. Amounts recoverable from reinsurers December 31, current year	3,690,014		3,690,014								
4. Liability December 31, prior year:											
4.1 Direct	317,375,373	0	11,873,073	302,644,649	0	0	57,371	2,338,341	7,556	0	454,383
4.2 Reinsurance assumed	5,537,932	0	3,332,866	1,756,969	0	0	24,581	0	95	0	423,421
4.3 Reinsurance ceded	52,308,189	0	7,402,375	44,384,457	0	0	51,634	7,784	7,556	0	454,383
4.4 Net	270,605,116	0	7,803,564	260,017,161	0	0	30,318	2,330,557	95	0	423,421
5. Amounts recoverable from reinsurers December 31, prior year	3,837,809		3,837,809								
6. Incurred Benefits											
6.1 Direct	1,135,668,590	0	64,005,226	990,717,735	(1,213)	0	1,149,593	75,646,914	25,638	0	4,124,697
6.2 Reinsurance assumed	15,331,468	0	7,894,462	3,632,801	0	0	0	0	26	0	3,804,179
6.3 Reinsurance ceded	645,173,355	0	30,163,572	609,630,400	0	0	1,032,087	196,961	25,638	0	4,124,697
6.4 Net	505,826,703	0	41,736,116	384,720,136	(1,213)	0	117,506	75,449,953	26	0	3,804,179

(a) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ in Line 1.1, \$ in Line 1.4.
 \$ in Line 6.1, and \$ in Line 6.4.

(b) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ 22,447,993 in Line 1.1, \$ 22,538,456 in Line 1.4.
 \$ 22,447,993 in Line 6.1, and \$ 22,538,456 in Line 6.4.

(c) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ 18,225 in Line 1.1, \$ 1,823 in Line 1.4.
 \$ 18,225 in Line 6.1, and \$ 1,823 in Line 6.4.

(d) Includes \$ premiums waived under total and permanent disability benefits.

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT OF NON-ADMITTED ASSETS

	1	2	3
	Current Year Total Nonadmitted Assets	Prior Year Total Nonadmitted Assets	Change in Total Nonadmitted Assets (Col. 2 - Col. 1)
1. Bonds (Schedule D)			0
2. Stocks (Schedule D):			
2.1 Preferred stocks			0
2.2 Common stocks			0
3. Mortgage loans on real estate (Schedule B):			
3.1 First liens			0
3.2 Other than first liens.....			0
4. Real estate (Schedule A):			
4.1 Properties occupied by the company			0
4.2 Properties held for the production of income.....			0
4.3 Properties held for sale			0
5. Cash (Schedule E - Part 1), cash equivalents (Schedule E - Part 2) and short-term investments (Schedule DA)			0
6. Contract loans			0
7. Derivatives (Schedule DB)			0
8. Other invested assets (Schedule BA)			0
9. Receivables for securities			0
10. Securities lending reinvested collateral assets (Schedule DL)			0
11. Aggregate write-ins for invested assets	0	0	0
12. Subtotals, cash and invested assets (Lines 1 to 11)	0	0	0
13. Title plants (for Title insurers only)			0
14. Investment income due and accrued	10,205,864	387,547	(9,818,317)
15. Premiums and considerations:			
15.1 Uncollected premiums and agents' balances in the course of collection	36,509	19,043	(17,466)
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due .	6,502,575	1,788,430	(4,714,145)
15.3 Accrued retrospective premiums and contracts subject to redetermination			0
16. Reinsurance:			
16.1 Amounts recoverable from reinsurers	1,729,036	1,092,692	(636,344)
16.2 Funds held by or deposited with reinsured companies			0
16.3 Other amounts receivable under reinsurance contracts			0
17. Amounts receivable relating to uninsured plans			0
18.1 Current federal and foreign income tax recoverable and interest thereon			0
18.2 Net deferred tax asset	2,226,503	14,578,581	12,352,078
19. Guaranty funds receivable or on deposit			0
20. Electronic data processing equipment and software			0
21. Furniture and equipment, including health care delivery assets		289,688	289,688
22. Net adjustment in assets and liabilities due to foreign exchange rates			0
23. Receivables from parent, subsidiaries and affiliates			0
24. Health care and other amounts receivable			0
25. Aggregate write-ins for other than invested assets	11,202,221	9,091,236	(2,110,985)
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	31,902,708	27,247,217	(4,655,491)
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts			0
28. Total (Lines 26 and 27)	31,902,708	27,247,217	(4,655,491)
DETAILS OF WRITE-INS			
1101.			
1102.			
1103.			
1198. Summary of remaining write-ins for Line 11 from overflow page	0	0	0
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)	0	0	0
2501. Accounts receivable	11,202,221	9,091,236	(2,110,985)
2502.			
2503.			
2598. Summary of remaining write-ins for Line 25 from overflow page	0	0	0
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)	11,202,221	9,091,236	(2,110,985)

NOTES TO FINANCIAL STATEMENTS

Note 1 - Summary of Significant Accounting Policies

A. Accounting Practices

The financial statements of the MassMutual Ascend Life Insurance Company ("MMALIC" or "the Company") are presented on the basis of accounting practices prescribed or permitted by the Ohio Department of Insurance. The Company was formerly known as Great American Life Insurance Company.

The Ohio Department of Insurance recognizes only statutory accounting practices prescribed or permitted by the State of Ohio for determining and reporting the financial condition and results of operations of an insurance company, for determining its solvency under the Ohio Insurance Law. The National Association of Insurance Commissioners' ("NAIC") *Accounting Practices and Procedures Manual* has been adopted as a component of prescribed or permitted practices by the State of Ohio.

In 2021 the Ohio Department of Insurance promulgated Ohio Administrative Code Section 3901-1-67, Alternative Derivative and Reserve Accounting Practices (OAC 3901-1-67), which constitutes a prescribed practice as contemplated by the NAIC SAP. The prescribed practice allows Ohio-domiciled insurance companies to utilize certain alternative derivative and reserve accounting practices for eligible derivative instruments and indexed products, respectively, in order to better align the measurement of indexed product reserves and the derivatives that hedge them. Effective January 1, 2022, the Company elected to apply OAC 3901-1-67 to its derivative instruments hedging equity indexed annuity products and equity indexed reserve liabilities.

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

Net Income	SSAP #	F/S Page	F/S Line #	2022	2021
(1) State basis	XXX	XXX	XXX	\$ 158,026,906	\$ 329,013,837
(2) State prescribed practices that increase/(decrease) NAIC SAP	XXX	XXX	XXX		
OAC 3901-1-67:					
Derivative instruments	86	4	7, 3	(26,420,295)	-
Reserves for fixed indexed annuities	51	4	1, 19	(187,982,067)	-
Tax impact	101	4	18.2, 32	45,024,496	-
(3) State permitted practices that increase/(decrease) NAIC SAP	XXX	XXX	XXX	-	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	<u>\$ 327,404,772</u>	<u>\$ 329,013,837</u>
Surplus					
(5) Statutory surplus state basis	XXX	XXX	XXX	\$ 2,832,582,838	\$ 2,878,120,622
(6) State prescribed practices that increase/(decrease) NAIC SAP					
OAC 3901-1-67:					
Derivative instruments	86	2, 4	7, 3	(39,219,472)	-
Reserves for fixed indexed annuities	51	3, 4	1, 19	48,200,337	-
Tax impact	101	2, 4	18.2, 32	13,094,188	-
(7) State permitted practices that increase/(decrease) NAIC SAP	XXX	XXX	XXX	-	-
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	<u>\$ 2,810,507,785</u>	<u>\$ 2,878,120,622</u>

B. Use of Estimates in Preparation of the Financial Statements

The preparation of financial statements in conformity with NAIC SAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities. It also requires disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates.

C. Accounting Policy

Life premiums are recognized as revenues over the premium paying period of the related policies. Annuity considerations are recognized as revenue when received. Health premiums are earned ratably over the terms of the related insurance and reinsurance contracts or policies. Expenses incurred in connection with acquiring new insurance business, including acquisition costs such as sales commissions, are charged to operations as incurred.

In addition, the Company uses the following accounting policies:

- (1) Short-term investments are stated at cost.
- (2) Bonds with an NAIC rating of 1 through 5 are stated at amortized cost using the interest method; all others are stated at the lower of amortized cost or fair value. Mandatory convertible bonds are stated at the lower of book value or fair value, regardless of the NAIC designation. The Company does not own any SVO Identified Exchange Traded Funds.
- (3) Common stocks are stated at fair value, except investments in stocks of wholly owned subsidiaries which are carried on the equity basis, in accordance with Statement of Statutory Accounting Principle ("SSAP") No. 97.
- (4) Redeemable preferred stocks rated P1 through P3 and perpetual preferred stocks rated 1 through 3 are stated at book value; all others are stated at the lower of book value or fair value.
- (5) Mortgage loans are stated at the aggregate carrying value less accrued interest. The Company has no real estate.
- (6) For residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS) and loan-backed and structured securities (LBASS), the NAIC has retained a third-party investment management firm to assist in the determination of the appropriate NAIC designations and Book Adjusted Carrying Values based on not only the profitability of loss, but also the severity of loss. Those RMBS, CMBS and LBASS securities that are not modeled but receive a current year NAIC Credit Rating Provider (CRP) rating equal to NAIC 1 and 2 are stated at amortized cost and NAIC 3-6 are stated at lower of amortized cost or fair value. Mandatory convertible bonds are stated at the lower of book value or fair value, regardless of NAIC designation.
- (7) The Company carries several affiliated insurance companies and non-insurance companies at statutory and GAAP equity, respectively, in accordance with SSAP No. 97. The goodwill balances have been fully amortized.
- (8) Other invested assets are stated at the lower of cost or fair value, except investments in limited partnerships and limited liability companies. Investments in limited partnerships and limited liability companies are stated at the underlying audited GAAP equity.
- (9) Options to hedge the Company's fixed-indexed annuities are valued at amortized cost (refer to Note 8). All other derivative instruments in the Company's investment portfolio are valued at fair value. The impact of the change in the fair value is recognized as an unrealized gain or loss to surplus.
- (10) The Company anticipates investment income as a factor in the premium deficiency calculation, in accordance with SSAP No. 54R—*Individual and Group Accident and Health Contracts*.

NOTES TO FINANCIAL STATEMENTS

(11) Liabilities for losses and loss/claim adjustment expenses for accident and health contracts are estimated by the Company's valuation actuary using statistical claim development models to develop best estimates of liabilities for medical expense business and using tabular reserves employing mortality/morbidity tables and discount rates specified by regulatory authorities for disability income business.

(12) The Company has not modified its capitalization policy from the prior period.

(13) The Company has no pharmaceutical rebate receivables.

D. Going Concern

After review of the Company's financial condition, management has no doubts about the Company's ability to continue as a going concern.

Note 2 - Accounting Changes and Corrections of Errors

The Company had no corrections of errors. The Company had no material changes in accounting principles except for the following.

Effective January 1, 2022, the Company elected to apply OAC 3901-1-67 to its derivative instruments hedging equity indexed annuity products and equity indexed annuity reserve liabilities. Under OAC 3901-1-67, derivative instruments will be carried on the statutory balance sheet at amortized cost with the initial hedge cost amortized over the term and asset payoffs realized at the end of the term being reported through net investment income rather than derivative instruments being carried at fair value with asset payoffs realized over the term through change in net unrealized capital gains and losses. Additionally, the cash surrender value reserves for equity indexed annuity products will only reflect index interest credits at the end of the crediting term as compared to partial index interest credits accumulating throughout the crediting term in increase in aggregate reserves for life and accident and health contracts. As a result of the Company's election to apply OAC 3901-1-67 as of January 1, 2022, total statutory admitted assets decreased \$393,568,270, total statutory liabilities decreased \$236,182,404 and total statutory capital and surplus decreased \$157,385,866. The following table summarizes the components of the total decrease in statutory surplus:

Change in fixed indexed annuity reserves	\$ 236,182,404
Change in net deferred income tax	60,798,989
Derivatives instruments	(454,367,259)
Total decrease in statutory surplus	<u>\$ (157,385,866)</u>

Note 3 - Business Combinations and Goodwill

- A. The Company has no business combinations accounted for under the statutory purchase method.
- B. The Company was not involved in any statutory mergers.
- C. The Company did not recognize any goodwill resulting from assumption reinsurance transactions.
- D. The Company did not recognize any impairment losses related to business combinations or goodwill.
- E. Subcomponents and Calculation of Adjusted Surplus and Total Admitted Goodwill

	Calculation of Limitation Using Prior Quarter Numbers	Current Reporting Period
(1) Capital & Surplus	\$ 2,786,817,809	XXX
Less:		
(2) Admitted Positive Goodwill	-	XXX
(3) Admitted EDP Equipment & Operating System Software	56,436	XXX
(4) Admitted Net Deferred Taxes	12,123,992	XXX
(5) Adjusted Capital and Surplus (Line 1-+2-+3-+4)	<u>\$ 2,774,637,381</u>	XXX
(6) Limitation on amount of goodwill (adjusted capital and surplus times 10% goodwill limitation [Line 5*10%])	277,463,738	XXX
(7) Current period reporting Admitted Goodwill	XXX	-
(8) Current Period Admitted Goodwill as a % of prior period Adjusted Capital and Surplus (Line7/Line5)	XXX	0%

NOTES TO FINANCIAL STATEMENTS

Note 4 - Discontinued Operations

The Company has no discontinued operations.

Note 5 - Investments

A. Mortgage Loans, including Mezzanine Real Estate Loans

- (1) The maximum and minimum lending rates for new mortgage loans during 2022 were:
Commercial mortgage loans 11.72% and 2.64%, residential mortgage loans 11.70% and 2.50% and mezzanine real estate loans 13.28% and 9.98%
- (2) The maximum percentage of any one loan to the value of security at the time of the loan, exclusive of mezzanine, insured, guaranteed or purchase money mortgages, was 100% as of December 31, 2022.
- (3) The Company had no taxes, assessments or any amounts advanced and not included in the mortgage loan total.
- (4) Age Analysis of Mortgage Loans and Identification of Mortgage Loans in which the Insurer is a Participant or Co-Lender in a Mortgage Loan Agreement:

	Farm	Residential		Commercial		Mezzanine	Total
		Insured	All Other	Insured	All Other		
a. Current Year							
1. Recorded Investment (All)							
a. Current	\$ -	\$ 486,645,834	\$ 1,316,118,325	\$ -	\$ 1,263,455,753	\$ 22,593,648	\$ 3,088,813,560
b. 30-59 Days Past Due	-	-	-	-	-	-	-
c. 60-89 Days Past Due	-	-	-	-	-	-	-
d. 90-179 Days Past Due	-	-	-	-	-	-	-
e. 180+ Days Past Due	-	-	-	-	-	-	-
2. Accruing Interest 90-179 Days Past Due							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Interest Accrued	-	-	-	-	-	-	-
3. Accruing Interest 180+ Days Past Due							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Interest Accrued	-	-	-	-	-	-	-
4. Interest Reduced							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Number of Loans	-	-	-	-	-	-	-
c. Percent Reduced	0%	0%	0%	0%	0%	0%	0%
5. Participant or Co-Lender in a Mortgage Loan Agreement							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Prior Year							
1. Recorded Investment (All)							
a. Current	\$ -	\$ -	\$ 817,045,639	\$ -	\$ 1,121,785,549	\$ 209,185,479	\$ 2,148,016,667
b. 30-59 Days Past Due	-	-	-	-	-	-	-
c. 60-89 Days Past Due	-	-	16,365	-	-	-	16,365
d. 90-179 Days Past Due	-	-	436,069	-	-	-	436,069
e. 180+ Days Past Due	-	-	-	-	-	-	-
2. Accruing Interest 90-179 Days Past Due							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Interest Accrued	-	-	-	-	-	-	-
3. Accruing Interest 180+ Days Past Due							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Interest Accrued	-	-	-	-	-	-	-
4. Interest Reduced							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Number of Loans	-	-	-	-	-	-	-
c. Percent Reduced	0%	0%	0%	0%	0%	0%	0%
5. Participant or Co-Lender in a Mortgage Loan Agreement							
a. Recorded Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

- (5) The Company had no investment in impaired loans with or without allowance for credit losses.
- (6) The Company had no investment in impaired loans.
- (7) The Company had no allowance for credit losses.
- (8) The Company had no mortgage loans derecognized as a result of foreclosure.
- (9) The Company recognizes interest income on its impaired loans upon receipt.

B. The Company has no restructured debt.

C. The Company has no investment in reverse mortgages.

NOTES TO FINANCIAL STATEMENTS

D. Loan-Backed Securities

- (1) The Company uses dealer-modeled prepayment assumptions for mortgage-backed and asset-backed securities at the date of purchase to determine the effective yields; significant changes in estimated cash flows from the original purchase assumptions are accounted for on a prospective basis.
- (2) The Company does not currently hold any aggregate loan-backed securities with a recognized other-than-temporary impairment ("OTTI") in which the Company has the intent to sell or the inability or lack of intent to retain the investment in the security for a period of time to recover the amortized cost basis.
- (3) The following table shows each security with a credit-related OTTI charge recognized during the period:

CUSIP	Amortized Cost Before OTTI	Present Value of Projected Cash Flows	OTTI Charge Recognized in Income Statement	Amortized Cost After OTTI	Fair Value at Time of OTTI	Date Reported
00256DAA0	\$ 5,028,172	\$ 3,890,891	\$ 1,137,281	\$ 3,890,891	\$ 3,201,439	3/31/2022
05535DBG8	270,320	226,054	44,266	226,054	146,322	3/31/2022
36157NFL3	63,101	48,296	14,805	48,296	65,578	3/31/2022
86358RXZ5	730,465	680,597	49,868	680,597	653,004	3/31/2022
05951KAN3	769,516	727,854	41,662	727,854	725,932	3/31/2022
17309AAD1	1,178,157	1,157,862	20,295	1,157,862	1,143,417	3/31/2022
41161PMV2	381,790	294,193	87,597	294,193	400,491	3/31/2022
65535VNL8	2,434,448	2,223,472	210,976	2,223,472	2,443,775	3/31/2022
74928XBB6	5,618,112	4,942,615	675,497	4,942,615	6,168,357	3/31/2022
05949CHM1	951,691	869,857	81,834	869,857	894,663	3/31/2022
57643MLZ5	391,660	375,540	16,120	375,540	376,146	3/31/2022
59020UV77	84,020	82,288	1,732	82,288	80,945	3/31/2022
863579RP5	736,920	685,020	51,900	685,020	711,770	3/31/2022
885220KW2	2,541,472	2,529,769	11,703	2,529,769	2,530,102	3/31/2022
94984DAC8	474,157	426,688	47,469	426,688	439,204	3/31/2022
07325DAF1	351,756	298,754	53,002	298,754	308,547	6/30/2022
759676AF6	467,062	389,330	77,732	389,330	403,998	6/30/2022
02147WAT6	1,833,809	1,810,984	22,825	1,810,984	1,647,430	6/30/2022
02147XAF8	722,783	716,983	5,800	716,983	616,400	6/30/2022
05951KAN3	727,416	726,755	661	726,755	709,393	6/30/2022
12566UAE4	484,546	479,517	5,029	479,517	428,794	6/30/2022
12566UAN4	745,695	687,455	58,239	687,455	680,275	6/30/2022
12566XAM0	762,429	749,321	13,107	749,321	711,263	6/30/2022
12628LAD2	939,894	917,685	22,210	917,685	775,478	6/30/2022
12668APC3	1,053,742	1,028,969	24,773	1,028,969	1,023,156	6/30/2022
17309BAB3	231,697	229,910	1,787	229,910	212,294	6/30/2022
17309VAH6	883,901	881,260	2,641	881,260	828,464	6/30/2022
225470Q89	639,198	566,017	73,181	566,017	434,433	6/30/2022
32051GSQ9	2,150,300	2,111,315	38,985	2,111,315	2,136,944	6/30/2022
59020UW43	484,507	422,353	62,154	422,353	438,518	6/30/2022
65535VSJ8	1,382,487	1,368,659	13,828	1,368,659	1,226,910	6/30/2022
69337BAH7	1,615,840	1,597,892	17,947	1,597,892	1,468,643	6/30/2022
74923HAQ4	591,952	582,904	9,048	582,904	527,598	6/30/2022
74928RAB0	299,181	295,529	3,652	295,529	312,097	6/30/2022
75115BAC3	1,263,859	1,260,657	3,203	1,260,657	1,287,590	6/30/2022
75116FBH1	1,660,615	1,655,476	5,139	1,655,476	1,511,249	6/30/2022
761118SC3	1,738,294	1,735,436	2,859	1,735,436	1,583,504	6/30/2022
863579J90	408,035	404,919	3,116	404,919	410,645	6/30/2022
87222EAB4	989,431	964,435	24,996	964,435	915,285	6/30/2022
87222EAC2	1,069,037	1,046,433	22,604	1,046,433	954,115	6/30/2022
93934NAC9	550,457	525,641	24,815	525,641	469,111	6/30/2022
058931AT3	1,243,463	1,240,130	3,333	1,240,130	1,198,967	6/30/2022
073880AD8	1,276,813	1,222,687	54,126	1,222,687	1,154,766	6/30/2022
12544DAG4	95,844	90,011	5,833	90,011	85,172	6/30/2022
12545EAK2	1,550,474	1,490,197	60,276	1,490,197	1,329,130	6/30/2022
12638PAB5	744,092	736,605	7,487	736,605	600,312	6/30/2022
1266942H0	606,740	599,651	7,089	599,651	501,690	6/30/2022
126694HP6	655,886	535,926	119,960	535,926	506,396	6/30/2022
12669G3S8	1,421,943	1,403,926	18,017	1,403,926	1,272,912	6/30/2022
12669G4K4	2,882,965	2,860,499	22,466	2,860,499	2,654,538	6/30/2022
16162YAL9	406,596	387,094	19,502	387,094	351,124	6/30/2022
16165MAG3	2,063,370	2,039,505	23,865	2,039,505	1,824,783	6/30/2022
170257AE9	3,090,905	2,877,625	213,279	2,877,625	2,454,654	6/30/2022
17025AAH5	1,119,104	1,045,677	73,427	1,045,677	993,451	6/30/2022
225458L55	554,354	551,293	3,060	551,293	495,964	6/30/2022
362341XC8	963,117	959,504	3,613	959,504	830,593	6/30/2022
46631NAA7	819,190	805,803	13,387	805,803	733,833	6/30/2022
46631NDT3	7,735,758	7,037,790	697,968	7,037,790	7,196,047	6/30/2022
74958YAE2	335,485	319,458	16,027	319,458	327,784	6/30/2022
78473TAJ9	275,754	245,411	30,343	245,411	214,919	6/30/2022
863579XC7	1,415,676	1,337,580	78,096	1,337,580	1,408,287	6/30/2022
86363GAF1	1,733,928	1,673,515	60,413	1,673,515	1,636,845	6/30/2022
94985AAA7	227,339	217,876	9,463	217,876	211,415	6/30/2022
94986CAA2	328,420	320,452	7,968	320,452	302,929	6/30/2022

NOTES TO FINANCIAL STATEMENTS

CUSIP	Amortized Cost Before OTTI	Present Value of Projected Cash Flow s	OTTI Charge Recognized in Income Statement	Amortized Cost After OTTI	Fair Value at Time of OTTI	Date Reported
57430U301	1,330,669	1,004,371	326,298	1,004,371	803,430	9/30/2022
07325DAF1	291,282	290,354	928	290,354	286,720	9/30/2022
3622EAAA8	3,999,702	3,929,491	70,212	3,929,491	3,739,585	9/30/2022
61751DAE4	1,716,986	1,604,835	112,151	1,604,835	2,251,814	9/30/2022
617526AD0	2,717,720	2,314,163	403,557	2,314,163	2,489,016	9/30/2022
86358RXZ5	573,712	503,846	69,866	503,846	532,119	9/30/2022
07386XAH9	1,136,200	1,060,380	75,820	1,060,380	920,227	9/30/2022
12566UAE4	469,028	437,575	31,453	437,575	395,514	9/30/2022
12566UAN4	659,320	581,671	77,649	581,671	613,196	9/30/2022
12566XAM0	724,102	706,097	18,005	706,097	652,607	9/30/2022
12628LAD2	944,313	837,560	106,754	837,560	715,627	9/30/2022
126670JP4	799,425	751,737	47,688	751,737	748,985	9/30/2022
12667F4N2	2,337,848	2,296,401	41,448	2,296,401	2,234,566	9/30/2022
12668APC3	991,327	950,477	40,850	950,477	944,519	9/30/2022
17307GED6	1,519,753	1,448,105	71,648	1,448,105	1,466,554	9/30/2022
17309BAB3	228,895	224,462	4,433	224,462	201,398	9/30/2022
17309VAH6	845,828	839,340	6,488	839,340	792,523	9/30/2022
225470Q89	554,757	534,935	19,822	534,935	418,987	9/30/2022
32051GSQ9	2,037,561	1,989,697	47,865	1,989,697	2,018,934	9/30/2022
46627MAD9	641,414	620,422	20,992	620,422	598,910	9/30/2022
46627MEJ2	1,290,004	1,214,983	75,022	1,214,983	1,045,674	9/30/2022
47232CAH7	1,899,848	1,899,428	420	1,899,428	2,091,390	9/30/2022
576434W59	231,800	180,887	50,912	180,887	133,506	9/30/2022
59020UW43	402,012	374,574	27,438	374,574	282,946	9/30/2022
643529AC4	566,063	512,432	53,631	512,432	615,937	9/30/2022
65535VMJ4	654,212	604,134	50,077	604,134	606,472	9/30/2022
65535VNL8	2,216,330	2,128,294	88,036	2,128,294	2,136,155	9/30/2022
65535VSJ8	1,353,591	1,314,301	39,290	1,314,301	1,150,059	9/30/2022
69337BAH7	1,588,255	1,531,076	57,179	1,531,076	1,357,354	9/30/2022
74923HAQ4	563,728	561,272	2,456	561,272	491,746	9/30/2022
74928RAB0	293,120	262,538	30,582	262,538	285,136	9/30/2022
75116CET9	263,844	166,578	97,266	166,578	229,893	9/30/2022
761118SC3	1,692,139	1,684,385	7,754	1,684,385	1,439,667	9/30/2022
863579J90	399,903	373,319	26,584	373,319	387,475	9/30/2022
87222EAB4	960,274	864,706	95,569	864,706	855,078	9/30/2022
87222EAC2	1,041,136	968,565	72,571	968,565	884,062	9/30/2022
93934FMD1	1,850,357	1,613,441	236,916	1,613,441	1,651,078	9/30/2022
45660LCK3	2,987,283	2,747,927	239,356	2,747,927	2,828,661	9/30/2022
05946XY72	1,121,255	1,064,056	57,199	1,064,056	1,039,216	9/30/2022
05949CHM1	788,146	770,794	17,352	770,794	776,150	9/30/2022
05949CKX3	1,593,696	1,495,795	97,900	1,495,795	1,483,476	9/30/2022
073880AD8	1,165,906	1,163,805	2,101	1,163,805	1,066,603	9/30/2022
12544DAG4	87,957	88,141	(184)	88,141	76,266	9/30/2022
12545EAK2	1,470,040	1,423,980	46,060	1,423,980	1,225,499	9/30/2022
12638PAB5	730,343	719,668	10,676	719,668	561,272	9/30/2022
1266942H0	586,626	561,203	25,423	561,203	472,137	9/30/2022
126694BE7	332,557	306,506	26,051	306,506	311,536	9/30/2022
126694CS5	3,094,276	3,091,476	2,800	3,091,476	2,504,248	9/30/2022
126694HP6	515,419	474,981	40,438	474,981	462,478	9/30/2022
12669DUS5	773,797	772,715	1,082	772,715	742,780	9/30/2022
12669G3S8	1,387,574	1,375,347	12,226	1,375,347	1,217,425	9/30/2022
12669G4K4	2,834,361	2,781,521	52,840	2,781,521	2,545,994	9/30/2022
12669GR45	534,792	525,148	9,644	525,148	485,346	9/30/2022
16162YAL9	380,468	361,472	18,995	361,472	327,514	9/30/2022
16165MAG3	1,961,306	1,944,718	16,588	1,944,718	1,661,310	9/30/2022
170257AE9	2,828,331	2,633,857	194,474	2,633,857	2,354,786	9/30/2022
17025AAH5	996,965	955,555	41,410	955,555	872,118	9/30/2022
2254582Y3	1,262,710	1,223,508	39,202	1,223,508	1,083,348	9/30/2022
362341XC8	925,615	890,329	35,286	890,329	775,076	9/30/2022
41161PCX9	222,673	219,523	3,150	219,523	217,809	9/30/2022
466247UG6	543,666	541,554	2,112	541,554	492,253	9/30/2022
466247ZP1	597,232	578,858	18,375	578,858	551,434	9/30/2022
46628LAB4	52,197	43,653	8,544	43,653	46,321	9/30/2022
46631NAA7	787,350	768,303	19,047	768,303	654,423	9/30/2022
46631NDT3	6,957,695	6,448,656	509,039	6,448,656	6,565,975	9/30/2022
57643MLZ5	322,070	311,840	10,230	311,840	295,793	9/30/2022
59023PAB9	550,151	530,517	19,633	530,517	549,074	9/30/2022
863579RP5	630,863	612,560	18,302	612,560	593,202	9/30/2022
863579XC7	1,202,538	1,169,250	33,288	1,169,250	1,184,462	9/30/2022
86363GAF1	1,622,996	1,511,763	111,233	1,511,763	1,431,479	9/30/2022
885220KW2	2,336,973	2,265,171	71,802	2,265,171	2,217,726	9/30/2022
92979DAC9	2,889,617	2,736,750	152,866	2,736,750	2,880,781	9/30/2022
94984DAC8	391,725	391,939	(214)	391,939	377,184	9/30/2022
94986CAA2	319,103	297,142	21,962	297,142	281,932	9/30/2022

NOTES TO FINANCIAL STATEMENTS

CUSIP	Amortized Cost Before OTTI	Present Value of Projected Cash Flow s	OTTI Charge Recognized in Income Statement	Amortized Cost After OTTI	Fair Value at Time of OTTI	Date Reported
US00176BAM54	221,912	204,829	17,083	204,829	145,456	12/31/2022
36157NFL3	34,787	33,507	1,280	33,507	49,479	12/31/2022
3622EAAA8	3,923,762	3,761,791	161,971	3,761,791	3,650,746	12/31/2022
61751DAE4	1,629,194	1,602,771	26,423	1,602,771	1,949,256	12/31/2022
759676AF6	379,733	378,947	785	378,947	359,320	12/31/2022
86358RXZ5	465,267	455,171	10,096	455,171	471,122	12/31/2022
02147XAP8	680,181	643,751	36,430	643,751	528,126	12/31/2022
058933AN2	919,353	889,825	29,529	889,825	821,517	12/31/2022
05951KAN3	696,878	683,150	13,728	683,150	647,406	12/31/2022
07386XAH9	1,011,656	911,593	100,063	911,593	863,150	12/31/2022
12566UAE4	337,542	337,076	465	337,076	317,476	12/31/2022
12566UAN4	576,035	576,010	25	576,010	628,281	12/31/2022
12566XAM0	699,177	699,339	(162)	699,339	655,865	12/31/2022
12628LAD2	834,249	776,091	58,158	776,091	675,639	12/31/2022
126670JP4	743,653	722,674	20,979	722,674	725,258	12/31/2022
12667F4N2	2,266,231	2,246,591	19,640	2,246,591	2,214,064	12/31/2022
12667GAC7	693,373	685,397	7,976	685,397	654,562	12/31/2022
12668APC3	924,868	924,886	(18)	924,886	878,754	12/31/2022
17025RAA3	1,550,324	1,306,829	243,495	1,306,829	1,552,445	12/31/2022
17307GED6	1,443,837	1,417,702	26,135	1,417,702	1,463,475	12/31/2022
17309BAB3	222,437	220,151	2,285	220,151	198,606	12/31/2022
17309VAH6	805,883	803,877	2,006	803,877	758,730	12/31/2022
225470Q89	521,333	522,356	(1,023)	522,356	415,017	12/31/2022
32051GT70	735,886	675,158	60,728	675,158	601,220	12/31/2022
36244SAD0	2,376,922	2,199,302	177,620	2,199,302	2,397,505	12/31/2022
43739EAP2	705,506	689,473	16,033	689,473	669,168	12/31/2022
46627MAD9	604,558	593,543	11,016	593,543	524,404	12/31/2022
46627MAY1	5,194,888	4,953,702	241,186	4,953,702	5,130,647	12/31/2022
46627MEJ2	1,195,047	1,170,943	24,104	1,170,943	982,410	12/31/2022
47232CAH7	1,899,914	1,890,225	9,689	1,890,225	2,006,775	12/31/2022
59020UW43	366,342	237,303	129,039	237,303	284,957	12/31/2022
643529AC4	520,909	520,857	53	520,857	620,443	12/31/2022
65535VSJ8	1,311,192	1,265,976	45,215	1,265,976	1,124,326	12/31/2022
69337BAH7	1,434,530	1,431,323	3,207	1,431,323	1,273,601	12/31/2022
74923GAC7	1,755,192	1,490,490	264,702	1,490,490	1,608,920	12/31/2022
74923HAQ4	552,304	550,690	1,614	550,690	486,284	12/31/2022
74928RAB0	264,408	256,037	8,371	256,037	280,614	12/31/2022
75115BAC3	1,262,630	1,098,615	164,015	1,098,615	1,195,478	12/31/2022
75115DAA3	201,854	200,413	1,441	200,413	189,024	12/31/2022
76110HH85	270,810	243,642	27,169	243,642	261,417	12/31/2022
761118BU1	942,962	855,567	87,395	855,567	916,638	12/31/2022
761118GS1	1,175,777	1,156,524	19,253	1,156,524	1,119,101	12/31/2022
761118SC3	1,633,297	1,616,573	16,724	1,616,573	1,423,542	12/31/2022
761118UG1	524,740	522,750	1,990	522,750	437,178	12/31/2022
76112BNM8	5,289,750	4,895,126	394,624	4,895,126	5,091,696	12/31/2022
863579J90	348,530	349,527	(997)	349,527	353,839	12/31/2022
86360BAJ7	747,131	721,456	25,674	721,456	766,709	12/31/2022
87222EAB4	867,402	838,871	28,530	838,871	817,668	12/31/2022
87222EAC2	977,235	960,878	16,357	960,878	815,432	12/31/2022
93934FMD1	1,598,156	1,599,666	(1,510)	1,599,666	1,669,656	12/31/2022
93934NAC9	495,187	485,595	9,592	485,595	412,326	12/31/2022
026929AA7	1,760,841	1,592,703	168,138	1,592,703	1,705,416	12/31/2022
45660LCK3	2,750,918	2,656,466	94,452	2,656,466	2,796,920	12/31/2022
058931AT3	1,225,723	1,209,276	16,447	1,209,276	1,154,041	12/31/2022
05946XY72	1,048,037	1,046,371	1,666	1,046,371	1,028,271	12/31/2022
05949CKX3	1,262,077	1,203,570	58,507	1,203,570	1,250,063	12/31/2022
07386YAE4	2,032,756	1,895,938	136,818	1,895,938	1,823,359	12/31/2022
073880AD8	1,158,830	1,127,532	31,298	1,127,532	1,051,875	12/31/2022
07401CAS2	3,509,364	3,262,743	246,621	3,262,743	3,195,561	12/31/2022
12543XAD8	1,176,300	1,172,978	3,321	1,172,978	1,091,000	12/31/2022
12545EAK2	1,377,454	1,391,454	(14,000)	1,391,454	1,221,449	12/31/2022
12638PAB5	721,090	711,902	9,188	711,902	552,531	12/31/2022
1266942H0	554,299	556,124	(1,824)	556,124	475,653	12/31/2022
126694HP6	472,556	469,133	3,424	469,133	458,573	12/31/2022
126694UJ5	1,182,995	1,033,719	149,276	1,033,719	1,173,798	12/31/2022
12669DUS5	754,525	753,847	679	753,847	726,499	12/31/2022
12669G3S8	1,273,702	1,267,299	6,403	1,267,299	1,123,086	12/31/2022
12669G4K4	2,695,208	2,679,394	15,815	2,679,394	2,508,614	12/31/2022
12669GR45	521,474	499,857	21,618	499,857	477,045	12/31/2022
16162YAL9	353,219	351,895	1,324	351,895	327,680	12/31/2022
16165MAG3	1,899,055	1,872,274	26,782	1,872,274	1,610,464	12/31/2022
170257AE9	2,539,977	2,557,671	(17,695)	2,557,671	2,070,574	12/31/2022
17025AAH5	938,958	899,184	39,774	899,184	873,057	12/31/2022
2254582Y3	244,640	244,638	3	244,638	216,789	12/31/2022

NOTES TO FINANCIAL STATEMENTS

CUSIP	Amortized Cost Before OTTI	Present Value of Projected Cash Flow s	OTTI Charge Recognized in Income Statement	Amortized Cost After OTTI	Fair Value at Time of OTTI	Date Reported
225458L55	544,944	541,599	3,344	541,599	471,470	12/31/2022
225470VF7	1,564,751	1,540,100	24,651	1,540,100	1,484,306	12/31/2022
32051GXQ3	1,362,980	1,279,943	83,036	1,279,943	1,285,425	12/31/2022
362341XC8	884,539	865,321	19,218	865,321	767,933	12/31/2022
36242DQY2	110,190	104,565	5,625	104,565	100,339	12/31/2022
466247J46	80,370	74,449	5,922	74,449	74,585	12/31/2022
466247UG6	541,686	527,981	13,705	527,981	520,360	12/31/2022
466247ZP1	571,804	565,679	6,125	565,679	545,586	12/31/2022
46628LAB4	43,495	42,157	1,338	42,157	44,190	12/31/2022
46630WAB6	922,039	888,065	33,974	888,065	822,318	12/31/2022
46630WAL4	544,230	517,582	26,648	517,582	489,602	12/31/2022
46631NAA7	754,017	754,676	(659)	754,676	639,770	12/31/2022
46631NDT3	6,401,145	6,374,664	26,481	6,374,664	6,427,560	12/31/2022
576433C53	505,306	453,037	52,269	453,037	513,969	12/31/2022
576433D52	534,258	502,735	31,523	502,735	444,494	12/31/2022
57643MLZ5	289,827	286,800	3,026	286,800	270,858	12/31/2022
59020UV77	34,748	33,720	1,027	33,720	33,150	12/31/2022
59023PAB9	513,508	509,687	3,821	509,687	530,373	12/31/2022
74958YAE2	312,432	299,278	13,154	299,278	304,434	12/31/2022
863579RP5	611,800	611,553	247	611,553	595,598	12/31/2022
863579XC7	1,153,338	1,124,061	29,277	1,124,061	1,170,138	12/31/2022
86363GAF1	1,513,354	1,415,604	97,750	1,415,604	1,437,559	12/31/2022
885220KW2	2,124,251	2,082,510	41,741	2,082,510	2,073,599	12/31/2022
94984DAC8	360,258	345,160	15,098	345,160	349,356	12/31/2022
94986CAA2	295,523	289,300	6,223	289,300	276,087	12/31/2022
Total			13,330,036			

(4) The following table shows all loan-backed securities with an unrealized loss:

a. The aggregate amount of unrealized losses:

1. Less than 12 Months	\$ 1,590,618,338
2. 12 Months or Longer	1,939,802,484

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

1. Less than 12 Months	\$ 18,394,046,747
2. 12 Months or Longer	7,741,182,290

(5) Based on cash flow projections received from independent sources (which reflect loan to collateral values, subordination, vintage and geographic concentration), implied cash flows inherent in security ratings and analysis of historical payment data, management believes that the Company will recover its cost basis in all securities with unrealized losses. The Company has the intent to hold securities in an unrealized loss position until they recover in value or mature.

E. Dollar Repurchase Agreements and/or Securities Lending Transactions – Not applicable.

F. Repurchase Agreements Transactions Accounted for as Secured Borrowing – Not applicable.

G. Reverse Repurchase Agreements Transactions Accounted for as Secured Borrowing – Not applicable.

H. Repurchase Agreements Transactions Accounted for as a Sale – Not applicable.

I. Reverse Repurchase Agreements Transactions Accounted for as a Sale – Not applicable.

J. Real Estate

(1) The Company did not recognize an impairment loss on real estate.

(2) The Company had no real estate sales in 2022.

(3) The Company did not experience changes to a plan of sale for an investment in real estate.

(4) The Company does not engage in retail land sales operations.

(5) The Company does not hold real estate investments with participating mortgage loans.

K. Low Income Housing Tax Credits – Not applicable.

NOTES TO FINANCIAL STATEMENTS

L. Restricted Assets

(1) Restricted Assets (Including Pledged):

Restricted Asset Category	Gross (Admitted & Nonadmitted) Restricted							Percentage			
	Current Year					6	7	Current Year			
	1	2	3	4	5			8	9	10	11
	Total General Account (G/A)	G/A Supporting Separate Account (S/A) Activity (a)	Total S/A Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)	Total From Prior Year	Increase/ (Decrease) (5 minus 6)	Total Nonadmitted Restricted	Total Admitted Restricted (5 minus 8)	Gross Restricted to Total Assets (c)	Admitted Restricted to Total Admitted Assets (d)
a. Subject to contractual obligation for which liability is not shown	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%
b. Collateral held under security lending agreements	-	-	-	-	-	-	-	-	-	0%	0%
c. Subject to repurchase agreements	-	-	-	-	-	-	-	-	-	0%	0%
d. Subject to reverse repurchase agreements	-	-	-	-	-	-	-	-	-	0%	0%
e. Subject to dollar repurchase agreements	-	-	-	-	-	-	-	-	-	0%	0%
f. Subject to dollar reverse repurchase agreements	-	-	-	-	-	-	-	-	-	0%	0%
g. Placed under option contracts	-	-	-	-	-	-	-	-	-	0%	0%
h. Letter stock or securities restricted as to sale - excluding FHLB capital stock	241,403,243	-	-	-	241,403,243	1,195,032,180	(953,628,937)	-	241,403,243	0.6%	0.6%
i. FHLB capital stock	48,262,300	-	-	-	48,262,300	52,500,800	(4,238,500)	-	48,262,300	0.1%	0.1%
j. On deposit with states	6,296,672	-	-	-	6,296,672	5,916,432	380,240	-	6,296,672	0.0%	0.0%
k. On deposit with other regulatory bodies	-	-	-	-	-	-	-	-	-	0.0%	0.0%
l. Pledged as collateral to FHLB (including assets backing funding agreements)	1,102,328,225	-	-	-	1,102,328,225	1,299,621,464	(197,293,239)	-	1,102,328,225	2.6%	2.6%
m. Pledged as collateral not captured in other categories	167,625,909	-	-	-	167,625,909	-	-	-	167,625,909	0.4%	0.4%
n. Other restricted assets	-	-	-	-	-	-	-	-	-	0.0%	0.0%
o. Total restricted assets	\$ 1,565,916,349	\$ -	\$ -	\$ -	\$ 1,565,916,349	\$ 2,553,070,876	\$ (1,154,780,437)	\$ -	\$ 1,565,916,349	3.6%	3.7%

(a) Subset of column 1
 (b) Subset of column 3
 (c) Column 5 divided by Asset Page, Column 1, Line 28
 (d) Column 9 divided by Asset Page, Column 3, Line 28

(2) Detail of Assets Pledged as Collateral Not Captured in Other Categories (Contracts that Share Similar Characteristics, Such as Reinsurance and Derivatives Are Reported in the Aggregate)

Description of Assets	Gross (Admitted & Nonadmitted) Restricted							Percentage		
	Current Year					6	7	8	9	10
	1	2	3	4	5					
	Total General Account (G/A)	G/A Supporting Separate Account (S/A) Activity (a)	Total S/A Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)	Total From Prior Year	Increase/(Decrease) (5 minus 6)	Total Current Year Admitted Restricted	Gross Restricted to Total Assets	Admitted Restricted to Total Admitted Assets
Derivatives	\$ 145,352,266	\$ -	\$ -	\$ -	\$ 145,352,266	\$ -	\$ 145,352,266	\$ 145,352,266	0.3%	0.3%
Futures	22,273,643	-	-	-	22,273,643	-	22,273,643	22,273,643	0.1%	0.1%
Total	\$ 167,625,909	\$ -	\$ -	\$ -	\$ 167,625,909	\$ -	\$ 167,625,909	\$ 167,625,909	0.4%	0.4%

(3) Detail of Other Restricted Assets – Not applicable.

(4) Collateral Received and Reflected as assets Within the Reporting Entity's Financial Statements

Collateral Assets	1	2	3	4
	Book/Adjusted Carrying Value (BACV)	Fair Value	% of BACV to Total Assets (Admitted and Nonadmitted) *	% of BACV to Total Admitted Assets **
General Account:				
a. Cash, Cash Equivalents and Short-Term Investments	\$ -	\$ -	0.0%	0.0%
b. Schedule D, Part 1	-	-	0.0%	0.0%
c. Schedule D, Part 2, Section 1	-	-	0.0%	0.0%
d. Schedule D, Part 2, Section 2	-	-	0.0%	0.0%
e. Schedule B	-	-	0.0%	0.0%
f. Schedule A	-	-	0.0%	0.0%
g. Schedule BA, Part 1	-	-	0.0%	0.0%
h. Schedule DL, Part 1	-	-	0.0%	0.0%
i. Other	-	-	0.0%	0.0%
Total Collateral Assets	\$ -	\$ -	0.0%	0.0%
j. (a+b+c+d+e+f+g+h+i)	\$ -	\$ -	0.0%	0.0%

* Column 1 divided by Asset Page, Line 26 (Column 1)
 ** Column 1 divided by Asset Page, Line 26 (Column 3)

	1	2
	Amount	% of Liability to Total Liabilities *
k. Recognized Obligation to Return Collateral Asset	\$ 208,733,721	0.5%

* Column 1 divided by Liability Page, Line 26 (Column 1)

M. Working Capital Finance Investments – Not applicable.

N. Offsetting and netting of assets and liabilities.

The Company reports derivative agreement assets and liabilities as gross in the financial statements without offsetting as of December 31, 2022.

NOTES TO FINANCIAL STATEMENTS

O. 5GI Securities

Investment	Number of 5GI Securities		Aggregate BACV		Aggregate Fair Value	
	Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year
(1) Bonds - AC	36	24	\$ 102,166,634	\$ 28,474,328	\$ 96,483,303	\$ 31,625,455
(2) LB&SS - AC	-	7	-	2,248,168	-	2,695,950
(3) Preferred Stock - AC	1	0	3,499,929	-	5,744,476	-
(4) Preferred Stock - FV	23	25	62,654,401	85,479,033	62,654,401	85,479,033
(5) Total (1+2+3+4)	60	56	\$ 168,320,964	\$ 116,201,529	\$ 164,882,180	\$ 119,800,438

AC - Amortized Cost

FV - Fair Value

P. Short Sales – Not applicable.

Q. Prepayment Penalties and Acceleration Fees

	General Account	Separate Account
(1) Number of CUSIPS	3	0
(2) Aggregate amount of investment income	\$ 603,750	\$ -

R. Share of Cash Pool by Asset Type – Not applicable.

Note 6 - Joint Ventures, Partnerships and Limited Liability Companies

- A. The Company does not have any individual investments in joint ventures, partnerships or LLCs which exceed 10% of admitted assets for the years ended December 31, 2022 and December 2021.
- B. The accumulated unrealized losses are realized when they are not expected to be recovered. The Company recognized \$562,783 in 2022 and \$32,368,095 in 2021 in impairments on its investments in joint ventures, partnerships, and LLCs.

Note 7 - Investment Income

- A. Due and accrued income was excluded from surplus on the following bases:

All investment income due and accrued with amounts that are over 90 days past due with the exception of mortgage loans in default.

- B. The amount of investment income due and accrued that is excluded from surplus is \$10,205,864.

Note 8 - Derivative Instruments

The Company's derivative strategy employs a variety of derivative financial instruments, including options, interest rate and currency swaps, forward contracts and financial futures. Investment risk is assessed on a portfolio basis and individual derivative financial instruments are not generally designated in hedging relationships; therefore as allowed by statutory accounting practices, the Company intentionally has not applied hedge accounting.

The Company uses equity options purchased in either the over-the-counter market or on the Chicago Board Options Exchange as economic hedging transactions for financial accounting, regulatory and tax purposes for the associated liabilities of its indexed annuity products. Under the indexed annuity products, the crediting rate is linked to changes in the equity indices or Exchanged Traded Funds (ETF) for specified periods and participation rates. The prices of the options purchased are calculated with reference to the underlying index or ETF, participation rates, caps, floors, durations and notional amounts of the underlying contracts. The Company pays cash at the beginning of the contract and may pay or receive cash at expiration of the option as calculated in the option contract. The credit exposure is represented by the fair value of the contracts at the reporting date.

Effective January 1, 2022, the Company elected to apply OAC 3901-1-67 (Refer to Note 2) to the equity index call options hedging the fixed-indexed annuity ("FIA") products. Under OAC 3901-1-67, FIA options are carried at amortized cost. The settlement gains or losses are recorded through net investment income along with the amortization of the FIA options. The company recognized settlement gains on FIA options of \$273,946,204 and amortization expense of \$457,104,912 through net investment income during the period.

OAC 3901-1-67 was not elected for options hedging the registered indexed-linked annuity ("RILA") products. RILA options are carried at fair value. The settlement gains or losses are recorded through net realized capital gains or losses while the change in fair value is recognized as an unrealized gain or loss through surplus. The Company recognized an unrealized loss on RILA options of \$86,237,413 during the period.

The Company uses interest rate swaps to partially hedge the risk of a significant increase in interest rates on the fair value of the Company's investment portfolio. The credit exposure is represented by the fair value of the contracts at the reporting date. The Company recognized an unrealized loss of \$111,689,266 during the period on these swaps.

The Company uses currency swaps for the purpose of managing currency exchange risks in its assets and liabilities. The Company recognized an unrealized loss of \$3,861,069 during the period.

The Company utilizes certain other agreements including forward contracts and financial futures. Currency forwards are contracts in which the Company agrees with other parties to exchange specified amounts of identified currencies at a specific future date. Typically, the exchange rate is agreed upon at the time of the contract. The Company recognized an unrealized loss on currency forwards of \$2,405,656 during the period. The Company's futures contracts are exchange traded and have credit risk. Margin requirements are met with the deposit of securities. Futures contracts are generally settled with offsetting transactions. Forward contracts and financial futures are used by the Company to reduce exposures to various risks including interest rates and currency rates. The Company recognized a net realized gain of \$3,074,366 on financial futures during the period. The Company's futures contracts were all terminated as of the reporting date.

Counterparties to financial instruments expose the Company to credit-related losses in the event of nonperformance. With most counterparties, the Company holds collateral to secure the performance by the counterparty. The Company does not expect any counterparties to fail to meet their obligations.

The Company has no derivative instruments with financing premiums.

NOTES TO FINANCIAL STATEMENTS

Note 9 - Income Taxes

On August 16th, 2022, the Inflation Reduction Act was signed into law and includes certain corporate income tax provisions. Impacts to the Company include the imposition of a corporate alternative minimum tax ("CAMT") applicable to tax years beginning after December 31, 2022. The CAMT imposes a 15% minimum tax on adjusted financial statement income on corporations that have an average adjusted financial statement income over \$1 billion in the prior three-year period (2020-2022). As of the reporting date, the Company has not determined if it will be liable for CAMT in 2023. In accordance with INT 22-02: *Fourth Quarter 2022 through First Quarter 2023 Reporting of the Inflation Reduction Act – Corporate Alternative Minimum Tax*, the financial statements do not include an estimated impact of the CAMT because a reasonable estimate cannot be made. The United States Treasury Secretary has been authorized to issue guidance on the CAMT and pending such guidance the Company is not able to make a reasonable estimate.

A. Deferred Tax Assets and Deferred Tax Liabilities

1. The components of the net deferred tax asset/(liability) at December 31 are as follows:

	2022			2021			Change		
	Ordinary	Capital	Total	Ordinary	Capital	Total	Ordinary	Capital	Total
a. Gross deferred tax assets	\$ 187,418,721	\$ -	\$ 187,418,721	\$ 219,896,338	\$ -	\$ 219,896,338	\$ (32,477,617)	\$ -	\$ (32,477,617)
b. Statutory valuation allowance adjustment	-	-	-	-	-	-	-	-	-
c. Adjusted gross deferred tax assets	187,418,721	-	187,418,721	219,896,338	-	219,896,338	(32,477,617)	-	(32,477,617)
d. Deferred tax assets nonadmitted	73,566,963	(71,340,460)	2,226,503	104,817,872	(90,239,291)	14,578,581	(31,250,909)	18,898,831	(12,352,078)
e. Subtotal net admitted deferred tax asset	113,851,758	71,340,460	185,192,218	115,078,466	90,239,291	205,317,757	(1,226,708)	(18,898,831)	(20,125,539)
f. Deferred tax liabilities	41,645,944	71,340,460	112,986,404	53,379,432	90,239,291	143,618,723	(11,733,488)	(18,898,831)	(30,632,319)
g. Net admitted deferred tax assets/(net deferred tax liability)	\$ 72,205,814	\$ -	\$ 72,205,814	\$ 61,699,034	\$ -	\$ 61,699,034	\$ 10,506,780	\$ -	\$ 10,506,780

2. Admission calculation components, SSAP No. 101:

	2022			2021			Change		
	Ordinary	Capital	Total	Ordinary	Capital	Total	Ordinary	Capital	Total
a. Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Adjusted gross deferred tax assets expected to be realized (excluding the amount of deferred tax assets from 2(a) above) after application of the threshold limitation. (The lesser of 2(b)1 and 2(b)2 below)	72,205,814	-	72,205,814	61,699,034	-	61,699,034	10,506,780	-	10,506,780
1. Adjusted gross deferred tax assets expected to be realized following the balance sheet date	72,205,814	-	72,205,814	61,699,034	-	61,699,034	10,506,780	-	10,506,780
2. Adjusted gross deferred tax assets allowed per limitation threshold	XXX	XXX	415,619,723	XXX	XXX	418,245,971	XXX	XXX	(2,626,248)
c. Adjusted gross deferred tax assets (excluding the amount of deferred tax assets from 2(a) and 2(b) above) offset by gross deferred tax liabilities	41,645,944	71,340,460	112,986,404	53,379,432	90,239,291	143,618,723	(11,733,488)	(18,898,831)	(30,632,319)
d. Deferred tax assets admitted as the result of application of SSAP No. 101	\$ 113,851,758	\$ 71,340,460	\$ 185,192,218	\$ 115,078,466	\$ 90,239,291	\$ 205,317,757	\$ (1,226,708)	\$ (18,898,831)	\$ (20,125,539)

3. Other admissibility criteria:

	2022	2021
a. Ratio percentage used to determine recovery period and threshold limitation amount	871%	791%
b. Amount of adjusted capital and surplus used to determine recovery period and threshold limitation in 2(b)2 above	\$ 2,770,798,155	\$ 2,788,306,471

4. Impact of tax planning strategies:

	2022		2021		Change	
	Ordinary	Capital	Ordinary	Capital	Ordinary	Capital
a. Determination of adjusted gross deferred tax assets and net admitted deferred tax assets, by tax character as a percentage						
1. Adjusted gross DTAs amount from Note 9A1(c)	\$ 187,418,721	\$ -	\$ 219,896,338	\$ -	\$ (32,477,617)	\$ -
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies	0%	0%	0%	0%	0%	0%
3. Net admitted adjusted gross DTAs amount from Note 9A1(e)	113,851,758	71,340,460	115,078,466	90,239,291	(1,226,708)	(18,898,831)
4. Percentage of net admitted adjusted gross DTAs by tax character admitted because of the impact of tax planning strategies	0%	0%	0%	0%	0%	0%
b. Does the company's tax planning strategies include the use of reinsurance? Yes [] No [X]						

- B. The Company has recognized all of its deferred tax liabilities.

NOTES TO FINANCIAL STATEMENTS

C. Current income taxes incurred consist of the following major components:

(1) Current income tax expense:

	2022	2021	Change
a. Federal	\$ 13,600,685	\$ 45,461,022	\$ (31,860,337)
b. Foreign	2,794	1,491	1,303
c. Subtotal	13,603,479	45,462,513	(31,859,034)
d. Federal income tax (benefit) expense on net capital gains	(14,295,851)	118,330,831	(132,626,682)
e. Utilization of capital loss carry-forwards	-	-	-
f. Other	-	-	-
g. Federal and foreign income taxes incurred	<u>\$ (692,372)</u>	<u>\$163,793,344</u>	<u>\$ (164,485,716)</u>

(2) Deferred tax assets:

	2022	2021	Change
a. Ordinary			
1 Discounting of unpaid losses	\$ -	\$ -	\$ -
2 Unearned premium reserve	-	-	-
3 Policyholder reserve	112,698,436	159,835,408	(47,136,972)
4 Investments	-	-	-
5 Deferred acquisition costs	61,621,231	48,440,883	13,180,348
6 Policyholder dividends accrual	-	-	-
7 Fixed assets	-	-	-
8 Compensation and benefits accrual	-	-	-
9 Pension accrual	217,028	278,830	(61,802)
10 Receivables - nonadmitted	6,232,003	2,660,414	3,571,589
11 Net operating loss carry-forward	-	-	-
12 Tax credit carry-forward	-	-	-
13 Other	2,084,813	2,476,901	(392,088)
14 Accruals	4,565,210	6,203,902	(1,638,692)
15 Amortization of intangibles	-	-	-
16 Underwriting expenses	-	-	-
99 Subtotal	<u>\$187,418,721</u>	<u>\$219,896,338</u>	<u>\$ (32,477,617)</u>
b. Statutory valuation allowance adjustment	-	-	-
c. Nonadmitted	73,566,963	104,817,872	(31,250,909)
d. Admitted ordinary deferred tax assets	<u>\$113,851,758</u>	<u>\$115,078,466</u>	<u>\$ (1,226,708)</u>
e. Capital			
1 Investments	\$ -	\$ -	\$ -
2 Net capital loss carry-forward	-	-	-
3 Real estate	-	-	-
4 Other	-	-	-
5 Non-insurance subsidiaries	-	-	-
99 Subtotal	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
f. Statutory valuation allowance adjustment	-	-	-
g. Nonadmitted	(71,340,460)	(90,239,291)	18,898,831
h. Admitted capital deferred tax assets	<u>\$ 71,340,460</u>	<u>\$ 90,239,291</u>	<u>\$ (18,898,831)</u>
i. Admitted deferred tax assets	<u>\$185,192,218</u>	<u>\$205,317,757</u>	<u>\$ (20,125,539)</u>

(3) Deferred tax liabilities:

	2022	2021	Change
a. Ordinary			
1 Investments	\$ 1,015,796	\$ 1,015,796	\$ -
2 Fixed assets	902,671	803,600	99,071
3 Deferred and uncollected premium	2,079,689	1,843,125	236,564
4 Policyholder reserves	3,869,176	4,917,614	(1,048,438)
5 Other	439,162	404,470	34,692
6 Policy loans	265,367	296,049	(30,682)
7 Other - Reserve transition adjustment	33,074,083	44,098,778	(11,024,695)
99 Subtotal	<u>\$ 41,645,944</u>	<u>\$ 53,379,432</u>	<u>\$ (11,733,488)</u>
b. Capital			
1 Investments	\$ 71,340,460	\$ 90,239,291	\$ (18,898,831)
2 Real estate	-	-	-
3 Other	-	-	-
99 Subtotal	<u>\$ 71,340,460</u>	<u>\$ 90,239,291</u>	<u>\$ (18,898,831)</u>
c. Deferred tax liabilities	<u>\$112,986,404</u>	<u>\$143,618,723</u>	<u>\$ (30,632,319)</u>

(4) Net deferred tax assets/(liabilities)

<u>\$ 72,205,814</u>	<u>\$ 61,699,034</u>	<u>\$ 10,506,780</u>
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NOTES TO FINANCIAL STATEMENTS

- D. The provision for federal income taxes incurred on operations is different from that which would be obtained by applying the statutory federal income tax rate to income before income taxes. The significant items causing this difference are as follows:

	2022	2021
Provision computed at statutory rate (operations and realized gains/losses)	\$ 32,603,832	\$ 111,990,469
Permanent differences:		
Dividend exclusion	(206,267)	(738,523)
Stock options	-	(194,307)
Company-owned life insurance	(1,263,358)	(1,265,609)
Ceding commission	66,603,860	-
Tax exempt interest	(1,286,472)	(1,838,119)
Provision to return adjustments	566	18,443
Martello Re - IMR Receivable	(11,657,590)	-
Other	148,890	577,569
Total permanent differences	52,339,629	(3,440,546)
Timing adjustments:		
Investment differences	(113,831,048)	(1,394,950)
Reserves	14,132,875	43,810,240
DAC tax adjustment	13,171,813	8,532,847
Deferred compensation	(1,343,551)	1,840,670
Deferred and uncollected premiums	(196,060)	205,733
Accounts payable	121,029	23,023
Provision to return (primarily investment-related items)	3,257,683	(19,973,553)
Sale of real estate and subs	-	20,122,430
Fixed assets	353,740	480,443
Bonus expense	(832,870)	1,608,129
Other	(351,778)	1,447,470
Total timing adjustments	(85,518,167)	56,702,482
Other adjustments		
Unrealized on options	-	(1,585,770)
Tax credits	(117,666)	(363,444)
Other	-	490,153
Total other adjustments	(117,666)	(1,459,061)
Federal income tax expense on operations and realized gains/losses	\$ (692,372)	\$ 163,793,344
Gross change in deferred tax asset:		
Timing adjustments	85,518,167	(36,580,052)
Impact of non-admitted assets	(3,571,589)	(1,288,518)
Unrealized gains/losses	(31,274,905)	2,053,602
Software development	-	2,296,509
Cumulative adjustment	(46,220,409)	-
Other	(2,605,967)	(3,788,498)
Total change in deferred tax asset recorded directly to surplus	1,845,297	(37,306,957)
Total statutory income tax expense	\$ 1,152,925	\$ 126,486,387

- E. (1) The Company does not have any operating loss carry-forwards or capital loss carry-forwards available to offset future net income subject to federal income taxes.

- (2) The following are income taxes on operations and realized gains incurred in the current and prior years that will be available for recoupment in the event of future net losses:

Period	Ordinary	Capital	Total
2022	\$ -	\$ 4,506,887	\$ 4,506,887
2021	\$ -	\$ 28,862,746	\$ 28,862,746
2020	\$ -	\$ -	\$ -

- (3) The Company had no deposits to disclose under Section 6603 of the Internal Revenue Service Code.

NOTES TO FINANCIAL STATEMENTS

F. The Company's federal income tax return is consolidated.

(1) The Company's federal income tax return is consolidated with the following entities:

AAG Insurance Agency, LLC
 Annuity Investors Life Insurance Company
 MM Ascend Life Investor Services, LLC
 MassMutual Ascend Life Insurance Company
 Manhattan National Holding, LLC
 Manhattan National Life Insurance Company

(2) Pursuant to the agreement, each company's tax expense is determined based upon its inclusion in the consolidated tax return of MM Ascend and its subsidiaries. Estimated payments are made quarterly during the year. Following year-end, additional settlements are made on the original due date of the return and, when extended, at the time the return is filed. The method of allocation among the companies under the agreement is based upon separate return calculations with current credit for losses to the extent the losses provide a benefit in the consolidated return.

G. Federal or Foreign Income Tax Loss Contingencies

The Company does not have any tax loss contingencies.

H. Repatriation Transition Tax (RTT) – Not applicable.

I. Alternative Minimum Tax (AMT) Credit – Not applicable.

Note 10 - Information Concerning Parent, Subsidiaries, Affiliates and Other Related Parties

A., B. & C.

The Company is a wholly-owned subsidiary of Glidepath Holdings Inc. which is a subsidiary of Massachusetts Mutual Life Insurance Company ("MMLIC"); 100% of the Company's outstanding common stock is directly owned by Glidepath Holdings Inc. See Schedule Y, Part 1, Organizational Chart.

The Company did not pay or receive federal income tax payments in cash to (from) parent during the period.

The Company did not pay dividends to parent during the period.

The Company did not receive capital contributions during the period.

D. As of December 31, 2022, the Company reported \$43,006 due from and \$1,957,201 due to the parent and affiliated companies. The terms of the agreement require that these amounts are settled within 90 days.

E. Management or service contracts and all cost sharing arrangements involving the Company:

(1) The Company has an agreement with Barings (an affiliate) which provides investment advisory services to the Company.

(2) Certain administrative, management, underwriting, claims, accounting, data processing, collection, and investment services are provided under agreements between the Company and affiliates at charges not unfavorable to the Company or the affiliate.

F. The Company has no material guarantees or undertakings for the benefit of an affiliate.

G. The Company's outstanding shares are 100% owned by Glidepath Holdings Inc., a subsidiary of MMLIC.

H. The Company does not own shares of any upstream intermediate entity or its ultimate parent.

I. The Company has no investment in a subsidiary that exceeds 10% of admitted assets.

J. The Company did not recognize any impairment or write down for its investments in subsidiary, controlled or affiliated companies during the statement period.

K. The Company has no investment in a foreign insurance subsidiary.

L. The Company owns 100% of the outstanding stock of Manhattan National Holding, LLC ("MNH"), a wholly owned non-insurance subsidiary. MNH owns 100% of the stock of Manhattan National Life Insurance Company ("MNLIC"), a stock life insurance company domiciled in Ohio. The Company utilizes the look-through approach for the valuation of MNH instead of obtaining audited financial statements for MNH. The Company's carrying value in MNH is \$16,111,994, and represents the carrying value of MNLIC, which is presented on the basis of accounting practices prescribed or permitted by the Ohio Department of Insurance.

M. All SCA Investments

(1) Balance Sheet (Admitted and Nonadmitted) All SCAs (Except 8bi Entities)

SCA Entity	Percentage of SCA Ownership	Gross Amount	Admitted Amount	Nonadmitted amount
a. SSAP No. 97 8a Entities				
Total SSAP No. 97 8a Entities	XXX	\$ -	\$ -	\$ -
b. SSAP No. 97 8b(ii) Entities				
Manhattan National Holding, LLC	100%	\$ 16,111,994	\$ 16,111,994	\$ -
Total SSAP No. 97 8b(ii) Entities	XXX	\$ 16,111,994	\$ 16,111,994	\$ -
c. SSAP No. 97 8b(iii) entities				
MM Ascend Life Investor Services, LLC	100%	\$ 1,002,782	\$ 1,002,782	\$ -
Total SSAP No. 97 8b(iii) Entities	XXX	\$ 1,002,782	\$ 1,002,782	\$ -
d. SSAP No. 97 8b(iv) Entities				
Total SSAP No. 97 8b(iv) Entities	XXX	\$ -	\$ -	\$ -
e. Total SSAP No. 97 8b Entities (except 8bi entities) (b+c+d)	XXX	\$ 17,114,776	\$ 17,114,776	\$ -
f. Aggregate Total (a+e)	XXX	\$ 17,114,776	\$ 17,114,776	\$ -

NOTES TO FINANCIAL STATEMENTS

(2) NAIC Filing Response Information

SCA Entity	Type of NAIC Filing *	Date of Filing to the NAIC	NAIC Valuation Amount	NAIC Response Received Y/N	NAIC Disallowed Entities Valuation Method, Resubmission Required Y/N	Code **
a. SSAP No. 97 8a Entities						
Total SSAP No. 97 8a Entities	XXX	XXX	-	XXX	XXX	XXX
b. SSAP No. 97 8b(ii) Entities						
Manhattan National Holding, LLC	S2	10/13/2022	\$ 13,092,658	Y	N	I
Total SSAP No. 97 8b(ii) Entities	XXX	XXX	\$ 13,092,658	XXX	XXX	XXX
c. SSAP No. 97 8b(iii) entities						
Total SSAP No. 97 8b(iii) Entities	XXX	XXX	-	XXX	XXX	XXX
d. SSAP No. 97 8b(iv) Entities						
Total SSAP No. 97 8b(iv) Entities	XXX	XXX	-	XXX	XXX	XXX
e. Total SSAP No. 97 8b Entities (except 8bi entities) (b+c+d)	XXX	XXX	\$ 13,092,658	XXX	XXX	XXX
f. Aggregate Total (a+e)	XXX	XXX	\$ 13,092,658	XXX	XXX	XXX

* S1 - Sub-1, S2 - Sub-2 or RDF - Resubmission of Disallowed Filing

** I - Immaterial or M - Material

N. Investment in Insurance SCAs

All U.S. insurance subsidiaries owned by the Company prepare their statutory financial statement in compliance with NAIC statutory accounting practices and procedures.

O. SCA and SSAP No. 48 Entity Loss Tracking – Not applicable.

Note 11 - Debt

A. The Company has no outstanding debt instruments.

B. Federal Home Loan Bank Agreements

- (1) The Company became a member of the Federal Home Loan Bank (“FHLB”) on August 14, 2009. Through its association with the FHLB and by purchasing a set amount of FHLB stock, the Company can enter into deposit contracts. The Company owned \$48,262,300 and 52,500,800 of FHLB stock at December 31, 2022 and December 31, 2021, respectively. The Company also posted collateral to the FHLB of assets with a fair value of approximately \$1,030,930,931 as of December 31, 2022. The Company’s FHLB borrowing capacity is based on the Company’s estimate of collateral eligible to be pledged with the FHLB. The deposit-type contract liabilities and related assets are accounted for in the Company’s general account.

(2) FHLB Capital Stock

- a. The Company held 200,000 and 250,000 shares of Class B membership stock at December 31, 2022 and December 31, 2021, respectively. The Company held 282,623 and 275,008 shares of activity and excess stock at December 31, 2022 and December 31, 2021, respectively.
- b. The Company has no membership stock eligible for redemption.

(3) Collateral Pledged to FHLB

- a. The amount of collateral pledged to the FHLB at December 31, 2022 was \$1,030,930,931 (fair value) and \$1,102,328,225 (carrying value). The total aggregate borrowing from the FHLB at December 31, 2022 was \$500,000,000.
- b. The maximum amount of collateral pledged to the FHLB during the period was \$1,270,337,827 (fair value) and \$1,255,736,462 (carrying value) at March 31, 2022. The amount borrowed from the FHLB at the time of maximum collateral was \$500,000,000.

(4) Borrowing from FHLB

- a. The Company has accessed a total of \$500,000,000 as part of the funding agreement with the FHLB.
- b. The maximum amount of borrowings from the FHLB during the period was \$500,000,000.
- c. The current borrowings related to fixed rate funding agreements are subject to prepayment penalties.

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

A., B., C. & D.

The Company does not participate in a defined benefit plan.

E. Defined Contribution Plan

The Company participates in the retirement plans of MMALIC. MMALIC sponsors funded (qualified 401(k) thrift savings) and unfunded (nonqualified deferred compensation thrift savings) defined contribution plans for its employees and retirees. The qualified 401(k) thrift savings plan’s net assets available for benefits were \$37,437,537 as of December 31, 2022 and \$34,792,881 as of December 31, 2021. The Company matches a percentage of employee contributions to the qualified 401(k) thrift savings plan. The Company’s total matching thrift savings contributions included in general insurance expenses were \$3,968,648 for the twelve months ended December 31, 2022 and \$3,376,139 for the year ended December 31, 2021.

F. The Company does not participate in multiemployer plans.

G. The Company did not participate in consolidated or holding company plans.

H. The Company does not accrue for postemployment benefits and compensated absences.

I. The Company does not apply for a subsidy under the Medicare Part D under the Medicare Modernization Act.

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

- A. The Company’s capital is common stock. There are 1,200,000 shares authorized and 201,000 shares issued and outstanding, with a per share par value of \$7.50. There are no other classes of capital stock.

NOTES TO FINANCIAL STATEMENTS

- B. The Company has no preferred stock outstanding.
- C. The maximum amount of dividends which can be paid to stockholders by life insurance companies domiciled in the State of Ohio without prior approval of the Insurance Commissioner is the greater of 10% of surplus as regards policyholders or net income as of the preceding December 31, but only to the extent of earned surplus as of the preceding December 31. The maximum amount of dividends payable in 2023 without prior approval is \$283,883,181 based on 10% of surplus as regards to policy holders as of the preceding December 31. At December 31, 2022, surplus as regards policyholders was \$2,831,075,338, earned surplus was \$2,015,896,538, and net income was \$158,026,906.
- D. The Company paid extraordinary dividends to its former parent company Great American Financial Resources Inc. ("GAFRI") of \$300,000,000 for the five months ended May 31, 2021.
- E. Within the limitations of (C) above, there are no restrictions placed on the portion of Company profits that may be paid as ordinary dividends to stockholders.
- F. The Company has placed no restrictions on unassigned surplus funds.
- G. The total amount of advances to surplus not repaid is \$0. The Company is not organized as a mutual insurer or similar entity.
- H. The amounts of stock held by the Company, including stock of affiliated companies, for special purposes are:
- | | | | |
|------|----|------------------------------------|----------|
| i. | a. | For conversion of preferred stock: | 0 shares |
| ii. | b. | For employee stock options: | 0 shares |
| iii. | c. | For stock purchase warrants: | 0 shares |
- I. The Company has no special surplus funds.
- J. The portion of unassigned funds (surplus) represented or reduced by each item below is as follows:
- | | | |
|----|---|------------------|
| a. | Unrealized gains and losses (excluding subsidiaries): | \$ 213,367,937 |
| b. | Nonadmitted asset values: | \$ (22,084,391) |
| c. | Separate account business: | \$ - |
| d. | Asset valuation reserves: | \$ (577,063,642) |
| e. | Provision for reinsurance: | \$ - |
- K. The Company has not issued any surplus debentures or similar obligations.
- L. & M. There has been no restatement of surplus due to quasi-reorganization.

Note 14 - Contingencies

A. Contingent Commitments

(1) Loan and Capital Commitments

As of December 31, 2022, the Company had the following commitments:

	2023	2024	2025	2026	2027	Thereafter	Total
Private Placements	\$ 154,946,335	\$ 194,565,143	\$ 88,755,053	\$ 28,701,901	\$ 71,928,876	\$ 566,095,744	\$ 1,104,993,051
Mortgage Loans	59,999,998	117,998,969	14,999,998	121,708,417	-	2,643,088	317,350,469
Real Estate	-	-	161,165	-	-	-	161,165
Partnerships and LLC	32,946,893	15,434,153	17,167,238	53,488,865	13,127,177	154,210,475	286,374,802
Total	<u>\$ 247,893,225</u>	<u>\$ 327,998,264</u>	<u>\$ 121,083,454</u>	<u>\$ 203,899,183</u>	<u>\$ 85,056,053</u>	<u>\$ 722,949,308</u>	<u>\$ 1,708,879,487</u>

- (2) The Company has no guarantees to report.
- (3) The Company has no guarantee obligations to report.
- B. The Company holds a guaranty fund assessment liability for future assessments of \$674,788. The Company also holds a premium tax offset asset related to guaranty fund assessments paid or accrued.
- C. The Company has no gain contingencies to report.
- D. The Company is not aware of any claims related to extra contractual obligations and bad faith losses stemming from lawsuits.
- E. The Company has no joint and several liabilities.
- F. The Company is not aware of any other material loss contingencies as of the Balance Sheet date, or any date subsequent up to the filing of this statement.

Note 15 - Leases

A.

- (1) As of December 31, 2022, the Company has leases for office space in the Rosa Parks Building and 312 Elm Street in Cincinnati, OH.

Rental expense for Rosa Parks Building and 312 Elm Street for 2022 was \$268,000 and \$18,000, respectively. Rental expense for Dixie Terminal building and Great American Tower in 2022 was \$4,784,000 and \$792,000, respectively. The lease related Dixie Terminal building and Great American Tower was terminated effective 11/28/2022.

- a. There are no contingent rental payments for these leases.
- b. There are no renewal or purchase options or escalation clauses for these leases.
- c. There are no restrictions imposed by these lease agreements such as those concerning dividends, additional debt, and further leasing.
- d. There are no lease agreements that have been terminated early or for which the Company is no longer using the leased property benefits.

NOTES TO FINANCIAL STATEMENTS

(2) At December 31, 2022, the minimum aggregate rental commitments are as follows:

	Years	Operating Leases
1.	2023	\$ 49,734
2.	2024	1,782,224
3.	2025	1,815,113
4.	2026	1,845,894
5.	2027	1,883,035
6.	Total	<u>\$ 7,376,000</u>

(3) Not applicable.

B. Not applicable.

Note 16 - Information About Financial Instruments with Off-Balance Sheet Risk and Financial Instruments with Concentrations of Credit Risk

The Company does not have financial instruments with off-balance sheet risk or financial instruments with concentrations of credit risk, except as described in Note 8 – Derivative Instruments.

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

The Company had no reportable transactions during the period.

Note 18 - Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans

Not applicable.

Note 19 - Direct Premium Written/Produced by Managing General Agents/Third Party Administrators

Not applicable.

Note 20 - Fair Value Measurements

A.

(1) Fair Value Measurements at Reporting Date

The Company has categorized its assets and liabilities measured at fair value or net asset value (“NAV”) into the three-level fair value hierarchy as reflected in the following table. See item (4) below for a discussion of each of these three levels.

	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
Assets at fair value					
Bonds:					
Special revenue	\$ -	\$ 4,716	\$ -	\$ -	\$ 4,716
Industrial and misc. (unaffiliated)	-	8,634,226	12,679,423	-	21,313,649
Total bonds	-	8,638,942	12,679,423	-	21,318,365
Non-affiliated preferred stock	24,017,846	-	127,327,521	-	151,345,367
Non-affiliated common stock	141,033,780	-	140,349,829	-	281,383,610
Currency sw aps	-	932,413	-	-	932,413
Currency forw ards	-	106,887	-	-	106,887
Interest rate sw aps	-	25,166,766	-	-	25,166,766
Separate account assets	1,077,300	102,621,694	-	-	103,698,994
Total assets at fair value	<u>\$ 166,128,927</u>	<u>\$ 137,466,702</u>	<u>\$ 280,356,773</u>	<u>\$ -</u>	<u>\$ 583,952,402</u>
Liabilities at fair value					
Currency sw aps	\$ -	\$ 4,793,482	\$ -	\$ -	\$ 4,793,482
Currency forw ards	-	2,512,543	-	-	2,512,543
Interest rate sw aps	-	94,964,522	-	-	94,964,522
Separate account liabilities	1,077,300	102,621,694	-	-	103,698,994
Total liabilities at fair value	<u>\$ 1,077,300</u>	<u>\$ 204,892,241</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 205,969,541</u>

(2) Fair Value Measurements in Level 3 of the Fair Value Hierarchy

	Beginning Balance at 12/31/2021	Transfers into Level 3	Transfers out of Level 3	Total Gains and (losses) included in Net Income	Total Gains and (losses) included in Surplus	Purchases	Issuances	Settlements	Other Adjustments	Ending Balance at 12/31/2022
Bonds: industrial and misc (unaffiliated)	\$ 8,420,084	\$ 218	\$ -	\$ (9,304,952)	\$ (3,020,888)	\$ -	\$ -	\$ (4,938,054)	\$ 21,523,015	\$ 12,679,423
Non-affiliated preferred stock	143,350,757	-	-	-	59,787,473	-	-	-	(75,810,709)	127,327,521
Non-affiliated common stock	172,019,682	8,995,600	-	(597,851)	83,863,784	6,408,000	48,262,300	(52,500,810)	(126,100,876)	140,349,829
Total	<u>\$ 323,790,523</u>	<u>\$ 8,995,818</u>	<u>\$ -</u>	<u>\$ (9,902,803)</u>	<u>\$ 140,630,369</u>	<u>\$ 6,408,000</u>	<u>\$ 48,262,300</u>	<u>\$ (57,438,864)</u>	<u>\$ (180,388,570)</u>	<u>\$ 280,356,773</u>

(3) Fair Value Recognition of Transfers Between Levels

The Company recognizes and records the transfer of securities into and out of Level 3 due to changes in availability of market observable inputs. All transfers are reflected in the table above at fair value as of the end of the reporting period.

(4) Inputs and Techniques Used in Estimating Fair Value

Level 1 - Quoted prices for identical assets or liabilities in active markets (markets in which transactions occur with sufficient frequency and volume to provide pricing information on an ongoing basis). The Company's Level 1 financial instruments consist primarily of publicly traded equity securities for which quoted market prices in active markets are available.

Level 2 - Quoted prices for similar instruments in active markets; quoted prices for identical or similar assets or liabilities in inactive markets (markets in which there are few transactions, the prices are not current, price quotations vary substantially over time or among market makers, or in which little information is released publicly); and valuations based on other significant inputs that are observable in active markets. Level 2 inputs include benchmark yields, reported trades, corroborated broker/dealer quotes, issuer spreads and benchmark securities. When non-binding broker quotes can be corroborated by comparison to similar securities priced using observable inputs, they are classified as Level 2.

NOTES TO FINANCIAL STATEMENTS

Level 3 - Valuations derived from market valuation techniques generally consistent with those used to estimate the fair value of Level 2 financial instruments in which one or more significant inputs are unobservable or when the market for a security exhibits significantly less liquidity relative to markets supporting Level 2 fair value measurements. The unobservable inputs may include management's own assumptions about the assumptions market participants would use based on the best information available in the circumstances. The Company's Level 3 is comprised of financial instruments whose fair value is estimated based on non-binding broker quotes or internally developed using significant inputs not based on, or corroborated by, observable market information.

The Company's investment manager, Barings, an affiliate, is responsible for the valuation process and uses data from outside sources (including nationally recognized pricing services and broker/dealers) in establishing fair value. Valuation techniques utilized by pricing services and prices obtained from external sources are reviewed by Barings internal investment professionals who are familiar with the securities being priced and the markets in which they trade to ensure the fair value determination is representative of an exit price. To validate the appropriateness of the prices obtained, the investment manager considers widely published indices (as benchmarks), recent trades, changes in interest rates, general economic conditions and the credit quality of the specific issuers. In addition, Barings communicates directly with the pricing service regarding the methods and assumptions used in pricing, including verifying, on a test basis, the inputs used by the service to value specific securities.

(5) Derivative Assets and Liabilities

- a. The Company's derivative assets/liabilities are reported on a gross basis (see 20-A-(1)).
- b. The Company has no gross or net derivative assets/liabilities measured at fair value in the Level 3 category.

B. The Company has no additional fair value disclosures.

C. The Company has categorized all the financial assets in the financial statements into the three-level fair value hierarchy as reflected in the following table. See item (4) above for a discussion of each of these three levels.

Type of Financial Instrument	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Not Practicable (Carrying Value)
Financial assets:							
Bonds:							
U.S. Governments	\$ 138,762,095	\$ 172,770,378	\$ -	\$ 138,762,095	\$ -	\$ -	\$ -
All other government	17,782,763	19,164,997	-	17,782,763	-	-	-
States, territories and possessions	186,724,245	194,353,439	-	186,724,245	-	-	-
Political subdivisions of states, territories	293,359,107	297,314,311	-	293,359,107	-	-	-
Special revenue	2,022,714,751	2,176,208,719	-	2,022,714,751	-	-	-
Industrial and misc. (unaffiliated)	26,085,839,415	29,109,381,524	-	18,688,305,754	7,397,533,661	-	-
Hybrid securities	739,860,885	788,780,810	-	725,860,885	14,000,000	-	-
Parent, subs and affiliates	521,461,665	573,930,110	-	400,946,436	120,515,229	-	-
Total bonds	\$ 30,006,504,926	\$ 33,331,904,288	\$ -	\$ 22,474,456,036	\$ 7,532,048,890	\$ -	\$ -
Non affiliated preferred stock	198,252,934	184,968,184	38,424,064	-	159,828,870	-	-
Non affiliated common stock	281,383,609	281,383,609	141,033,780	-	140,349,829	-	-
Mortgage loans	2,846,484,618	3,088,813,560	-	-	2,846,484,618	-	-
Currency forwards	106,887	106,887	-	106,887	-	-	-
Fixed-indexed annuity options	287,374,142	846,759,835	102,595,762	184,778,380	-	-	-
Interest rate sw aps	25,166,766	25,166,766	-	25,166,766	-	-	-
Currency sw aps	932,413	932,413	-	932,413	-	-	-
Separate account assets	103,698,994	103,698,994	1,077,300	102,621,694	-	-	-
Cash, cash equivalents and short-term investments	1,991,236,955	1,991,236,955	1,991,236,955	-	-	-	-
Policy loans	31,459,162	31,459,162	-	-	31,459,162	-	-
Total financial assets	\$ 35,772,601,406	\$ 39,886,430,653	\$ 2,274,367,861	\$ 22,788,062,176	\$ 10,710,171,369	\$ -	\$ -
Financial liabilities:							
Currency sw aps	\$ 4,793,482	\$ 4,793,482	\$ -	\$ 4,793,482	\$ -	\$ -	\$ -
Currency forwards	2,512,543	2,512,543	-	2,512,543	-	-	-
Interest rate sw aps	94,964,522	94,964,522	-	94,964,522	-	-	-
Fixed-indexed annuity options	-	598,605,165	-	-	-	-	-
Separate account liabilities	103,698,994	103,698,994	1,077,300	102,621,694	-	-	-
Total financial liabilities	\$ 205,969,541	\$ 804,574,706	\$ 1,077,300	\$ 204,892,241	\$ -	\$ -	\$ -

D. Not Practicable to Estimate Fair Value – The Company has no financial instruments that fall under this classification.

E. NAV Practical Expedient Investments – The Company has no financial investments that fall under this classification.

Note 21 - Other Items

A. The Company entered into a block coinsurance agreement with Commonwealth Annuity and Life Insurance Company ("Commonwealth") effective October 1, 2020. Under this agreement the Company ceded approximately \$5.7 billion of deferred annuity reserves and transferred investments with a statutory carrying value of approximately \$5.7 billion and market value of approximately \$6.1 billion to Commonwealth. Under this agreement, the Company ceded approximately \$4.5 and \$5.2 billion of deferred annuity reserves at December 31, 2022 and 2021, respectively.

On February 17, 2022, the Company entered into a Funds Withheld Coinsurance agreement effective February 1, 2022, with Martello Re Limited ("Martello Re"), a Bermuda-domiciled Class E life and annuity reinsurer launched in 2022. The Company ceded statutory reserves of \$14.2 billion on a closed block of fixed, fixed indexed and payout annuity policies, in exchange for a \$320 million ceding commission paid by Martello Re. Under this agreement, the Company ceded approximately \$12.6 billion of annuity reserves at December 31, 2022.

The Company entered into a flow coinsurance agreement with Commonwealth effective May 7, 2020. Under this agreement, the Company ceded approximately \$1.4 billion and \$1.0 billion of deferred annuity reserves to Commonwealth at December 31, 2022 and 2021, respectively.

The Company entered into a quota share indemnity reinsurance agreement on fixed-indexed annuity ("FIA") policies with Hannover Life Reassurance Company of America ("HLR") effective December 31, 2018. Effective January 1, 2022 the Company has recaptured the FIA policies ceded to HLR in the agreement that became effective on December 31, 2018. The financial impact of the reinsurance recapture is a decrease to statutory capital of \$140.6 million.

B. The Company had no troubled debt restructuring.

NOTES TO FINANCIAL STATEMENTS

C. Other Disclosures:

The table below shows the impact of reinsurance agreements on net premium and annuity considerations:

	<u>12/31/2022</u>	<u>12/31/2021</u>
Direct premiums and annuity considerations	\$ 7,379,844,074	\$ 5,797,167,765
Assumed reinsurance	6,701,743	4,219,881
Ceded reinsurance excluding flow and block	(20,069,403)	(110,916,132)
Flow reinsurance ceded (see note 21A)	<u>(426,081,845)</u>	<u>(618,949,720)</u>
Subtotal	6,940,394,569	5,071,521,794
Block reinsurance ceded (see note 21A)	(25,216,167)	(44,530,230)
Martello Reinsurance	<u>(14,113,436,354)</u>	<u>-</u>
Net premium and annuity considerations (Page 4, Line 1)	<u>\$ (7,198,257,952)</u>	<u>\$ 5,026,991,564</u>

D. The Company has no business interruption insurance recoveries.

E. The Company has no state transferable or non-transferable tax credits.

F. Subprime Mortgage Related Risk Exposure

(1) Included in determining the Company's exposure to subprime mortgage loans are the debt and equity securities of companies whose principal business includes the origination, securitization, providing of mortgage insurance on, investment in or management of subprime mortgage loans. Also included in such determination are those residential MBS and collateral debt obligations in which the ultimate collateral supporting anticipated cash flows are subprime mortgage loans. In general, we limit the Company's purchases of subprime residential MBS to those securities with AAA ratings and whose underlying collateral is fixed-rate (as opposed to adjustable rate).

(2) The Company does not have any investments with direct exposure in subprime mortgage loans.

(3) Direct exposure to subprime mortgage risk through other investments in the following securities:

	Actual Cost	Book/Adjusted Carrying Value (excluding interest)	Fair Value	Other Than Temporary Impairment Losses Recognized
a. Residential MBS	\$ 795,163,212	\$ 788,193,663	\$ 747,509,239	\$ 1,096,943
b. Commercial MBS	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs	-	-	-	-
f. Other assets	-	-	-	-
g. Total	<u>\$ 795,163,212</u>	<u>\$ 788,193,663</u>	<u>\$ 747,509,239</u>	<u>\$ 1,096,943</u>

(4) The Company has no net underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty coverage.

G. The Company does not have retained asset accounts.

H. The Company is not an issuer, ceding issuer, or counterparty of insurance-linked securities.

I. The Amount That Could Be Realized on Life Insurance Where the Reporting Entity is Owner and Beneficiary or Has Otherwise Obtained Rights to Control the Policy

The following table shows the amount of the aggregate cash surrender value that is within investment vehicles and percentage by the following investment category:

(1) Amount of admitted balance that could be realized from an investment vehicle	\$ 218,662,787
(2) Percentage Bonds	65.1%
(3) Percentage Stocks	1.1%
(4) Percentage Mortgage Loans	16.0%
(5) Percentage Real Estate	1.0%
(6) Percentage Cash and Short-Term Investments	2.1%
(7) Percentage Derivatives	0.0%
(8) Percentage Other Invested Assets	14.7%

Note 22 - Events Subsequent

Management has evaluated all events occurring after December 31, 2022, through the date the financials statements were available to be issued, to determine whether any event required either recognition or disclosure in the financial statements. There have been no subsequent events that have a material financial effect on the Company.

Note 23 - Reinsurance

A. Ceded Reinsurance Report

Section 1 – General Interrogatories

(1) Are any of the reinsurers, listed in Schedule S as non-affiliated, owned in excess of 10% or controlled, either directly or indirectly, by the Company or by any representative, officer, trustee, or director of the Company?
Yes () No (x) If yes, give full details

NOTES TO FINANCIAL STATEMENTS

- (2) Have any policies issued by the Company been reinsured with a company chartered in a country other than the United States (excluding U.S. Branches of such companies) that is owned in excess of 10% or controlled directly or indirectly by an insured, a beneficiary, a creditor or any other person not primarily engaged in the insurance business?
Yes () No (x) If yes, give full details

Section 2 – Ceded Reinsurance Report – Part A

- (1) Does the Company have any reinsurance agreements in effect under which the reinsurer may unilaterally cancel any reinsurance for reasons other than for nonpayment of premium or other similar credits?
Yes () No (x)
- a. If yes, what is the estimated amount of the aggregate reduction in surplus of a unilateral cancellation by the reinsurer as of the date of this statement, for those agreements in which cancellation results in a net obligation of the Company to the reinsurer, and for which such obligation is not presently accrued? Where necessary, the Company may consider the current or anticipated experience of the business reinsured in making this estimate. \$0
- b. What is the total amount of reinsurance credits taken, whether as an asset or as a reduction of liability, for these agreements in this statement? \$0
- (2) Does the Company have any reinsurance agreements in effect such that the amount of losses paid or accrued through the statement date may result in a payment to the reinsurer of amounts that, in aggregate and allowing for offset of mutual credits from other reinsurance agreements with the same reinsurer, exceed the total direct premium collected under the reinsured policies?
Yes () No (x) If yes, give full details

Section 3 – Ceded Reinsurance Report – Part B

- (1) What is the estimated amount of the aggregate reduction in surplus (for agreements other than those under which the reinsurer may unilaterally cancel for reasons other than for nonpayment of premium or other similar credits that are reflected in Section 2 above) of termination of ALL reinsurance agreements, by either party, as of the date of this statement? Where necessary, the Company may consider the current or anticipated experience of the business reinsured in making this estimate.

Refer to Schedule S, Part 3, column 12.

- (2) Have any new agreements been executed, or existing agreements amended, since January 1 of the year of this statement, to include policies or contracts that were in force or which had existing reserves established by the Company as of the effective date of the agreement?
Yes (x) No ()

If yes, what is the amount of reinsurance credits, whether an asset or a reduction of liability, taken for such new agreements or amendments?

Total reinsurance credits of \$12,535,076,119

B. Uncollectible Reinsurance

The Company did not write off any uncollectible reinsurance.

C. Commutation of Ceded Reinsurance

The Company was not involved in any commutation of ceded reinsurance.

D. Certified Reinsurer Rating Downgraded or Status Subject to Revocation

The Company had no reinsurance contracts with certified reinsurers.

E., F. & G.

The Company has no captive reinsurance agreements.

H. Reinsurance Credit

- (1) The Company had no reinsurance contracts subject to A-791 that includes a provision which limits the reinsurer's assumption of significant risks identified as A-791.
- (2) The Company had no reinsurance contracts not subject to A-791, for which reinsurance accounting was applied and includes a provision that limits the reinsurer's assumption of risk.
- (3) The Company had no reinsurance contracts which result in delays in payment.
- (4) The Company had no reinsurance accounting credit for any contracts not subject to Appendix A-791 and not yearly renewable term, which meet the risk transfer requirements of SSAP No. 61R.
- (5) All of the Company's ceded annuity risk which is not subject to A-791 during the period covered by the financial statement is accounted for as reinsurance under statutory accounting principles and as deposits under GAAP (refer to Schedule S Part 3, Section 1 for more detail).
- (6) The contracts in paragraph 23-H-5 are treated differently because annuities are not considered insurance contracts for GAAP.

Note 24 - Retrospectively Rated Contracts & Contracts Subject to Redetermination

Not applicable.

Note 25 - Change in Incurred Losses and Loss Adjustment Expenses

Reserves on accident and health contracts for incurred and loss adjustment expenses attributable to insured events of prior years developed as anticipated during the period. See Schedule H and Five Year Historical Data. Original estimates are increased or decreased as additional information becomes known regarding individual claims. However, no significant trends or unanticipated events were noted. None of the Company's accident and health contracts are subject to retrospective rating or experience refunds.

Note 26 - Intercompany Pooling Arrangements

Not applicable.

Note 27 - Structured Settlements

Not applicable.

NOTES TO FINANCIAL STATEMENTS

Note 28 - Health Care Receivables

Not applicable.

Note 29 - Participating Policies

- A. Participating policies represent less than 1% of the Company's total life insurance in force.
- B. Policyholder dividends are recognized on the policy anniversary.
- C. Dividends to policyholders in 2022 were \$10,069.
- D. There are no other amounts of additional income allocated to participating policyholders.

Note 30 - Premium Deficiency Reserves

Not applicable.

Note 31 - Reserves for Life Contracts and Annuity Contracts

- (1) The Company waives deduction of deferred fractional premiums upon death of insured and returns any portion of the final premium beyond the date of death. Surrender values are not promised in excess of the legally computed reserves.
- (2) Reserves for substandard policies are equal to the standard reserve for the particular plan, age and duration plus 50% of the extra premium charged for the year.
- (3) The Company had \$16,109,000 of insurance in force for which the gross premiums are less than the net premiums according to the required valuation standard. Reserves to cover the above insurance are reported in Exhibit 5, Miscellaneous Reserves.
- (4) The tabular interest has been determined by the formula as described in the instructions. The tabular less actual reserve released has been determined by the formula as described in the instructions. The tabular cost has been determined by the formula as described in the instructions.
- (5) Tabular interest on funds not involving life contingencies is calculated as the product of such valuation rate of interest times the mean of the amount of funds subject to such valuation rate of interest held at the beginning and end of the year of valuation.
- (6) The "Other Increases" in the Analysis of the Increase in Reserves is primarily comprised of reserves ceded to Martello Re in 2022.

Note 32 - Analysis of Annuity Actuarial Reserves and Deposit-Type Liabilities by Withdrawal Characteristics

Withdrawal Characteristics of Annuity Actuarial Reserves and Deposit – Type Contract Funds and Other Liabilities Without Life or Disability Contingencies

A. INDIVIDUAL ANNUITIES:

	General Account	Separate Account with Guarantees	Separate Account Nonguaranteed	Total	% of Total
1. Subject to discretionary withdrawal:					
a. With market value adjustment	\$ 17,148,705,788	\$ -	\$ -	\$ 17,148,705,788	42.1%
b. At book value less current surrender charge of 5% or more	7,044,337,097	-	-	7,044,337,097	17.3%
c. At fair value	-	-	30,644,554	30,644,554	0.1%
d. Total with market value adjustment or at fair value (total of a through c)	24,193,042,885	-	30,644,554	24,223,687,439	59.5%
e. At book value without adjustment (minimal or no charge or adjustment)	14,464,819,108	-	-	14,464,819,108	35.6%
2. Not subject to discretionary withdrawal	1,985,427,177	-	-	1,985,427,177	4.9%
3. Total (gross: direct + assumed)	40,643,289,169	-	30,644,554	40,673,933,723	100.0%
4. Reinsurance ceded	17,817,785,909	-	-	17,817,785,909	
5. Total (net) (3) - (4)	\$ 22,825,503,260	\$ -	\$ 30,644,554	\$ 22,856,147,814	
6. Amount included in A(1)b above that will move to A(1)e in the year after the statement date	\$ 2,241,226,519	\$ -	\$ -	\$ -	

B. GROUP ANNUITIES:

	General Account	Separate Account with Guarantees	Separate Account Nonguaranteed	Total	% of Total
1. Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	0.0%
b. At book value less current surrender charge of 5% or more	118,863,521	-	-	118,863,521	6.7%
c. At fair value	-	-	-	-	0.0%
d. Total with market value adjustment or at fair value (total of a through c)	118,863,521	-	-	118,863,521	6.7%
e. At book value without adjustment (minimal or no charge or adjustment)	723,001,529	-	-	723,001,529	40.5%
2. Not subject to discretionary withdrawal	943,381,568	-	-	943,381,568	52.8%
3. Total (gross: direct + assumed)	1,785,246,617	-	-	1,785,246,617	100.0%
4. Reinsurance ceded	496,705,037	-	-	496,705,037	
5. Total (net) (3) - (4)	\$ 1,288,541,580	\$ -	\$ -	\$ 1,288,541,580	
6. Amount included in A(1)b above that will move to A(1)e in the year after the statement date	\$ 2,668,172	\$ -	\$ -	\$ -	

NOTES TO FINANCIAL STATEMENTS

C. DEPOSIT-TYPE CONTRACTS (no life contingencies):

	General Account	Separate Account with Guarantees	Separate Account Nonguaranteed	Total	% of Total
1. Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	0.0%
b. At book value less current surrender charge of 5% or more	-	-	-	-	0.0%
c. At fair value	-	-	-	-	0.0%
d. Total with market value adjustment or at fair value (total of a through c)	-	-	-	-	0.0%
e. At book value without adjustment (minimal or no charge or adjustment)	-	-	-	-	0.0%
2. Not subject to discretionary withdrawal	889,590,618	-	-	889,590,618	100.0%
3. Total (gross: direct + assumed)	889,590,618	-	-	889,590,618	100.0%
4. Reinsurance ceded	109,767,002	-	-	109,767,002	
5. Total (net) (3) - (4)	<u>\$ 779,823,616</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 779,823,616</u>	
6. Amount included in A(1)b above that will move to A(1)e in the year after the statement date	\$ -	\$ -	\$ -	\$ -	

D.

Life & Accident & Health Annual Statement:

	Amount
1. Exhibit 5, Annuities Section, Total (net)	\$ 24,113,136,073
2. Exhibit 5, Supplementary Contracts with Life Contingencies Section, Total (net)	908,767
3. Exhibit 7, Deposit-Type Contracts, Line 14, Column 1	779,823,616
4. Subtotal	<u>24,893,868,456</u>

Separate Accounts Annual Statement:

5. Exhibit 3, Line 0299999, Column 2	30,644,554
6. Exhibit 3, Line 0399999, Column 2	-
7. Policyholder dividend and coupon accumulations	-
8. Policyholder premiums	-
9. Guaranteed interest contracts	-
10. Other contract deposit funds	-
11. Subtotal	<u>30,644,554</u>
12. Combined Total	<u>\$ 24,924,513,010</u>

Note 33 - Analysis of Life Actuarial Reserves by Withdrawal Characteristics

Account value, cash value and reserves for the breakouts of life insurance by withdrawal characteristics, separately for General Account products and Separate Account Nonguaranteed products are as follows:

	Account Value	Cash Value	Reserve
A. General Account			
(1) Subject to discretionary withdrawal, surrender values, or policy loans:			
a. Term Policies with Cash Value	-	-	-
b. Universal Life	108,411,995	108,408,688	107,583,564
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	52,310,300	51,310,254
h. Variable Life	-	-	-
i. Variable Universal Life	-	-	-
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	209,615,801
b. Accidental Death Benefits	XXX	XXX	80,677
c. Disability - Active Lives	XXX	XXX	64,739
d. Disability - Disabled Lives	XXX	XXX	3,596,883
e. Miscellaneous Reserves	XXX	XXX	5,598,853
(3) Total (gross: direct + assumed)	<u>108,411,995</u>	<u>160,718,988</u>	<u>377,850,772</u>
(4) Reinsurance ceded	66,885,428	97,866,565	232,021,862
(5) Total (net) (3) - (4)	<u>41,526,567</u>	<u>62,852,423</u>	<u>145,828,910</u>

NOTES TO FINANCIAL STATEMENTS

B. & C. The Company does not have a Separate Account related to Life Reserves.

	Amount
D.	
Life & Accident & Health Annual Statement:	
(1) Exhibit 5, Life Insurance Section, Total (net)	\$ 140,177,813
(2) Exhibit 5, Accidental Death Benefits Section, Total (net)	40,240
(3) Exhibit 5, Disability - Active Lives Section, Total (net)	19,501
(4) Exhibit 5, Disability - Disabled Lives Section, Total (net)	1,491,700
(5) Exhibit 5, Miscellaneous Reserves Section, Total (net)	4,099,657
(6) Total	\$ 145,828,911

Note 34 - Premium and Annuity Considerations Deferred and Uncollected

A. Deferred and uncollected life insurance premiums and annuity considerations as of December 31, 2022, were as follows:

Type	Gross	Net of Loading
(1) Industrial	\$ -	\$ -
(2) Ordinary New Business	26,397	5,815
(3) Ordinary Renewal	9,825,775	7,742,041
(4) Credit Life	-	-
(5) Group Life	-	-
(6) Group Annuity	-	-
(7) Total	\$ 9,852,172	\$ 7,747,856

Note 35 - Separate Accounts

A. Separate Account Activity

- (1) The Company utilizes a separate account to record and account for assets and liabilities for individual registered index linked annuities. MMALIC maintains the separate account pursuant to the laws of Ohio for the purpose of supporting the obligation to adjust the indexed strategy values based on the daily value calculation or rise and fall of the index. The assets of the separate account are held in MMALIC's name on behalf of the separate account and legally belong to MMALIC. The assets in the separate account are not chargeable with liabilities arising out of any other business the Company conducts. MMALIC may invest these assets in hedging instruments, including derivative contracts as well as other assets permitted under state law (ORC 3907.15). To support the Company's obligations to adjust the index strategy values, the Company may move funds between the separate account and the general account. MMALIC is not obligated to invest the assets of the separate account according to any particular plan except as the Company may be required to by state insurance laws (MMALIC does have a derivative use plan).
- (2) In accordance with the products and transactions recorded within the separate accounts, all assets are considered legally insulated from the general account and are not chargeable with liabilities incurred in any other business operation of the Company. As of December 31, 2022 and 2021, the Company's separate account statement included legally insulated registered index linked annuity assets of \$103,698,994 and \$67,583,584, respectively.
- (3) With regard to the products/transactions recorded within the separate account, registered index linked annuity products have guarantees backed by the general account. The separate account does not remit any risk charges to the general account for guaranteed benefits for the registered index linked annuity products. The general account has not paid any guarantees for registered index linked annuity products through December 31, 2022.
- (4) The Company does not engage in securities lending transactions with the separate account.

B. General Nature and Characteristics of Separate Accounts Business

The separate account held by the Company relates to individual registered index linked annuities of a nonguaranteed return nature. Indexed strategies are linked to the performance of an external index. The performance of those strategies is credited to the policyholder and can be positive up to a maximum gain or negative up to a maximum loss. A minimum guaranteed death benefit is also provided, which is the greater of the account value or the return of premium amount (purchase payments reduced proportionally for all withdrawals, not including early withdrawal charges). The assets and liabilities of these accounts are carried at fair value.

Information regarding the separate account of the Company is as follows:

	Index	Nonindexed Guarantee Less than/equal to 4%	Nonindexed Guarantee More than 4%	Nonguaranteed Separate Accounts	Total
(1) Premiums, considerations or deposits for year ended 12/31/2021	\$ -	\$ -	\$ -	\$ -	\$ -
Reserves at 12/31/2021					
(2) For accounts with assets at:					
a. Fair value	\$ -	\$ -	\$ -	\$ 30,644,554	\$ 30,644,554
b. Amortized cost	-	-	-	-	-
c. Total reserves	\$ -	\$ -	\$ -	\$ 30,644,554	\$ 30,644,554
(3) By withdrawal characteristics:					
a. Subject to discretionary withdrawal	\$ -	\$ -	\$ -	\$ -	\$ -
b. With fair value adjustment	-	-	-	-	-
c. At book value without fair value adjustment and with current surrender charge of 5% or more	-	-	-	-	-
d. At fair value	-	-	-	30,644,554	30,644,554
e. At book value without fair value adjustment and with current surrender charge less than 5%	-	-	-	-	-
f. Subtotal	-	-	-	30,644,554	30,644,554
g. Not subject to discretionary withdrawal	-	-	-	-	-
h. Total	\$ -	\$ -	\$ -	\$ 30,644,554	\$ 30,644,554
(4) Reserves for asset default risk in lieu of AVR	\$ -	\$ -	\$ -	\$ -	\$ -

NOTES TO FINANCIAL STATEMENTS

C. The following is a reconciliation of the net transfer to (from) the Separate Account:

(1)	Transfers as reported in the Summary of Operations of the Separate Accounts Statement:	
	a. Transfers to Separate Accounts (Page 4, Line 1.4)	\$ -
	b. Transfers from Separate Accounts (Page 4, Line 10)	22,047,053
	c. Net transfers to or (from) Separate Accounts (a) - (b)	<u>\$ (22,047,053)</u>
(2)	Reconciling Adjustments	\$ -
(3)	Transfers as reported in the Summary of Operations of the Life, Accident & Health Annual Statement	
	(1c) + (2) = (Page 4, Line 26)	\$ (22,047,053)

Note 36 - Loss/Claim Adjustment Expenses

Reserves for loss/claim adjustment expenses are contained within the claim liability reserve for incurred but not reported claims. For December 31, 2022 and 2021 the loss/claim adjustment expense reserves were \$473,846 and \$447,314, respectively.

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES GENERAL

- 1.1 Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of which is an insurer? Yes [X] No []
If yes, complete Schedule Y, Parts 1, 1A, 2 and 3.
- 1.2 If yes, did the reporting entity register and file with its domiciliary State Insurance Commissioner, Director or Superintendent or with such regulatory official of the state of domicile of the principal insurer in the Holding Company System, a registration statement providing disclosure substantially similar to the standards adopted by the National Association of Insurance Commissioners (NAIC) in its Model Insurance Holding Company System Regulatory Act and model regulations pertaining thereto, or is the reporting entity subject to standards and disclosure requirements substantially similar to those required by such Act and regulations? Yes [X] No [] N/A []
- 1.3 State Regulating? Ohio
- 1.4 Is the reporting entity publicly traded or a member of a publicly traded group? Yes [] No [X]
- 1.5 If the response to 1.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group.
- 2.1 Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity? Yes [] No [X]
- 2.2 If yes, date of change:
- 3.1 State as of what date the latest financial examination of the reporting entity was made or is being made. 12/31/2021
- 3.2 State the as of date that the latest financial examination report became available from either the state of domicile or the reporting entity. This date should be the date of the examined balance sheet and not the date the report was completed or released. 12/31/2016
- 3.3 State as of what date the latest financial examination report became available to other states or the public from either the state of domicile or the reporting entity. This is the release date or completion date of the examination report and not the date of the examination (balance sheet date). 01/11/2018
- 3.4 By what department or departments?
State of Ohio, Department of Insurance
- 3.5 Have all financial statement adjustments within the latest financial examination report been accounted for in a subsequent financial statement filed with Departments? Yes [] No [] N/A [X]
- 3.6 Have all of the recommendations within the latest financial examination report been complied with? Yes [] No [] N/A [X]
- 4.1 During the period covered by this statement, did any agent, broker, sales representative, non-affiliated sales/service organization or any combination thereof under common control (other than salaried employees of the reporting entity), receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of:
4.11 sales of new business? Yes [] No [X]
4.12 renewals? Yes [] No [X]
- 4.2 During the period covered by this statement, did any sales/service organization owned in whole or in part by the reporting entity or an affiliate, receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of:
4.21 sales of new business? Yes [] No [X]
4.22 renewals? Yes [] No [X]
- 5.1 Has the reporting entity been a party to a merger or consolidation during the period covered by this statement? Yes [] No [X]
If yes, complete and file the merger history data file with the NAIC.
- 5.2 If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.

1 Name of Entity	2 NAIC Company Code	3 State of Domicile

- 6.1 Has the reporting entity had any Certificates of Authority, licenses or registrations (including corporate registration, if applicable) suspended or revoked by any governmental entity during the reporting period? Yes [] No [X]
- 6.2 If yes, give full information:
- 7.1 Does any foreign (non-United States) person or entity directly or indirectly control 10% or more of the reporting entity? Yes [] No [X]
- 7.2 If yes,
7.21 State the percentage of foreign control; %
7.22 State the nationality(s) of the foreign person(s) or entity(s); or if the entity is a mutual or reciprocal, the nationality of its manager or attorney-in-fact and identify the type of entity(s) (e.g., individual, corporation, government, manager or attorney-in-fact).

1 Nationality	2 Type of Entity

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES**

- 8.1 Is the company a subsidiary of a depository institution holding company (DIHC) or a DIHC itself, regulated by the Federal Reserve Board? Yes [] No [X]
- 8.2 If the response to 8.1 is yes, please identify the name of the DIHC.
.....
- 8.3 Is the company affiliated with one or more banks, thrifts or securities firms? Yes [X] No []
- 8.4 If response to 8.3 is yes, please provide below the names and location (city and state of the main office) of any affiliates regulated by a federal regulatory services agency [i.e. the Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC) and the Securities Exchange Commission (SEC)] and identify the affiliate's primary federal regulator.

1 Affiliate Name	2 Location (City, State)	3 FRB	4 OCC	5 FDIC	6 SEC
Barings LLC	Charlotte, NC	NO	NO	NO	YES
Baring International Investment Limited	London, UK	NO	NO	NO	YES
Baring Securities LLC	Charlotte, NC	NO	NO	NO	YES
Flourish Financial, LLC	New York, NY	NO	NO	NO	YES
MM Ascend Life Investor Services, LLC	Cincinnati, OH	NO	NO	NO	YES
MML Distributors, LLC	Springfield, MA	NO	NO	NO	YES
MML Investment Advisers, LLC	Springfield, MA	NO	NO	NO	YES
MML Investors Services	Springfield, MA	NO	NO	NO	YES
MML Strategic Distributors, LLC	Springfield, MA	NO	NO	NO	YES
The MassMutual Trust Company, OCC	Enfield, CT	NO	YES	NO	NO

- 8.5 Is the reporting entity a depository institution holding company with significant insurance operations as defined by the Board of Governors of Federal Reserve System or a subsidiary of the depository institution holding company? Yes [] No [X]
- 8.6 If response to 8.5 is no, is the reporting entity a company or subsidiary of a company that has otherwise been made subject to the Federal Reserve Board's capital rule? Yes [] No [X] N/A []
9. What is the name and address of the independent certified public accountant or accounting firm retained to conduct the annual audit?
KPMG LLP, 191 W Nationwide Blvd. Suite 500, Columbus, OH, 43215
- 10.1 Has the insurer been granted any exemptions to the prohibited non-audit services provided by the certified independent public accountant requirements as allowed in Section 7H of the Annual Financial Reporting Model Regulation (Model Audit Rule), or substantially similar state law or regulation? Yes [] No [X]
- 10.2 If the response to 10.1 is yes, provide information related to this exemption:
.....
- 10.3 Has the insurer been granted any exemptions related to the other requirements of the Annual Financial Reporting Model Regulation as allowed for in Section 18A of the Model Regulation, or substantially similar state law or regulation? Yes [] No [X]
- 10.4 If the response to 10.3 is yes, provide information related to this exemption:
.....
- 10.5 Has the reporting entity established an Audit Committee in compliance with the domiciliary state insurance laws? Yes [] No [X] N/A []
- 10.6 If the response to 10.5 is no or n/a, please explain
Pursuant to Ohio Administrative Code section 3901-1-50 (Model Audit Rule), the Audit Committee of the Board of Directors of Massachusetts Mutual Life Insurance Company, the reporting entity's ultimate parent, serves as its Audit Committee.
11. What is the name, address and affiliation (officer/employee of the reporting entity or actuary/consultant associated with an actuarial consulting firm) of the individual providing the statement of actuarial opinion/certification?
Isaac Cezar Hall, 191 Rosa Parks Street, Cincinnati, OH, 45201, Officer
- 12.1 Does the reporting entity own any securities of a real estate holding company or otherwise hold real estate indirectly? Yes [X] No []
- 12.11 Name of real estate holding company ... See 12.2
- 12.12 Number of parcels involved 16
- 12.13 Total book/adjusted carrying value \$ 202,046,526
- 12.2 If, yes provide explanation:
The Company held investments in debt securities in 67 parcels, which own or hold real estate indirectly. The statement value at December 30, 2022 of debt was \$1,330,294,499. The Company also held 12 investments in LP and LLC entities that own real estate. These investments had a statement value of \$84,369,232 as of December 30, 2022.
13. **FOR UNITED STATES BRANCHES OF ALIEN REPORTING ENTITIES ONLY:**
- 13.1 What changes have been made during the year in the United States manager or the United States trustees of the reporting entity?
Not Applicable.
- 13.2 Does this statement contain all business transacted for the reporting entity through its United States Branch on risks wherever located? Yes [] No [X]
- 13.3 Have there been any changes made to any of the trust indentures during the year? Yes [] No [X]
- 13.4 If answer to (13.3) is yes, has the domiciliary or entry state approved the changes? Yes [] No [] N/A [X]
- 14.1 Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards? Yes [X] No []
- a. Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- b. Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity;
- c. Compliance with applicable governmental laws, rules and regulations;
- d. The prompt internal reporting of violations to an appropriate person or persons identified in the code; and
- e. Accountability for adherence to the code.
- 14.11 If the response to 14.1 is No, please explain:
.....
- 14.2 Has the code of ethics for senior managers been amended? Yes [] No [X]
- 14.21 If the response to 14.2 is yes, provide information related to amendment(s).
.....
- 14.3 Have any provisions of the code of ethics been waived for any of the specified officers? Yes [] No [X]
- 14.31 If the response to 14.3 is yes, provide the nature of any waiver(s).
.....

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES**

- 15.1 Is the reporting entity the beneficiary of a Letter of Credit that is unrelated to reinsurance where the issuing or confirming bank is not on the SVO Bank List? Yes [] No [X]
- 15.2 If the response to 15.1 is yes, indicate the American Bankers Association (ABA) Routing Number and the name of the issuing or confirming bank of the Letter of Credit and describe the circumstances in which the Letter of Credit is triggered.

1 American Bankers Association (ABA) Routing Number	2 Issuing or Confirming Bank Name	3 Circumstances That Can Trigger the Letter of Credit	4 Amount
.....

BOARD OF DIRECTORS

16. Is the purchase or sale of all investments of the reporting entity passed upon either by the board of directors or a subordinate committee thereof? Yes [X] No []
17. Does the reporting entity keep a complete permanent record of the proceedings of its board of directors and all subordinate committees thereof? Yes [X] No []
18. Has the reporting entity an established procedure for disclosure to its board of directors or trustees of any material interest or affiliation on the part of any of its officers, directors, trustees or responsible employees that is in conflict or is likely to conflict with the official duties of such person? Yes [X] No []

FINANCIAL

19. Has this statement been prepared using a basis of accounting other than Statutory Accounting Principles (e.g., Generally Accepted Accounting Principles)? Yes [] No [X]
- 20.1 Total amount loaned during the year (inclusive of Separate Accounts, exclusive of policy loans):
- 20.11 To directors or other officers.....\$
 - 20.12 To stockholders not officers.....\$
 - 20.13 Trustees, supreme or grand (Fraternal Only)\$
- 20.2 Total amount of loans outstanding at the end of year (inclusive of Separate Accounts, exclusive of policy loans):
- 20.21 To directors or other officers.....\$
 - 20.22 To stockholders not officers.....\$
 - 20.23 Trustees, supreme or grand (Fraternal Only)\$
- 21.1 Were any assets reported in this statement subject to a contractual obligation to transfer to another party without the liability for such obligation being reported in the statement? Yes [] No [X]
- 21.2 If yes, state the amount thereof at December 31 of the current year:
- 21.21 Rented from others.....\$
 - 21.22 Borrowed from others.....\$
 - 21.23 Leased from others\$
 - 21.24 Other\$
- 22.1 Does this statement include payments for assessments as described in the Annual Statement Instructions other than guaranty fund or guaranty association assessments? Yes [] No [X]
- 22.2 If answer is yes:
- 22.21 Amount paid as losses or risk adjustment \$
 - 22.22 Amount paid as expenses\$
 - 22.23 Other amounts paid\$
- 23.1 Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? Yes [X] No []
- 23.2 If yes, indicate any amounts receivable from parent included in the Page 2 amount:\$
- 24.1 Does the insurer utilize third parties to pay agent commissions in which the amounts advanced by the third parties are not settled in full within 90 days? Yes [] No [X]
- 24.2 If the response to 24.1 is yes, identify the third-party that pays the agents and whether they are a related party.

Name of Third-Party	Is the Third-Party Agent a Related Party (Yes/No)
.....

INVESTMENT

- 25.01 Were all the stocks, bonds and other securities owned December 31 of current year, over which the reporting entity has exclusive control, in the actual possession of the reporting entity on said date? (other than securities lending programs addressed in 25.03)..... Yes [X] No []

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES

- 25.02 If no, give full and complete information relating thereto

- 25.03 For securities lending programs, provide a description of the program including value for collateral and amount of loaned securities, and whether collateral is carried on or off-balance sheet. (an alternative is to reference Note 17 where this information is also provided)
 N/A
- 25.04 For the reporting entity's securities lending program, report amount of collateral for conforming programs as outlined in the Risk-Based Capital Instructions. \$
- 25.05 For the reporting entity's securities lending program, report amount of collateral for other programs. \$
- 25.06 Does your securities lending program require 102% (domestic securities) and 105% (foreign securities) from the counterparty at the outset of the contract? Yes [] No [] N/A [X]
- 25.07 Does the reporting entity non-admit when the collateral received from the counterparty falls below 100%? Yes [] No [] N/A [X]
- 25.08 Does the reporting entity or the reporting entity's securities lending agent utilize the Master Securities lending Agreement (MSLA) to conduct securities lending? Yes [] No [] N/A [X]
- 25.09 For the reporting entity's securities lending program state the amount of the following as of December 31 of the current year:
- 25.091 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. \$ 0
- 25.092 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 \$ 0
- 25.093 Total payable for securities lending reported on the liability page. \$ 0

- 26.1 Were any of the stocks, bonds or other assets of the reporting entity owned at December 31 of the current year not exclusively under the control of the reporting entity or has the reporting entity sold or transferred any assets subject to a put option contract that is currently in force? (Exclude securities subject to Interrogatory 21.1 and 25.03). Yes [X] No []
- 26.2 If yes, state the amount thereof at December 31 of the current year:
- 26.21 Subject to repurchase agreements \$ 0
- 26.22 Subject to reverse repurchase agreements \$ 0
- 26.23 Subject to dollar repurchase agreements \$ 0
- 26.24 Subject to reverse dollar repurchase agreements \$ 0
- 26.25 Placed under option agreements \$ 0
- 26.26 Letter stock or securities restricted as to sale -
 excluding FHLB Capital Stock \$ 241,403,243
- 26.27 FHLB Capital Stock \$ 48,262,300
- 26.28 On deposit with states \$ 6,296,672
- 26.29 On deposit with other regulatory bodies \$ 0
- 26.30 Pledged as collateral - excluding collateral pledged to an FHLB \$ 167,625,909
- 26.31 Pledged as collateral to FHLB - including assets backing funding agreements \$ 1,102,328,225
- 26.32 Other \$ 0

26.3 For category (26.26) provide the following:

1 Nature of Restriction	2 Description	3 Amount
Restricted by contractual agreements	Various	241,403,243

- 27.1 Does the reporting entity have any hedging transactions reported on Schedule DB? Yes [X] No []
- 27.2 If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? Yes [X] No [] N/A []
 If no, attach a description with this statement.

LINES 27.3 through 27.5: FOR LIFE/FRATERNAL REPORTING ENTITIES ONLY:

- 27.3 Does the reporting entity utilize derivatives to hedge variable annuity guarantees subject to fluctuations as a result of interest rate sensitivity? . Yes [] No [X]
- 27.4 If the response to 27.3 is YES, does the reporting entity utilize:
- 27.41 Special accounting provision of SSAP No. 108 Yes [] No []
- 27.42 Permitted accounting practice Yes [] No []
- 27.43 Other accounting guidance Yes [] No []
- 27.5 By responding YES to 27.41 regarding utilizing the special accounting provisions of SSAP No. 108, the reporting entity attests to the following: Yes [] No []
- The reporting entity has obtained explicit approval from the domiciliary state.
 - Hedging strategy subject to the special accounting provisions is consistent with the requirements of VM-21.
 - Actuarial certification has been obtained which indicates that the hedging strategy is incorporated within the establishment of VM-21 reserves and provides the impact of the hedging strategy within the Actuarial Guideline Conditional Tail Expectation Amount.
 - Financial Officer Certification has been obtained which indicates that the hedging strategy meets the definition of a Clearly Defined Hedging Strategy within VM-21 and that the Clearly Defined Hedging Strategy is the hedging strategy being used by the company in its actual day-to-day risk mitigation efforts.
- 28.1 Were any preferred stocks or bonds owned as of December 31 of the current year mandatorily convertible into equity, or, at the option of the issuer, convertible into equity? Yes [X] No []
- 28.2 If yes, state the amount thereof at December 31 of the current year. \$ 120,078,711
29. Excluding items in Schedule E - Part 3 - Special Deposits, real estate, mortgage loans and investments held physically in the reporting entity's offices, vaults or safety deposit boxes, were all stocks, bonds and other securities, owned throughout the current year held pursuant to a custodial agreement with a qualified bank or trust company in accordance with Section 1, III - General Examination Considerations, F. Outsourcing of Critical Functions, Custodial or Safekeeping Agreements of the NAIC Financial Condition Examiners Handbook?..... Yes [X] No []
- 29.01 For agreements that comply with the requirements of the NAIC Financial Condition Examiners Handbook, complete the following:

1 Name of Custodian(s)	2 Custodian's Address
Bank of New York Mellon	1 Wall Street, New York, NY 10286
State Street Global Services	801 Pennsylvania Avenue, Kansas City, MO 64105

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES**

29.02 For all agreements that do not comply with the requirements of the NAIC Financial Condition Examiners Handbook, provide the name, location and a complete explanation:

1 Name(s)	2 Location(s)	3 Complete Explanation(s)
.....

29.03 Have there been any changes, including name changes, in the custodian(s) identified in 29.01 during the current year?..... Yes [] No [X]

29.04 If yes, give full and complete information relating thereto:

1 Old Custodian	2 New Custodian	3 Date of Change	4 Reason
.....

29.05 Investment management – Identify all investment advisors, investment managers, broker/dealers, including individuals that have the authority to make investment decisions on behalf of the reporting entity. For assets that are managed internally by employees of the reporting entity, note as such. ["...that have access to the investment accounts"; "...handle securities"]

1 Name of Firm or Individual	2 Affiliation
ARES Capital Management LLC	U.....
Ares Management LLC	U.....
Barings LLC	A.....
Centerbridge Martello Advisors, LLC	U.....
Fractal Investments LLC	U.....
Western Asset Management Company	U.....
Angelo, Gordon & Co., L.P	U.....
.....

29.0597 For those firms/individuals listed in the table for Question 29.05, do any firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") manage more than 10% of the reporting entity's invested assets?..... Yes [] No [X]

29.0598 For firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") listed in the table for Question 29.05, does the total assets under management aggregate to more than 50% of the reporting entity's invested assets?..... Yes [] No [X]

29.06 For those firms or individuals listed in the table for 29.05 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

1 Central Registration Depository Number	2 Name of Firm or Individual	3 Legal Entity Identifier (LEI)	4 Registered With	5 Investment Management Agreement (IMA) Filed
130074	ARES Capital Management LLC	549300R4YHRZ8JU385	SEC	NO.....
130074	Ares Management LLC	549300JA9GMPFTSVQQ05	SEC	NO.....
106006	Barings LLC	549300G36F1E2S4MQM37	SEC	DS.....
131940	Angelo, Gordon & Co., L.P.	XXJ808BRONB9FETFPB63	SEC	NO.....
84-1444062	Centerbridge Martello Advisors, LLC	549300F5X7LPP05D3544	SEC	NO.....
311767	Fractal Investments LLC - Pending Mandate	984500D14JFD006CBC96	SEC	NO.....
801-8162	Western Asset Management Company	549300C5A561UXU1CN46	SEC	NO.....

30.1 Does the reporting entity have any diversified mutual funds reported in Schedule D, Part 2 (diversified according to the Securities and Exchange Commission (SEC) in the Investment Company Act of 1940 [Section 5(b)(1)])? Yes [] No [X]

30.2 If yes, complete the following schedule:

1 CUSIP #	2 Name of Mutual Fund	3 Book/Adjusted Carrying Value
30.2999 - Total		0

30.3 For each mutual fund listed in the table above, complete the following schedule:

1 Name of Mutual Fund (from above table)	2 Name of Significant Holding of the Mutual Fund	3 Amount of Mutual Fund's Book/Adjusted Carrying Value Attributable to the Holding	4 Date of Valuation
.....

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES**

31. Provide the following information for all short-term and long-term bonds and all preferred stocks. Do not substitute amortized value or statement value for fair value.

	1	2	3
	Statement (Admitted) Value	Fair Value	Excess of Statement over Fair Value (-), or Fair Value over Statement (+)
31.1 Bonds	35,318,320,500	31,946,320,745	(3,371,999,755)
31.2 Preferred stocks	184,968,184	198,325,422	13,357,238
31.3 Totals	35,503,288,684	32,144,646,167	(3,358,642,517)

31.4 Describe the sources or methods utilized in determining the fair values:

The Fair Value of securities is obtained using quoted market prices when available. If not available, estimated fair value is based on values provided by other third-party organizations. If values provided by other third-party organizations are unavailable, fair value is estimated using internal models by discounting future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure Characteristics and results of cash flow priority are also considered.

32.1 Was the rate used to calculate fair value determined by a broker or custodian for any of the securities in Schedule D? Yes No

32.2 If the answer to 32.1 is yes, does the reporting entity have a copy of the broker's or custodian's pricing policy (hard copy or electronic copy) for all brokers or custodians used as a pricing source? Yes No

32.3 If the answer to 32.2 is no, describe the reporting entity's process for determining a reliable pricing source for purposes of disclosure of fair value for Schedule D:
.....

33.1 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed? Yes No

33.2 If no, list exceptions:
At 12/31/2022, 51 issues for 36 issuers did not meet the filing requirements of the Purposes and Procedures Manual. The majority of these issues currently lack one or more of the following: Valid cusip/PPN, audited financials and/or executed legal documentation. Exceptions totaled \$531,154,241 or 1.55% of all assets.

34. By self-designating 5GI securities, the reporting entity is certifying the following elements of each self-designated 5GI security:
a. Documentation necessary to permit a full credit analysis of the security does not exist or an NAIC CRP credit rating for an FE or PL security is not available.
b. Issuer or obligor is current on all contracted interest and principal payments.
c. The insurer has an actual expectation of ultimate payment of all contracted interest and principal.
Has the reporting entity self-designated 5GI securities? Yes No

35. By self-designating PLGI securities, the reporting entity is certifying the following elements of each self-designated PLGI security:
a. The security was purchased prior to January 1, 2018.
b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
c. The NAIC Designation was derived from the credit rating assigned by an NAIC CRP in its legal capacity as a NRSRO which is shown on a current private letter rating held by the insurer and available for examination by state insurance regulators.
d. The reporting entity is not permitted to share this credit rating of the PL security with the SVO.
Has the reporting entity self-designated PLGI securities? Yes No

36. By assigning FE to a Schedule BA non-registered private fund, the reporting entity is certifying the following elements of each self-designated FE fund:
a. The shares were purchased prior to January 1, 2019.
b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
c. The security had a public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO prior to January 1, 2019.
d. The fund only or predominantly holds bonds in its portfolio.
e. The current reported NAIC Designation was derived from the public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO.
f. The public credit rating(s) with annual surveillance assigned by an NAIC CRP has not lapsed.
Has the reporting entity assigned FE to Schedule BA non-registered private funds that complied with the above criteria? Yes No

37. By rolling/renewing short-term or cash equivalent investments with continued reporting on Schedule DA, Part 1 or Schedule E Part 2 (identified through a code (%) in those investment schedules), the reporting entity is certifying to the following:
a. The investment is a liquid asset that can be terminated by the reporting entity on the current maturity date.
b. If the investment is with a nonrelated party or nonaffiliate, then it reflects an arms-length transaction with renewal completed at the discretion of all involved parties.
c. If the investment is with a related party or affiliate, then the reporting entity has completed robust re-underwriting of the transaction for which documentation is available for regulator review.
d. Short-term and cash equivalent investments that have been renewed/rolled from the prior period that do not meet the criteria in 37.a - 37.c are reported as long-term investments.
Has the reporting entity rolled/renewed short-term or cash equivalent investments in accordance with these criteria? Yes No N/A

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES

38.1 Does the reporting entity directly hold cryptocurrencies? Yes [] No [X]

38.2 If the response to 38.1 is yes, on what schedule are they reported?

39.1 Does the reporting entity directly or indirectly accept cryptocurrencies as payments for premiums on policies? Yes [] No [X]

39.2 If the response to 39.1 is yes, are the cryptocurrencies held directly or are they immediately converted to U.S. dollars?
 39.21 Held directly Yes [] No []
 39.22 Immediately converted to U.S. dollars Yes [] No []

39.3 If the response to 38.1 or 39.1 is yes, list all cryptocurrencies accepted for payments of premiums or that are held directly.

1	2	3
Name of Cryptocurrency	Immediately Converted to USD, Directly Held, or Both	Accepted for Payment of Premiums

OTHER

40.1 Amount of payments to trade associations, service organizations and statistical or rating bureaus, if any? \$ 4,588,540

40.2 List the name of the organization and the amount paid if any such payment represented 25% or more of the total payments to trade associations, service organizations and statistical or rating bureaus during the period covered by this statement.

1	2
Name	Amount Paid
S&P, DOW JONES INDICIES	4,376,440

41.1 Amount of payments for legal expenses, if any? \$ 1,784,427

41.2 List the name of the firm and the amount paid if any such payment represented 25% or more of the total payments for legal expenses during the period covered by this statement.

1	2
Name	Amount Paid

42.1 Amount of payments for expenditures in connection with matters before legislative bodies, officers or departments of government, if any? \$ 29,264

42.2 List the name of the firm and the amount paid if any such payment represented 25% or more of the total payment expenditures in connection with matters before legislative bodies, officers, or departments of government during the period covered by this statement.

1	2
Name	Amount Paid
Bricker & Eckler	20,766

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GENERAL INTERROGATORIES

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

Life, Accident and Health Companies/Fraternal Benefit Societies:

- 1.1 Does the reporting entity have any direct Medicare Supplement Insurance in force? Yes No
- 1.2 If yes, indicate premium earned on U.S. business only\$ 2,110,060
- 1.3 What portion of Item (1.2) is not reported on the Medicare Supplement Insurance Experience Exhibit?\$
 1.31 Reason for excluding:

- 1.4 Indicate amount of earned premium attributable to Canadian and/or Other Alien not included in Item (1.2) above.\$
- 1.5 Indicate total incurred claims on all Medicare Supplement insurance.\$ 1,582,679

- 1.6 Individual policies:
- | | | |
|------------------------------|---|-----------|
| | Most current three years: | |
| 1.61 Total premium earned |\$ | 0 |
| 1.62 Total incurred claims |\$ | 0 |
| 1.63 Number of covered lives | ..... | 0 |
| | All years prior to most current three years | |
| 1.64 Total premium earned |\$ | 2,110,060 |
| 1.65 Total incurred claims |\$ | 1,582,679 |
| 1.66 Number of covered lives | ..... | 427 |
- 1.7 Group policies:
- | | | |
|------------------------------|---|---|
| | Most current three years: | |
| 1.71 Total premium earned |\$ | 0 |
| 1.72 Total incurred claims |\$ | 0 |
| 1.73 Number of covered lives | ..... | 0 |
| | All years prior to most current three years | |
| 1.74 Total premium earned |\$ | 0 |
| 1.75 Total incurred claims |\$ | 0 |
| 1.76 Number of covered lives | ..... | 0 |

2. Health Test:

	1 Current Year	2 Prior Year
2.1 Premium Numerator	.....	.....
2.2 Premium Denominator	..... (7,198,257,952)	..... 5,026,991,564
2.3 Premium Ratio (2.1/2.2)	..... 0.000	..... 0.000
2.4 Reserve Numerator	..... 2,073,887	..... 2,118,885
2.5 Reserve Denominator	..... 24,446,801,157	..... 33,547,906,263
2.6 Reserve Ratio (2.4/2.5)	..... 0.000	..... 0.000

- 3.1 Does this reporting entity have Separate Accounts? Yes No
- 3.2 If yes, has a Separate Accounts Statement been filed with this Department? Yes No N/A
- 3.3 What portion of capital and surplus funds of the reporting entity covered by assets in the Separate Accounts statement, is not currently distributable from the Separate Accounts to the general account for use by the general account?\$
- 3.4 State the authority under which Separate Accounts are maintained:
 State of Ohio, Department of Insurance
- 3.5 Was any of the reporting entity's Separate Accounts business reinsured as of December 31? Yes No
- 3.6 Has the reporting entity assumed by reinsurance any Separate Accounts business as of December 31? Yes No
- 3.7 If the reporting entity has assumed Separate Accounts business, how much, if any, reinsurance assumed receivable for reinsurance of Separate Accounts reserve expense allowances is included as a negative amount in the liability for "Transfers to Separate Accounts due or accrued (net)"?\$
4. For reporting entities having sold annuities to another insurer where the insurer purchasing the annuities has obtained a release of liability from the claimant (payee) as the result of the purchase of an annuity from the reporting entity only:
- 4.1 Amount of loss reserves established by these annuities during the current year:\$
- 4.2 List the name and location of the insurance company purchasing the annuities and the statement value on the purchase date of the annuities.

1	2 Statement Value on Purchase Date of Annuities (i.e., Present Value)
P&C Insurance Company And Location	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES

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

- 5.1 Do you act as a custodian for health savings accounts? Yes [] No [X]
- 5.2 If yes, please provide the amount of custodial funds held as of the reporting date. \$
- 5.3 Do you act as an administrator for health savings accounts? Yes [] No [X]
- 5.4 If yes, please provide the balance of funds administered as of the reporting date. \$
- 6.1 Are any of the captive affiliates reported on Schedule S, Part 3, authorized reinsurers? Yes [] No [] N/A [X]
- 6.2 If the answer to 6.1 is yes, please provide the following:

1 Company Name	2 NAIC Company Code	3 Domiciliary Jurisdiction	4 Reserve Credit	Assets Supporting Reserve Credit		
				5 Letters of Credit	6 Trust Agreements	7 Other

7. Provide the following for individual ordinary life insurance* policies (U.S. business only) for the current year (prior to reinsurance assumed or ceded):
- 7.1 Direct Premium Written \$ 24,857,140
- 7.2 Total Incurred Claims \$ 64,005,226
- 7.3 Number of Covered Lives 27,549

*Ordinary Life Insurance Includes
Term (whether full underwriting, limited underwriting, jet issue, "short form app")
Whole Life (whether full underwriting, limited underwriting, jet issue, "short form app")
Variable Life (with or without secondary gurarantee)
Universal Life (with or without secondary gurarantee)
Variable Universal Life (with or without secondary gurarantee)

8. Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states? Yes [X] No []
- 8.1 If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity? Yes [] No []

Life, Accident and Health Companies Only:

- 9.1 Are personnel or facilities of this reporting entity used by another entity or entities or are personnel or facilities of another entity or entities used by this reporting entity (except for activities such as administration of jointly underwritten group contracts and joint mortality or morbidity studies)? Yes [X] No []
- 9.2 Net reimbursement of such expenses between reporting entities:
- 9.21 Paid \$
- 9.22 Received \$ 13,143,708
- 10.1 Does the reporting entity write any guaranteed interest contracts? Yes [] No [X]
- 10.2 If yes, what amount pertaining to these lines is included in:
- 10.21 Page 3, Line 1 \$
- 10.22 Page 4, Line 1 \$
11. For stock reporting entities only:
- 11.1 Total amount paid in by stockholders as surplus funds since organization of the reporting entity: \$ 815,178,800
12. Total dividends paid stockholders since organization of the reporting entity:
- 12.11 Cash \$ 2,456,667,601
- 12.12 Stock \$
- 13.1 Does the reporting entity reinsure any Workers' Compensation Carve-Out business defined as: Yes [] No [X]
 Reinsurance (including retrocessional reinsurance) assumed by life and health insurers of medical, wage loss and death benefits of the occupational illness and accident exposures, but not the employers liability exposures, of business originally written as workers' compensation insurance.
- 13.2 If yes, has the reporting entity completed the Workers' Compensation Carve-Out Supplement to the Annual Statement? Yes [] No []
- 13.3 If 13.1 is yes, the amounts of earned premiums and claims incurred in this statement are:
- | | 1
Reinsurance
Assumed | 2
Reinsurance
Ceded | 3
Net
Retained |
|---|-----------------------------|---------------------------|----------------------|
| 13.31 Earned premium 0 | | | |
| 13.32 Paid claims 0 | | | |
| 13.33 Claim liability and reserve (beginning of year) 0 | | | |
| 13.34 Claim liability and reserve (end of year) 0 | | | |
| 13.35 Incurred claims 0 | | | |

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
GENERAL INTERROGATORIES

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

13.4 If reinsurance assumed included amounts with attachment points below \$1,000,000, the distribution of the amounts reported in Lines 13.31 and 13.34 for Column (1) are:

	Attachment Point	1 Earned Premium	2 Claim Liability and Reserve
13.41	<\$25,000	.....	.....
13.42	\$25,000 - 99,999	.....	.....
13.43	\$100,000 - 249,999	.....	.....
13.44	\$250,000 - 999,999	.....	.....
13.45	\$1,000,000 or more	.....	.....

13.5 What portion of earned premium reported in 13.31, Column 1 was assumed from pools? \$

Fraternal Benefit Societies Only:

- 14. Is the reporting entity organized and conducted on the lodge system, with ritualistic form of work and representative form of government? Yes [] No []
- 15. How often are meetings of the subordinate branches required to be held?
.....
- 16. How are the subordinate branches represented in the supreme or governing body?
.....
- 17. What is the basis of representation in the governing body?
.....
- 18.1 How often are regular meetings of the governing body held?
.....
- 18.2 When was the last regular meeting of the governing body held?
- 18.3 When and where will the next regular or special meeting of the governing body be held?
.....
- 18.4 How many members of the governing body attended the last regular meeting?
- 18.5 How many of the same were delegates of the subordinate branches?
- 19. How are the expenses of the governing body defrayed?
.....
- 20. When and by whom are the officers and directors elected?
.....
- 21. What are the qualifications for membership?
.....
- 22. What are the limiting ages for admission?
.....
- 23. What is the minimum and maximum insurance that may be issued on any one life?
.....
- 24. Is a medical examination required before issuing benefit certificates to applicants? Yes [] No []
- 25. Are applicants admitted to membership without filing an application with and being admitted by ballot and initiation of a local branch by ballot and initiation? Yes [] No []
- 26.1 Are notices of the payments required sent to the members? Yes [] No [] N/A []
- 26.2 If yes, do the notices state the purpose for which the money is to be used? Yes [] No []
- 27. What proportion of first and subsequent year's payments may be used for management expenses?
27.11 First Year %
27.12 Subsequent Years %
- 28.1 Is any part of the mortuary, disability, emergency or reserve fund, or the accretions from or payments for the same, used for expenses? Yes [] No []
- 28.2 If so, what amount and for what purpose? \$
- 29.1 Does the reporting entity pay an old age disability benefit? Yes [] No []
- 29.2 If yes, at what age does the benefit commence?
- 30.1 Has the constitution or have the laws of the reporting entity been amended during the year? Yes [] No []
- 30.2 If yes, when?
.....
- 31. Have you filed with this Department all forms of benefit certificates issued, a copy of the constitution and all of the laws, rules and regulations in force at the present time? Yes [] No []
- 32.1 State whether all or a portion of the regular insurance contributions were waived during the current year under premium-paying certificates on account of meeting attained age or membership requirements? Yes [] No []
- 32.2 If so, was an additional reserve included in Exhibit 5? Yes [] No [] N/A []
- 32.3 If yes, explain
.....
- 33.1 Has the reporting entity reinsured, amalgamated with, or absorbed any company, order, society, or association during the year? Yes [] No []
- 33.2 If yes, was there any contract agreement, or understanding, written or oral, expressed or implied, by means of which any officer, director, trustee, or any other person, or firm, corporation, society or association, received or is to receive any fee, commission, emolument, or compensation of any nature whatsoever in connection with, on an account of such reinsurance, amalgamation, absorption, or transfer of membership or funds? Yes [] No [] N/A []
- 34. Has any present or former officer, director, trustee, incorporator, or any other persons, or any firm, corporation, society or association, any claims of any nature whatsoever against this reporting entity, which is not included in the liabilities on Page 3 of this statement? Yes [] No []
- 35.1 Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus? Yes [] No []
- 35.2 If yes, what is the date of the original lien and the amount of the outstanding liens that remain against the surplus?
.....

NONE

Date	Outstanding Lien amount
.....
.....

NONE

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

FIVE-YEAR HISTORICAL DATA

Show amounts in whole dollars only, no cents; show percentages to one decimal place, i.e. 17.6.

\$000 omitted for amounts of life insurance

	1 2022	2 2021	3 2020	4 2019	5 2018
Life Insurance in Force					
(Exhibit of Life Insurance)					
1. Ordinary - whole life and endowment (Line 34, Col. 4)	1,135,104	1,187,116	1,249,351	1,333,952	1,406,874
2. Ordinary - term (Line 21, Col. 4, less Line 34, Col. 4)	3,956,634	5,303,192	6,051,774	7,076,389	8,115,818
3. Credit life (Line 21, Col. 6)	0	0	0	0	0
4. Group, excluding FEGLI/SGLI (Line 21, Col. 9 less Lines 43 & 44, Col. 4)	13,781	14,989	18,878	20,350	21,920
5. Industrial (Line 21, Col. 2)	0	0	0	0	0
6. FEGLI/SGLI (Lines 43 & 44, Col. 4)	0	0	0	0	0
7. Total (Line 21, Col. 10)	5,105,519	6,505,297	7,320,003	8,430,691	9,544,612
7.1 Total in force for which VM-20 deterministic/stochastic reserves are calculated					
New Business Issued					
(Exhibit of Life Insurance)					
8. Ordinary - whole life and endowment (Line 34, Col. 2)	1,410	1,845	2,866	1,955	1,571
9. Ordinary - term (Line 2, Col. 4, less Line 34, Col. 2)	210	60	15	3	(7)
10. Credit life (Line 2, Col. 6)	0	0	0	0	0
11. Group (Line 2, Col. 9)	0	0	0	0	0
12. Industrial (Line 2, Col. 2)	0	0	0	0	0
13. Total (Line 2, Col. 10)	1,620	1,905	2,881	1,958	1,564
Premium Income - Lines of Business					
(Exhibit 1 - Part 1)					
14. Industrial life (Line 20.4, Col. 2)	0	0	0	0	0
15.1 Ordinary-life insurance (Line 20.4, Col. 3)	13,012,249	13,965,790	14,129,112	16,318,898	15,606,357
15.2 Ordinary-individual annuities (Line 20.4, Col. 4)	(6,710,610,755)	4,874,033,517	(3,246,437,764)	4,417,893,719	5,055,272,738
16. Credit life (group and individual) (Line 20.4, Col. 5)	0	0	0	0	0
17.1 Group life insurance (Line 20.4, Col. 6)	0	0	(312)	56	(1,257)
17.2 Group annuities (Line 20.4, Col. 7)	(503,851,224)	138,756,519	508,009,549	266,761,478	142,232,752
18.1 A & H-group (Line 20.4, Col. 8)	11,405	(3,148,519)	4,738,752	11,160	9,359
18.2 A & H-credit (group and individual) (Line 20.4, Col. 9)	0	0	0	0	0
18.3 A & H-other (Line 20.4, Col. 10)	3,180,373	3,384,257	3,521,191	3,456,258	3,247,464
19. Aggregate of all other lines of business (Line 20.4, Col. 11)	0	0	0	0	0
20. Total	(7,198,257,952)	5,026,991,564	(2,716,039,471)	4,704,441,570	5,216,367,413
Balance Sheet (Pages 2 & 3)					
21. Total admitted assets excluding Separate Accounts business (Page 2, Line 26, Col. 3)	42,779,342,665	38,381,318,191	35,776,746,245	40,012,179,543	35,801,951,662
22. Total liabilities excluding Separate Accounts business (Page 3, Line 26)	39,946,759,827	35,503,197,569	32,879,554,457	37,144,066,292	33,100,559,191
23. Aggregate life reserves (Page 3, Line 1)	24,259,873,748	33,231,720,248	30,127,660,056	34,217,810,260	30,673,859,566
23.1 Excess VM-20 deterministic/stochastic reserve over NPR related to Line 7.1					
24. Aggregate A & H reserves (Page 3, Line 2)	50,510,234	58,728,683	55,007,419	45,883,507	44,361,405
25. Deposit-type contract funds (Page 3, Line 3)	779,823,617	592,074,541	1,532,959,003	1,509,062,365	1,508,812,186
26. Asset valuation reserve (Page 3, Line 24.01)	577,063,642	504,145,594	410,701,293	439,152,813	298,416,796
27. Capital (Page 3, Lines 29 and 30)	1,507,500	1,507,500	1,507,500	2,512,500	2,512,500
28. Surplus (Page 3, Line 37)	2,831,075,338	2,876,613,122	2,895,684,288	2,865,600,751	2,698,879,971
Cash Flow (Page 5)					
29. Net Cash from Operations (Line 11)	5,853,122,395	3,851,829,839	(3,459,277,339)	3,696,718,809	4,474,370,146
Risk-Based Capital Analysis					
30. Total adjusted capital	3,428,458,288	3,399,038,172	3,323,734,643	3,324,381,212	3,014,635,906
31. Authorized control level risk - based capital	385,342,819	422,121,598	405,644,746	435,772,738	382,800,971
Percentage Distribution of Cash, Cash Equivalents and Invested Assets					
(Page 2, Col. 3) (Line No. /Page 2, Line 12, Col. 3) x 100.0					
32. Bonds (Line 1)	80.0	83.5	79.3	83.2	87.3
33. Stocks (Lines 2.1 and 2.2)	2.1	2.8	3.3	3.2	3.4
34. Mortgage loans on real estate(Lines 3.1 and 3.2)	7.4	5.8	4.5	3.5	2.9
35. Real estate (Lines 4.1, 4.2 and 4.3)	0.0	0.0	0.2	0.3	0.3
36. Cash, cash equivalents and short-term investments (Line 5)	4.8	2.7	5.9	3.8	2.2
37. Contract loans (Line 6)	0.1	0.2	0.2	0.2	0.3
38. Derivatives (Page 2, Line 7)	2.1	1.9	2.6	2.4	0.6
39. Other invested assets (Line 8)	3.3	2.9	4.0	3.3	3.1
40. Receivables for securities (Line 9)	0.3	0.2	0.0	0.0	0.0
41. Securities lending reinvested collateral assets (Line 10)	0.0	0.0	0.0	0.0	0.0
42. Aggregate write-ins for invested assets (Line 11)	0.0	0.0	0.0	0.0	0.0
43. Cash, cash equivalents and invested assets (Line 12)	100.0	100.0	100.0	100.0	100.0

FIVE-YEAR HISTORICAL DATA

(Continued)

	1 2022	2 2021	3 2020	4 2019	5 2018
Investments in Parent, Subsidiaries and Affiliates					
44. Affiliated bonds (Schedule D Summary, Line 12, Col. 1)	505,922,314		0	0	0
45. Affiliated preferred stocks (Schedule D Summary, Line 18, Col. 1)	0	0	0	0	0
46. Affiliated common stocks (Schedule D Summary Line 24, Col. 1),	401,901,977	384,058,681	352,465,015	359,172,246	321,569,327
47. Affiliated short-term investments (subtotal included in Schedule DA Verification, Col. 5, Line 10)	0	0	0	0	0
48. Affiliated mortgage loans on real estate					
49. All other affiliated	152,544,036		0	0	0
50. Total of above Lines 44 to 49	1,060,368,327	384,058,681	352,465,015	359,172,246	321,569,327
51. Total Investment in Parent included in Lines 44 to 49 above					
Total Nonadmitted and Admitted Assets					
52. Total nonadmitted assets (Page 2, Line 28, Col. 2)	31,902,708	27,247,217	6,532,837	19,385,066	7,168,705
53. Total admitted assets (Page 2, Line 28, Col. 3)	42,883,041,659	38,448,901,775	35,797,152,601	40,018,795,515	35,802,365,635
Investment Data					
54. Net investment income (Exhibit of Net Investment Income)	1,018,987,195	1,950,977,865	1,908,775,201	1,760,782,500	1,861,257,433
55. Realized capital gains (losses) (Page 4, Line 34, Column 1)	(32,534,189)	118,746,759	(218,592,712)	(15,714,408)	(48,687,806)
56. Unrealized capital gains (losses) (Page 4, Line 38, Column 1)	(200,664,475)	25,495,993	66,352,275	876,991,241	(645,939,356)
57. Total of above Lines 54, 55 and 56	785,788,531	2,095,220,617	1,756,534,764	2,622,059,333	1,166,630,271
Benefits and Reserve Increases (Page 6)					
58. Total contract/certificate benefits - life (Lines 10, 11, 12, 13, 14 and 15, Col. 1 minus Lines 10, 11, 12, 13, 14 and 15, Cols. 6, 7 and 8)	1,962,500,163	3,104,931,642	2,948,216,184	2,916,941,968	2,508,414,367
59. Total contract/certificate benefits - A & H (Lines 13 & 14, Col. 6)	3,804,204	4,181,392	3,826,900	3,627,493	3,109,809
60. Increase in life reserves - other than group and annuities (Line 19, Col. 2)	(26,774,113)	(6,802,237)	2,312,245	5,053,173	(5,449,279)
61. Increase in A & H reserves (Line 19, Col. 6)	(8,218,456)	3,721,264	9,123,912	1,522,102	5,506,708
62. Dividends to policyholders and refunds to members (Line 30, Col. 1)	10,069	12,787	10,653	11,141	10,190
Operating Percentages					
63. Insurance expense percent (Page 6, Col. 1, Lines 21, 22 & 23, less Line 6)/(Page 6, Col. 1, Line 1 plus Exhibit 7, Col. 2, Line 2) x 100.0	(0.4)	9.6	(12.0)	(3.6)	17.0
64. Lapse percent (ordinary only) [(Exhibit of Life Insurance, Col. 4, Lines 14 & 15) / 1/2 (Exhibit of Life Insurance, Col. 4, Lines 1 & 21)] x 100.0	23.5	10.6	13.5	11.6	8.3
65. A & H loss percent (Schedule H, Part 1, Lines 5 and 6, Col. 2)	173.2	147.5	118.4	149.6	267.0
66. A & H cost containment percent (Schedule H, Pt. 1, Line 4, Col. 2)	0.0	0.0	0.0	0.0	0.0
67. A & H expense percent excluding cost containment expenses (Schedule H, Pt. 1, Line 10, Col. 2)	17.6	21.7	38.1	29.5	16.4
A & H Claim Reserve Adequacy					
68. Incurred losses on prior years' claims - comprehensive group health (Sch. H, Part 3, Line 3.1 Col. 3)	0	XXX	XXX	XXX	XXX
69. Prior years' claim liability and reserve - comprehensive group health (Sch. H, Part 3, Line 3.2 Col. 3)		XXX	XXX	XXX	XXX
70. Incurred losses on prior years' claims-health other than comprehensive group health (Sch. H, Part 3, Line 3.1 Col. 1 less Col. 3)	12,381,135	XXX	XXX	XXX	XXX
71. Prior years' claim liability and reserve-health other than comprehensive group health (Sch. H, Part 3, Line 3.2 Col. 1 less Col. 3)	11,888,136	XXX	XXX	XXX	XXX
Net Gains From Operations After Dividends to Policyholders/Members' Refunds and Federal Income Taxes by Lines of Business (Page 6.x, Line 33)					
72. Industrial life (Page 6.1, Col. 2)	0	0	0	0	0
73. Ordinary - life (Page 6.1, Col. 1 less Cols. 2, 10 and 12)	(2,710,728)	1,097,857	(1,722,962)	(5,543,678)	2,177,997
74. Ordinary - individual annuities (Page 6, Col. 4)	169,889,573	196,130,952	384,651,225	23,798,035	801,580,711
75. Ordinary-supplementary contracts	XXX	XXX	XXX	XXX	(78,358)
76. Credit life (Page 6.1, Col. 10 plus Page 6.2, Col. 7)	0	0	0	0	0
77. Group life (Page 6.2, Col. 1 Less Cols. 7 and 9)	(263,683)	(276,770)	(237,284)	(7,040)	51,701
78. Group annuities (Page 6, Col. 5)	16,751,599	17,656,237	23,533,189	11,206,866	15,988,998
79. A & H-group (Page 6.5, Col. 3)		159,596	(159,596)	0	992
80. A & H-credit (Page 6.5, Col. 10)	0	0	0	0	0
81. A & H-other (Page 6.5, Col. 1 less Cols. 3 and 10)	6,894,334	(4,500,794)	(3,378,180)	(152,947)	(3,061,650)
82. Aggregate of all other lines of business (Page 6, Col. 8)	0	0	0	0	0
83. Fraternal (Page 6, Col. 7)	0	0	0	0	0
84. Total (Page 6, Col. 1)	190,561,095	210,267,078	402,686,392	29,301,236	816,660,391

NOTE: If a party to a merger, have the two most recent years of this exhibit been restated due to a merger in compliance with the disclosure requirements of SSAP No. 3, Accounting Changes and Correction of Errors? Yes [] No [X]
 If no, please explain: The Company was not a party to a merger.



ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

DIRECT BUSINESS IN THE STATE OF Grand Total

DURING THE YEAR 2022

NAIC Group Code 0435

LIFE INSURANCE

NAIC Company Code 63312

DIRECT PREMIUMS AND ANNUITY CONSIDERATIONS	1	2	3	4	5
	Ordinary	Credit Life (Group and Individual)	Group	Industrial	Total
1. Life insurance	23,397,888	0	0	0	23,397,888
2. Annuity considerations	7,344,903,144	0	5,079,283	0	7,349,982,427
3. Deposit-type contract funds	9,164,370	XXX	0	XXX	9,164,370
4. Other considerations	0	0	0	0	0
5. Totals (Sum of Lines 1 to 4)	7,377,465,402	0	5,079,283	0	7,382,544,685
DIRECT DIVIDENDS TO POLICYHOLDERS/REFUNDS TO MEMBERS					
Life insurance:					
6.1 Paid in cash or left on deposit	0	0	0	0	0
6.2 Applied to pay renewal premiums	0	0	0	0	0
6.3 Applied to provide paid-up additions or shorten the endowment or premium-paying period	0	0	0	0	0
6.4 Other	0	0	0	0	0
6.5 Totals (Sum of Lines 6.1 to 6.4)	0	0	0	0	0
Annuities:					
7.1 Paid in cash or left on deposit	0	0	0	0	0
7.2 Applied to provide paid-up annuities	0	0	0	0	0
7.3 Other	0	0	0	0	0
7.4 Totals (Sum of Lines 7.1 to 7.3)	0	0	0	0	0
8. Grand Totals (Lines 6.5 plus 7.4)	0	0	0	0	0
DIRECT CLAIMS AND BENEFITS PAID					
9. Death benefits	39,933,564	0	1,161,997	0	41,095,561
10. Matured endowments	22,447,992	0	18,225	0	22,466,217
11. Annuity benefits	1,134,953,050	0	74,836,126	0	1,209,789,176
12. Surrender values and withdrawals for life contracts	3,739,188,327	0	40,433,962	0	3,779,622,289
13. Aggregate write-ins for miscellaneous direct claims and benefits paid	0	0	0	0	0
14. All other benefits, except accident and health	0	0	0	0	0
15. Totals	4,936,522,933	0	116,450,310	0	5,052,973,243
DETAILS OF WRITE-INS					
1301.					
1302.					
1303.					
1398. Summary of Line 13 from overflow page	0	0	0	0	0
1399. Totals (Lines 1301 thru 1303 plus 1398) (Line 13 above)	0	0	0	0	0

DIRECT DEATH BENEFITS AND MATURED ENDOWMENTS INCURRED	Ordinary		Credit Life (Group and Individual)		Group		Industrial		Total	
	1	2	3	4	5	6	7	8	9	10
	No. of Pols. & Certifs.	Amount	No. of Ind.Pols. & Gr. Certifs.	Amount	No. of Certifs.	Amount	No. of Pols. & Certifs.	Amount	No. of Pols. & Certifs.	Amount
16. Unpaid December 31, prior year	117	7,881,231	0	0	14	44,968	0	0	131	7,926,199
17. Incurred during current year Settled during current year:	732	62,846,359	0	0	192	1,160,222	0	0	924	64,006,581
18.1 By payment in full	732	62,369,280	0	0	195	1,192,497	0	0	927	63,561,777
18.2 By payment on compromised claims	0	0	0	0	0	0	0	0	0	0
18.3 Totals paid	732	62,369,280	0	0	195	1,192,497	0	0	927	63,561,777
18.4 Reduction by compromise	0	0	0	0	0	0	0	0	0	0
18.5 Amount rejected	0	0	0	0	0	0	0	0	0	0
18.6 Total settlements	732	62,369,280	0	0	195	1,192,497	0	0	927	63,561,777
19. Unpaid Dec. 31, current year (16+17-18.6)	117	8,358,310	0	0	11	12,693	0	0	128	8,371,003
POLICY EXHIBIT						No. of Policies				
20. In force December 31, prior year	32,401	6,267,205,702	0	(a) 0	11	13,026,226	0	0	32,412	6,280,231,928
21. Issued during year	49	1,619,500	0	0	0	0	0	0	49	1,619,500
22. Other changes to in force (Net)	(4,901)	(1,368,961,750)	0	0	0	(1,063,437)	0	0	(4,901)	(1,370,025,187)
23. In force December 31 of current year	27,549	4,899,863,452	0	(a) 0	11	11,962,789	0	0	27,560	4,911,826,241

(a) Includes Individual Credit Life Insurance prior year \$ 0 , current year \$ 0
 Includes Group Credit Life Insurance Loans less than or equal to 60 months at issue, prior year \$ 0 , current year \$ 0
 Loans greater than 60 months at issue BUT NOT GREATER THAN 120 MONTHS, prior year \$ 0 , current year \$ 0

ACCIDENT AND HEALTH INSURANCE

	1	2	3	4	5
	Direct Premiums	Direct Premiums Earned	Policyholder Dividends Paid, Refunds to Members or Credited on Direct Business	Direct Losses Paid	Direct Losses Incurred
24. Group Policies (b)	70,754	76,241	0	31,858	(180,893)
24.1 Federal Employees Health Benefits Plan premium (b)	0	0	0	0	0
24.2 Credit (Group and Individual)	0	0	0	0	0
24.3 Collectively renewable policies/certificates (b)	0	0	0	0	0
24.4 Medicare Title XVIII exempt from state taxes or fees Other Individual Policies:	0	0	0	0	0
25.1 Non-cancelable (b)	0	0	0	0	0
25.2 Guaranteed renewable (b)	4,677,107	4,890,340	0	4,137,579	4,893,518
25.3 Non-renewable for stated reasons only (b)	0	0	0	0	0
25.4 Other accident only	0	0	0	0	0
25.5 All other (b)	0	0	0	0	0
25.6 Totals (sum of Lines 25.1 to 25.5)	4,677,107	4,890,340	0	4,137,579	4,893,518
26. Totals (Lines 24 + 24.1 + 24.2 + 24.3 + 24.4 + 25.6)	4,747,861	4,966,581	0	4,169,437	4,712,625

(b) For health business on indicated lines report: Number of persons insured under PPO managed care products 0 and number of persons insured under indemnity only products 0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT OF LIFE INSURANCE

(\$000 Omitted for Amounts of Life Insurance)

	Industrial		Ordinary		Credit Life (Group and Individual)		Group			10 Total Amount of Insurance
	1	2	3	4	5	6	Number of		9	
	Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance	Number of Individual Policies and Group Certificates	Amount of Insurance	Policies	Certificates	Amount of Insurance	
1. In force end of prior year	0	0	54,635	6,490,308	0	0	15	2,611	14,989	6,505,297
2. Issued during year	0	0	49	1,620	0	0			0	1,620
3. Reinsurance assumed										0
4. Revived during year			6	2,217						2,217
5. Increased during year (net)				1,218					143	1,361
6. Subtotals, Lines 2 to 5	0	0	55	5,055	0	0	0	0	143	5,198
7. Additions by dividends during year	XXX		XXX		XXX		XXX	XXX		0
8. Aggregate write-ins for increases	0	0	0	0	0	0	0	0	3	3
9. Totals (Lines 1 and 6 to 8)	0	0	54,690	6,495,363	0	0	15	2,611	15,135	6,510,498
Deductions during year:										
10. Death			1,604	46,775			XXX	196	1,179	47,954
11. Maturity			60	206			XXX	6	23	229
12. Disability							XXX			0
13. Expiry			190	3,837						3,837
14. Surrender			623	37,569				1	4	37,573
15. Lapse			4,000	1,320,478				7	148	1,320,626
16. Conversion			36	6,247			XXX	XXX	XXX	6,247
17. Decreased (net)				(11,487)						(11,487)
18. Reinsurance										0
19. Aggregate write-ins for decreases	0	0	0	0	0	0	0	6	0	0
20. Totals (Lines 10 to 19)	0	0	6,513	1,403,625	0	0	0	216	1,354	1,404,979
21. In force end of year (b) (Line 9 minus Line 20)	0	0	48,177	5,091,738	0	0	15	2,395	13,781	5,105,519
22. Reinsurance ceded end of year	XXX		XXX	3,190,189	XXX		XXX	XXX	10,637	3,200,826
23. Line 21 minus Line 22	XXX	0	XXX	1,901,549	XXX	(a)	XXX	XXX	3,144	1,904,693
DETAILS OF WRITE-INS										
0801. Correction for prior year error									3	3
0802.										
0803.										
0898. Summary of remaining write-ins for Line 8 from overflow page	0	0	0	0	0	0	0	0	0	0
0899. TOTALS (Lines 0801 thru 0803 plus 0898) (Line 8 above)	0	0	0	0	0	0	0	0	3	3
1901. Correction for prior year error								6		0
1902.										
1903.										
1998. Summary of remaining write-ins for Line 19 from overflow page	0	0	0	0	0	0	0	0	0	0
1999. TOTALS (Lines 1901 thru 1903 plus 1998) (Line 19 above)	0	0	0	0	0	0	0	6	0	0

Life, Accident and Health Companies Only:

(a) Group \$; Individual \$

Fraternal Benefit Societies Only:

(b) Paid-up insurance included in the final totals of Line 21 (including additions to certificates) number of certificates , Amount \$

Additional accidental death benefits included in life certificates were in amount \$, Does the society collect any contributions from members for general expenses of the society under fully paid-up certificates? Yes [] No []

If not, how are such expenses met?

.....

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT OF LIFE INSURANCE

(\$000 Omitted for Amounts of Life Insurance) (Continued)
ADDITIONAL INFORMATION ON INSURANCE IN FORCE END OF YEAR

	Industrial		Ordinary	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance
24. Additions by dividends	XXX		XXX	
25. Other paid-up insurance			7,733	29,552
26. Debit ordinary insurance	XXX	XXX		

ADDITIONAL INFORMATION ON ORDINARY INSURANCE

Term Insurance Excluding Extended Term Insurance	Issued During Year (Included in Line 2)		In Force End of Year (Included in Line 21)	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance
27. Term policies - decreasing			144	1,591
28. Term policies - other			14,420	3,562,416
29. Other term insurance - decreasing	XXX		XXX	32
30. Other term insurance	XXX	210	XXX	383,314
31. Totals (Lines 27 to 30)	0	210	14,564	3,947,353
Reconciliation to Lines 2 and 21:				
32. Term additions	XXX		XXX	
33. Totals, extended term insurance	XXX	XXX	1,517	9,280
34. Totals, whole life and endowment	49	1,410	32,096	1,135,104
35. Totals (Lines 31 to 34)	49	1,620	48,177	5,091,737

CLASSIFICATION OF AMOUNT OF INSURANCE BY PARTICIPATING STATUS

	Issued During Year (Included in Line 2)		In Force End of Year (Included in Line 21)	
	1 Non-Participating	2 Participating	3 Non-Participating	4 Participating
36. Industrial				
37. Ordinary	1,620		5,075,441	16,296
38. Credit Life (Group and Individual)				
39. Group			13,781	
40. Totals (Lines 36 to 39)	1,620	0	5,089,222	16,296

ADDITIONAL INFORMATION ON CREDIT LIFE AND GROUP INSURANCE

	Credit Life		Group	
	1 Number of Individual Policies and Group Certificates	2 Amount of Insurance	3 Number of Certificates	4 Amount of Insurance
41. Amount of insurance included in Line 2 ceded to other companies	XXX		XXX	
42. Number in force end of year if the number under shared groups is counted on a pro-rata basis		XXX	52	XXX
43. Federal Employees' Group Life Insurance included in Line 21				
44. Servicemen's Group Life Insurance included in Line 21				
45. Group Permanent Insurance included in Line 21			2,344	11,963

ADDITIONAL ACCIDENTAL DEATH BENEFITS

46. Amount of additional accidental death benefits in force end of year under ordinary policies	83,409
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BASIS OF CALCULATION OF ORDINARY TERM INSURANCE

47. State basis of calculation of (47.1) decreasing term insurance contained in Family Income, Mortgage Protection, etc., policies and riders and of (47.2) term insurance on wife and children under Family, Parent and Children, etc., policies and riders included above.	
47.1 None	
47.2 Actual for spouse, \$1,000 per unit for children	

POLICIES WITH DISABILITY PROVISIONS

Disability Provisions	Industrial		Ordinary		Credit		Group	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance	5 Number of Policies	6 Amount of Insurance	7 Number of Certificates	8 Amount of Insurance
48. Waiver of Premium			1,558	93,723				
49. Disability Income			58	7,441				
50. Extended Benefits			XXX	XXX				
51. Other								
52. Total	0	0	1,616	101,164	0	0	0	0

(a) See the Annual Audited Financial Reports section of the annual statement instructions

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
EXHIBIT OF NUMBER OF POLICIES, CONTRACTS, CERTIFICATES, INCOME
PAYABLE AND ACCOUNT VALUES IN FORCE FOR SUPPLEMENTARY
CONTRACTS, ANNUITIES, ACCIDENT & HEALTH AND OTHER POLICIES

SUPPLEMENTARY CONTRACTS

	Ordinary		Group	
	1 Involving Life Contingencies	2 Not Involving Life Contingencies	3 Involving Life Contingencies	4 Not Involving Life Contingencies
1. In force end of prior year	41	20	0	0
2. Issued during year				
3. Reinsurance assumed				
4. Increased during year (net)				
5. Total (Lines 1 to 4)	41	20	0	0
Deductions during year:				
6. Decreased (net)	2	2		
7. Reinsurance ceded	0	0		
8. Totals (Lines 6 and 7)	2	2	0	0
9. In force end of year (line 5 minus line 8)	39	18	0	0
10. Amount on deposit	71,736	(a) 19,384		(a)
11. Income now payable	22	13		
12. Amount of income payable	(a) 99,652	(a) 71,857	(a)	(a)

ANNUITIES

	Ordinary		Group	
	1 Immediate	2 Deferred	3 Contracts	4 Certificates
1. In force end of prior year	14,328	327,391	274	52,059
2. Issued during year	1,965	50,494	0	0
3. Reinsurance assumed	0	0	0	0
4. Increased during year (net)	0	0	0	0
5. Totals (Lines 1 to 4)	16,293	377,885	274	52,059
Deductions during year:				
6. Decreased (net)	2,270	31,629	0	2,043
7. Reinsurance ceded	0	0	0	0
8. Totals (Lines 6 and 7)	2,270	31,629	0	2,043
9. In force end of year (line 5 minus line 8)	14,023	346,256	274	50,016
Income now payable:				
10. Amount of income payable	(a) 173,421,777	XXX	XXX	(a) 73,013,893
Deferred fully paid:				
11. Account balance	XXX	(a) 22,871,813,073	XXX	(a) 104,897,123
Deferred not fully paid:				
12. Account balance	XXX	(a) 12,078,263,115	XXX	(a) 739,723,271

ACCIDENT AND HEALTH INSURANCE

	Group		Credit		Other	
	1 Certificates	2 Premiums in Force	3 Policies	4 Premiums in Force	5 Policies	6 Premiums in Force
1. In force end of prior year	10	11,405	0		1,382	3,336,879
2. Issued during year						
3. Reinsurance assumed						
4. Increased during year (net)		XXX		XXX		XXX
5. Totals (Lines 1 to 4)	10	XXX	0	XXX	1,382	XXX
Deductions during year:						
6. Conversions		XXX	XXX	XXX	XXX	XXX
7. Decreased (net)		XXX		XXX	61	XXX
8. Reinsurance ceded		XXX		XXX		XXX
9. Totals (Lines 6 to 8)	0	XXX	0	XXX	61	XXX
10. In force end of year (line 5 minus line 9)	10	(a) 11,405	0	(a)	1,321	(a) 3,184,432

DEPOSIT FUNDS AND DIVIDEND ACCUMULATIONS

	1	2
	Deposit Funds Contracts	Dividend Accumulations Contracts
1. In force end of prior year	1,917	3,161
2. Issued during year	0	0
3. Reinsurance assumed	20	0
4. Increased during year (net)	0	0
5. Totals (Lines 1 to 4)	1,937	3,161
Deductions During Year:		
6. Decreased (net)	0	1
7. Reinsurance ceded	0	0
8. Totals (Lines 6 and 7)	0	1
9. In force end of year (line 5 minus line 8)	1,937	3,160
10. Amount of account balance	(a) 1,898,172	(a) 5,430,243

(a) See the Annual Audited Financial Reports section of the annual statement instructions.

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
FORM FOR CALCULATING THE INTEREST MAINTENANCE RESERVE**

INTEREST MAINTENANCE RESERVE

	1 Amount
1. Reserve as of December 31, Prior Year	95,332,234
2. Current year's realized pre-tax capital gains/(losses) of \$ 43,472,264 transferred into the reserve net of taxes of \$ 9,129,175	34,343,089
3. Adjustment for current year's liability gains/(losses) released from the reserve	0
4. Balance before reduction for amount transferred to Summary of Operations (Line 1 + Line 2 + Line 3)	129,675,322
5. Current year's amortization released to Summary of Operations (Amortization, Line 1, Column 4)	36,421,280
6. Reserve as of December 31, current year (Line 4 minus Line 5)	93,254,042

AMORTIZATION

Year of Amortization	1 Reserve as of December 31, Prior Year	2 Current Year's Realized Capital Gains/(Losses) Transferred into the Reserve Net of Taxes	3 Adjustment for Current Year's Liability Gains/(Losses) Released From the Reserve	4 Balance Before Reduction for Current Year's Amortization (Cols. 1 + 2 + 3)
1. 2022	25,731,225	10,690,055	0	36,421,280
2. 2023	17,238,221	17,964,137	0	35,202,358
3. 2024	13,015,224	14,192,203	0	27,207,428
4. 2025	8,919,810	8,709,691	0	17,629,501
5. 2026	6,352,172	3,030,336	0	9,382,508
6. 2027	4,678,680	(2,924,205)	0	1,754,475
7. 2028	3,953,290	(5,366,337)	0	(1,413,047)
8. 2029	3,089,269	(4,318,467)	0	(1,229,197)
9. 2030	2,592,926	(3,182,488)	0	(589,562)
10. 2031	1,839,042	(2,001,036)	0	(161,994)
11. 2032	1,462,228	(736,207)	0	726,021
12. 2033	1,310,886	(122,621)	0	1,188,265
13. 2034	1,131,338	(112,435)	0	1,018,903
14. 2035	870,896	(105,412)	0	765,484
15. 2036	658,401	(95,602)	0	562,799
16. 2037	507,057	(86,634)	0	420,423
17. 2038	410,452	(83,231)	0	327,221
18. 2039	335,997	(82,882)	0	253,115
19. 2040	255,546	(84,334)	0	171,212
20. 2041	231,124	(85,685)	0	145,439
21. 2042	206,908	(85,163)	0	121,745
22. 2043	148,172	(88,226)	0	59,946
23. 2044	133,451	(93,032)	0	40,419
24. 2045	138,805	(96,006)	0	42,799
25. 2046	90,146	(103,001)	0	(12,855)
26. 2047	52,183	(105,904)	0	(53,721)
27. 2048	21,627	(100,265)	0	(78,638)
28. 2049	(1,144)	(79,803)	0	(80,947)
29. 2050	(27,898)	(57,294)	0	(85,192)
30. 2051	(13,803)	(34,786)	0	(48,589)
31. 2052 and Later		(12,277)	0	(12,277)
32. Total (Lines 1 to 31)	95,332,234	34,343,089	0	129,675,322

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

ASSET VALUATION RESERVE

	Default Component			Equity Component			7 Total Amount (Cols. 3 + 6)
	1 Other Than Mortgage Loans	2 Mortgage Loans	3 Total (Cols. 1 + 2)	4 Common Stock	5 Real Estate and Other Invested Assets	6 Total (Cols. 4 + 5)	
1. Reserve as of December 31, prior year	276,032,673	21,233,966	297,266,639	45,357,204	161,521,751	206,878,955	504,145,594
2. Realized capital gains/(losses) net of taxes - General Account	(11,749,979)	0	(11,749,979)	(11,116,457)	(730,591)	(11,847,048)	(23,597,027)
3. Realized capital gains/(losses) net of taxes - Separate Accounts	0	0	0	0	0	0	0
4. Unrealized capital gains/(losses) net of deferred taxes - General Account	(42,989,414)	0	(42,989,414)	117,388,901	20,828,311	138,217,212	95,227,798
5. Unrealized capital gains/(losses) net of deferred taxes - Separate Accounts	0	0	0	0	0	0	0
6. Capital gains credited/(losses charged) to contract benefits, payments or reserves	0	0	0	0	0	0	0
7. Basic contribution	95,474,910	7,692,268	103,167,178	0	923,804	923,804	104,090,982
8. Accumulated balances (Lines 1 through 5 - 6 + 7)	316,768,190	28,926,235	345,694,424	151,629,648	182,543,275	334,172,922	679,867,347
9. Maximum reserve	425,686,570	28,387,375	454,073,945	50,552,651	193,446,284	243,998,936	698,072,881
10. Reserve objective	260,854,006	21,691,841	282,545,848	50,378,907	192,360,166	242,739,074	525,284,921
11. 20% of (Line 10 - Line 8)	(11,182,837)	(1,446,879)	(12,629,715)	(20,250,148)	1,963,378	(18,286,770)	(30,916,485)
12. Balance before transfers (Lines 8 + 11)	305,585,353	27,479,356	333,064,709	131,379,500	184,506,653	315,886,152	648,950,862
13. Transfers			0	(8,939,630)	8,939,630	0	0
14. Voluntary contribution			0	0	0	0	0
15. Adjustment down to maximum/up to zero			0	(71,887,219)	0	(71,887,219)	(71,887,219)
16. Reserve as of December 31, current year (Lines 12 + 13 + 14 + 15)	305,585,353	27,479,356	333,064,709	50,552,651	193,446,283	243,998,933	577,063,643

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

ASSET VALUATION RESERVE
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
LONG-TERM BONDS												
1.		Exempt Obligations	105,172,240	XXX	XXX	105,172,240	0.0000	0	0.0000	0	0.0000	0
2.1	1	NAIC Designation Category 1.A	5,597,820,295	XXX	XXX	5,597,820,295	0.0002	1,119,564	0.0007	3,918,474	0.0013	7,277,166
2.2	1	NAIC Designation Category 1.B	1,225,947,662	XXX	XXX	1,225,947,662	0.0004	490,379	0.0011	1,348,542	0.0023	2,819,680
2.3	1	NAIC Designation Category 1.C	2,403,461,042	XXX	XXX	2,403,461,042	0.0006	1,442,077	0.0018	4,326,230	0.0035	8,412,114
2.4	1	NAIC Designation Category 1.D	1,428,314,633	XXX	XXX	1,428,314,633	0.0007	999,820	0.0022	3,142,292	0.0044	6,284,584
2.5	1	NAIC Designation Category 1.E	1,002,013,065	XXX	XXX	1,002,013,065	0.0009	901,812	0.0027	2,705,435	0.0055	5,511,072
2.6	1	NAIC Designation Category 1.F	3,704,239,272	XXX	XXX	3,704,239,272	0.0011	4,074,663	0.0034	12,594,414	0.0068	25,188,827
2.7	1	NAIC Designation Category 1.G	2,262,125,537	XXX	XXX	2,262,125,537	0.0014	3,166,976	0.0042	9,500,927	0.0085	19,228,067
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7)	17,623,921,506	XXX	XXX	17,623,921,506	XXX	12,195,291	XXX	37,536,315	XXX	74,721,510
3.1	2	NAIC Designation Category 2.A	3,329,472,116	XXX	XXX	3,329,472,116	0.0021	6,991,891	0.0063	20,975,674	0.0105	34,959,457
3.2	2	NAIC Designation Category 2.B	5,799,365,352	XXX	XXX	5,799,365,352	0.0025	14,498,413	0.0076	44,075,177	0.0127	73,651,940
3.3	2	NAIC Designation Category 2.C	4,306,142,583	XXX	XXX	4,306,142,583	0.0036	15,502,113	0.0108	46,506,340	0.0180	77,510,566
3.4		Subtotal NAIC 2 (3.1+3.2+3.3)	13,434,980,051	XXX	XXX	13,434,980,051	XXX	36,992,418	XXX	111,557,191	XXX	186,121,964
4.1	3	NAIC Designation Category 3.A	314,823,051	XXX	XXX	314,823,051	0.0069	2,172,279	0.0183	5,761,262	0.0262	8,248,364
4.2	3	NAIC Designation Category 3.B	314,908,344	XXX	XXX	314,908,344	0.0099	3,117,593	0.0264	8,313,580	0.0377	11,872,045
4.3	3	NAIC Designation Category 3.C	844,235,352	XXX	XXX	844,235,352	0.0131	11,059,483	0.0350	29,548,237	0.0500	42,211,768
4.4		Subtotal NAIC 3 (4.1+4.2+4.3)	1,473,966,747	XXX	XXX	1,473,966,747	XXX	16,349,355	XXX	43,623,079	XXX	62,332,176
5.1	4	NAIC Designation Category 4.A	116,731,161	XXX	XXX	116,731,161	0.0184	2,147,853	0.0430	5,019,440	0.0615	7,178,966
5.2	4	NAIC Designation Category 4.B	132,217,174	XXX	XXX	132,217,174	0.0238	3,146,769	0.0555	7,338,053	0.0793	10,484,822
5.3	4	NAIC Designation Category 4.C	205,664,278	XXX	XXX	205,664,278	0.0310	6,375,593	0.0724	14,890,094	0.1034	21,265,686
5.4		Subtotal NAIC 4 (5.1+5.2+5.3)	454,612,613	XXX	XXX	454,612,613	XXX	11,670,215	XXX	27,247,587	XXX	38,929,475
6.1	5	NAIC Designation Category 5.A	73,389,326	XXX	XXX	73,389,326	0.0472	3,463,976	0.0846	6,208,737	0.1410	10,347,895
6.2	5	NAIC Designation Category 5.B	134,927,273	XXX	XXX	134,927,273	0.0663	8,945,678	0.1188	16,029,360	0.1980	26,715,600
6.3	5	NAIC Designation Category 5.C	1,046,841	XXX	XXX	1,046,841	0.0836	87,516	0.1498	156,817	0.2496	261,292
6.4		Subtotal NAIC 5 (6.1+6.2+6.3)	209,363,440	XXX	XXX	209,363,440	XXX	12,497,170	XXX	22,394,914	XXX	37,324,787
7.	6	NAIC 6	29,887,688	XXX	XXX	29,887,688	0.0000	0	0.2370	7,083,382	0.2370	7,083,382
8.		Total Unrated Multi-class Securities Acquired by Conversion		XXX	XXX		XXX		XXX		XXX	
9.		Total Long-Term Bonds (1+2.8+3.4+4.4+5.4+6.4+7+8)	33,331,904,285	XXX	XXX	33,331,904,285	XXX	89,704,449	XXX	249,442,468	XXX	406,513,293
PREFERRED STOCKS												
10.	1	Highest Quality	4,037,177	XXX	XXX	4,037,177	0.0005	2,019	0.0016	6,459	0.0033	13,323
11.	2	High Quality	92,640,241	XXX	XXX	92,640,241	0.0021	194,545	0.0064	592,898	0.0106	981,987
12.	3	Medium Quality	6,998,696	XXX	XXX	6,998,696	0.0099	69,287	0.0263	184,066	0.0376	263,151
13.	4	Low Quality	1,399,018	XXX	XXX	1,399,018	0.0245	34,276	0.0572	80,024	0.0817	114,300
14.	5	Lower Quality	79,292,676	XXX	XXX	79,292,676	0.0630	4,995,439	0.1128	8,944,214	0.1880	14,907,023
15.	6	In or Near Default	600,376	XXX	XXX	600,376	0.0000	0	0.2370	142,289	0.2370	142,289
16.		Affiliated Life with AVR	0	XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
17.		Total Preferred Stocks (Sum of Lines 10 through 16)	184,968,184	XXX	XXX	184,968,184	XXX	5,295,565	XXX	9,949,950	XXX	16,422,072

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
SHORT-TERM BONDS												
18.		Exempt Obligations	0	XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
19.1	1	NAIC Designation Category 1.A	0	XXX	XXX	0	0.0002	0	0.0007	0	0.0013	0
19.2	1	NAIC Designation Category 1.B	21,000,000	XXX	XXX	21,000,000	0.0004	8,400	0.0011	23,100	0.0023	48,300
19.3	1	NAIC Designation Category 1.C	0	XXX	XXX	0	0.0006	0	0.0018	0	0.0035	0
19.4	1	NAIC Designation Category 1.D	211,422,664	XXX	XXX	211,422,664	0.0007	147,996	0.0022	465,130	0.0044	930,260
19.5	1	NAIC Designation Category 1.E	6,000,501	XXX	XXX	6,000,501	0.0009	5,400	0.0027	16,201	0.0055	33,003
19.6	1	NAIC Designation Category 1.F	62,558,527	XXX	XXX	62,558,527	0.0011	68,814	0.0034	212,699	0.0068	425,398
19.7	1	NAIC Designation Category 1.G	0	XXX	XXX	0	0.0014	0	0.0042	0	0.0085	0
19.8		Subtotal NAIC 1 (19.1+19.2+19.3+19.4+19.5+19.6+19.7)	300,981,692	XXX	XXX	300,981,692	XXX	230,611	XXX	717,130	XXX	1,436,960
20.1	2	NAIC Designation Category 2.A	88,702,486	XXX	XXX	88,702,486	0.0021	186,275	0.0063	558,826	0.0105	931,376
20.2	2	NAIC Designation Category 2.B	0	XXX	XXX	0	0.0025	0	0.0076	0	0.0127	0
20.3	2	NAIC Designation Category 2.C	0	XXX	XXX	0	0.0036	0	0.0108	0	0.0180	0
20.4		Subtotal NAIC 2 (20.1+20.2+20.3)	88,702,486	XXX	XXX	88,702,486	XXX	186,275	XXX	558,826	XXX	931,376
21.1	3	NAIC Designation Category 3.A		XXX	XXX		0.0069		0.0183		0.0262	
21.2	3	NAIC Designation Category 3.B		XXX	XXX		0.0099		0.0264		0.0377	
21.3	3	NAIC Designation Category 3.C		XXX	XXX		0.0131		0.0350		0.0500	
21.4		Subtotal NAIC 3 (21.1+21.2+21.3)		XXX	XXX		XXX		XXX		XXX	
22.1	4	NAIC Designation Category 4.A		XXX	XXX		0.0184		0.0430		0.0615	
22.2	4	NAIC Designation Category 4.B		XXX	XXX		0.0238		0.0555		0.0793	
22.3	4	NAIC Designation Category 4.C		XXX	XXX		0.0310		0.0724		0.1034	
22.4		Subtotal NAIC 4 (22.1+22.2+22.3)		XXX	XXX		XXX		XXX		XXX	
23.1	5	NAIC Designation Category 5.A		XXX	XXX		0.0472		0.0846		0.1410	
23.2	5	NAIC Designation Category 5.B		XXX	XXX		0.0663		0.1188		0.1980	
23.3	5	NAIC Designation Category 5.C		XXX	XXX		0.0836		0.1498		0.2496	
23.4		Subtotal NAIC 5 (23.1+23.2+23.3)		XXX	XXX		XXX		XXX		XXX	
24.	6	NAIC 6		XXX	XXX		0.0000		0.2370		0.2370	
25.		Total Short-Term Bonds (18+19.8+20.4+21.4+22.4+23.4+24)	389,684,178	XXX	XXX	389,684,178	XXX	416,886	XXX	1,275,956	XXX	2,368,337
DERIVATIVE INSTRUMENTS												
26.		Exchange Traded		XXX	XXX		0.0005		0.0016		0.0033	
27.	1	Highest Quality	80,433,593	XXX	XXX	80,433,593	0.0005	40,217	0.0016	128,694	0.0033	265,431
28.	2	High Quality		XXX	XXX		0.0021		0.0064		0.0106	
29.	3	Medium Quality		XXX	XXX		0.0099		0.0263		0.0376	
30.	4	Low Quality		XXX	XXX		0.0245		0.0572		0.0817	
31.	5	Lower Quality		XXX	XXX		0.0630		0.1128		0.1880	
32.	6	In or Near Default		XXX	XXX		0.0000		0.2370		0.2370	
33.		Total Derivative Instruments	80,433,593	XXX	XXX	80,433,593	XXX	40,217	XXX	128,694	XXX	265,431
34.		Total (Lines 9 + 17 + 25 + 33)	33,986,990,240	XXX	XXX	33,986,990,240	XXX	95,457,116	XXX	260,797,067	XXX	425,569,133

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
MORTGAGE LOANS												
In Good Standing:												
35.		Farm Mortgages - CM1 - Highest Quality	0		XXX	0	0.0011	0	0.0057	0	0.0074	0
36.		Farm Mortgages - CM2 - High Quality	0		XXX	0	0.0040	0	0.0114	0	0.0149	0
37.		Farm Mortgages - CM3 - Medium Quality	0		XXX	0	0.0069	0	0.0200	0	0.0257	0
38.		Farm Mortgages - CM4 - Low Medium Quality	0		XXX	0	0.0120	0	0.0343	0	0.0428	0
39.		Farm Mortgages - CM5 - Low Quality	0		XXX	0	0.0183	0	0.0486	0	0.0628	0
40.		Residential Mortgages - Insured or Guaranteed	486,659,142		XXX	486,659,142	0.0003	145,998	0.0007	340,661	0.0011	535,325
41.		Residential Mortgages - All Other	1,316,105,018		XXX	1,316,105,018	0.0015	1,974,158	0.0034	4,474,757	0.0046	6,054,083
42.		Commercial Mortgages - Insured or Guaranteed	0		XXX	0	0.0003	0	0.0007	0	0.0011	0
43.		Commercial Mortgages - All Other - CM1 - Highest Quality	336,721,913		XXX	336,721,913	0.0011	370,394	0.0057	1,919,315	0.0074	2,491,742
44.		Commercial Mortgages - All Other - CM2 - High Quality	529,116,899		XXX	529,116,899	0.0040	2,116,468	0.0114	6,031,933	0.0149	7,883,842
45.		Commercial Mortgages - All Other - CM3 - Medium Quality	383,779,566		XXX	383,779,566	0.0069	2,648,079	0.0200	7,675,591	0.0257	9,863,135
46.		Commercial Mortgages - All Other - CM4 - Low Medium Quality	36,431,022		XXX	36,431,022	0.0120	437,172	0.0343	1,249,584	0.0428	1,559,248
47.		Commercial Mortgages - All Other - CM5 - Low Quality	0		XXX	0	0.0183	0	0.0486	0	0.0628	0
Overdue, Not in Process:												
48.		Farm Mortgages	0		XXX	0	0.0480	0	0.0868	0	0.1371	0
49.		Residential Mortgages - Insured or Guaranteed	0		XXX	0	0.0006	0	0.0014	0	0.0023	0
50.		Residential Mortgages - All Other	0		XXX	0	0.0029	0	0.0066	0	0.0103	0
51.		Commercial Mortgages - Insured or Guaranteed	0		XXX	0	0.0006	0	0.0014	0	0.0023	0
52.		Commercial Mortgages - All Other	0		XXX	0	0.0480	0	0.0868	0	0.1371	0
In Process of Foreclosure:												
53.		Farm Mortgages	0		XXX	0	0.0000	0	0.1942	0	0.1942	0
54.		Residential Mortgages - Insured or Guaranteed	0		XXX	0	0.0000	0	0.0046	0	0.0046	0
55.		Residential Mortgages - All Other	0		XXX	0	0.0000	0	0.0149	0	0.0149	0
56.		Commercial Mortgages - Insured or Guaranteed	0		XXX	0	0.0000	0	0.0046	0	0.0046	0
57.		Commercial Mortgages - All Other	0		XXX	0	0.0000	0	0.1942	0	0.1942	0
58.		Total Schedule B Mortgages (Sum of Lines 35 through 57)	3,088,813,560	0	XXX	3,088,813,560	XXX	7,692,268	XXX	21,691,841	XXX	28,387,375
59.		Schedule DA Mortgages			XXX		0.0034		0.0114		0.0149	
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	3,088,813,560	0	XXX	3,088,813,560	XXX	7,692,268	XXX	21,691,841	XXX	28,387,375

ASSET VALUATION RESERVE
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
COMMON STOCK												
1.		Unaffiliated - Public	111,586,176	XXX	XXX	111,586,176	0.0000	0	0.2370 (a)	26,445,924	0.2370 (a)	26,445,924
2.		Unaffiliated - Private	121,535,133	XXX	XXX	121,535,133	0.0000	0	0.1945	23,638,583	0.1945	23,638,583
3.		Federal Home Loan Bank	48,262,300	XXX	XXX	48,262,300	0.0000	0	0.0061	294,400	0.0097	468,144
4.		Affiliated - Life with AVR	401,901,977	XXX	XXX	401,901,977	0.0000	0	0.0000	0	0.0000	0
Affiliated - Investment Subsidiary:												
5.		Fixed Income - Exempt Obligations	0			0	XXX		XXX		XXX	
6.		Fixed Income - Highest Quality	0			0	XXX		XXX		XXX	
7.		Fixed Income - High Quality	0			0	XXX		XXX		XXX	
8.		Fixed Income - Medium Quality	0			0	XXX		XXX		XXX	
9.		Fixed Income - Low Quality	0			0	XXX		XXX		XXX	
10.		Fixed Income - Lower Quality	0			0	XXX		XXX		XXX	
11.		Fixed Income - In/Near Default	0			0	XXX		XXX		XXX	
12.		Unaffiliated Common Stock - Public	0			0	0.0000	0	0.1580 (a)	0	0.1580 (a)	0
13.		Unaffiliated Common Stock - Private	0			0	0.0000	0	0.1945	0	0.1945	0
14.		Real Estate	0			0	(b)	0	(b)	0	(b)	0
15.		Affiliated - Certain Other (See SVO Purposes and Procedures Manual)	0	XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
16.		Affiliated - All Other	0	XXX	XXX	0	0.0000	0	0.1945	0	0.1945	0
17.		Total Common Stock (Sum of Lines 1 through 16)	683,285,586	0	0	683,285,586	XXX	0	XXX	50,378,907	XXX	50,552,651
REAL ESTATE												
18.		Home Office Property (General Account only)					0.0000		0.0912		0.0912	
19.		Investment Properties					0.0000		0.0912		0.0912	
20.		Properties Acquired in Satisfaction of Debt					0.0000		0.1337		0.1337	
21.		Total Real Estate (Sum of Lines 18 through 20)					XXX		XXX		XXX	
OTHER INVESTED ASSETS												
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF BONDS												
22.		Exempt Obligations		XXX	XXX		0.0000		0.0000		0.0000	
23.	1	Highest Quality		XXX	XXX		0.0005		0.0016		0.0033	
24.	2	High Quality		XXX	XXX		0.0021		0.0064		0.0106	
25.	3	Medium Quality		XXX	XXX		0.0099		0.0263		0.0376	
26.	4	Low Quality		XXX	XXX		0.0245		0.0572		0.0817	
27.	5	Lower Quality		XXX	XXX		0.0630		0.1128		0.1880	
28.	6	In or Near Default	222,395	XXX	XXX	222,395	0.0000	0	0.2370	52,708	0.2370	52,708
29.		Total with Bond Characteristics (Sum of Lines 22 through 28)	222,395	XXX	XXX	222,395	XXX	0	XXX	52,708	XXX	52,708

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1	2	3	4	Basic Contribution		Reserve Objective		Maximum Reserve	
			Book/Adjusted Carrying Value	Reclassify Related Party Encumbrances	Add Third Party Encumbrances	Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF PREFERRED STOCKS												
30.	1	Highest Quality	148,208,320	XXX	XXX	148,208,320	0.0005	74,104	0.0016	237,133	0.0033	489,087
31.	2	High Quality	51,528,193	XXX	XXX	51,528,193	0.0021	108,209	0.0064	329,780	0.0106	546,199
32.	3	Medium Quality	0	XXX	XXX	0	0.0099	0	0.0263	0	0.0376	0
33.	4	Low Quality	0	XXX	XXX	0	0.0245	0	0.0572	0	0.0817	0
34.	5	Lower Quality.....	16,590	XXX	XXX	16,590	0.0630	1,045	0.1128	1,871	0.1880	3,119
35.	6	In or Near Default	0	XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
36.		Affiliated Life with AVR	0	XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
37.		Total with Preferred Stock Characteristics (Sum of Lines 30 through 36)	199,753,103	XXX	XXX	199,753,103	XXX	183,359	XXX	568,785	XXX	1,038,405
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF MORTGAGE LOANS												
In Good Standing Affiliated:												
38.		Mortgages - CM1 - Highest Quality			XXX		0.0011		0.0057		0.0074	
39.		Mortgages - CM2 - High Quality	24,664,903		XXX	24,664,903	0.0040	98,660	0.0114	281,180	0.0149	367,507
40.		Mortgages - CM3 - Medium Quality	88,001,946		XXX	88,001,946	0.0069	607,213	0.0200	1,760,039	0.0257	2,261,650
41.		Mortgages - CM4 - Low Medium Quality			XXX		0.0120		0.0343		0.0428	
42.		Mortgages - CM5 - Low Quality			XXX		0.0183		0.0486		0.0628	
43.		Residential Mortgages - Insured or Guaranteed			XXX		0.0003		0.0007		0.0011	
44.		Residential Mortgages - All Other		XXX	XXX		0.0015		0.0034		0.0046	
45.		Commercial Mortgages - Insured or Guaranteed			XXX		0.0003		0.0007		0.0011	
Overdue, Not in Process Affiliated:												
46.		Farm Mortgages			XXX		0.0480		0.0868		0.1371	
47.		Residential Mortgages - Insured or Guaranteed			XXX		0.0006		0.0014		0.0023	
48.		Residential Mortgages - All Other			XXX		0.0029		0.0066		0.0103	
49.		Commercial Mortgages - Insured or Guaranteed			XXX		0.0006		0.0014		0.0023	
50.		Commercial Mortgages - All Other			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure Affiliated:												
51.		Farm Mortgages			XXX		0.0000		0.1942		0.1942	
52.		Residential Mortgages - Insured or Guaranteed			XXX		0.0000		0.0046		0.0046	
53.		Residential Mortgages - All Other			XXX		0.0000		0.0149		0.0149	
54.		Commercial Mortgages - Insured or Guaranteed			XXX		0.0000		0.0046		0.0046	
55.		Commercial Mortgages - All Other			XXX		0.0000		0.1942		0.1942	
56.		Total Affiliated (Sum of Lines 38 through 55)	112,666,849	0	XXX	112,666,849	XXX	705,873	XXX	2,041,219	XXX	2,629,157
57.		Unaffiliated - In Good Standing With Covenants			XXX		(c)		(c)		(c)	
58.		Unaffiliated - In Good Standing Defeased With Government Securities			XXX		0.0011		0.0057		0.0074	
59.		Unaffiliated - In Good Standing Primarily Senior			XXX		0.0040		0.0114		0.0149	
60.		Unaffiliated - In Good Standing All Other	5,010,445		XXX	5,010,445	0.0069	34,572	0.0200	100,209	0.0257	128,768
61.		Unaffiliated - Overdue, Not in Process			XXX		0.0480		0.0868		0.1371	
62.		Unaffiliated - In Process of Foreclosure			XXX		0.0000		0.1942		0.1942	
63.		Total Unaffiliated (Sum of Lines 57 through 62)	5,010,445	0	XXX	5,010,445	XXX	34,572	XXX	100,209	XXX	128,768
64.		Total with Mortgage Loan Characteristics (Lines 56 + 63)	117,677,294	0	XXX	117,677,294	XXX	740,445	XXX	2,141,428	XXX	2,757,926

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF COMMON STOCK												
65.		Unaffiliated Public		XXX	XXX	0	0.0000	0	0.1580 (a)	0	0.1580 (a)	0
66.		Unaffiliated Private	774,249,650	XXX	XXX	774,249,650	0.0000	0	0.1945	150,591,557	0.1945	150,591,557
67.		Affiliated Life with AVR	0	XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
68.		Affiliated Certain Other (See SVO Purposes & Procedures Manual)	0	XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
69.		Affiliated Other - All Other	9,354,140	XXX	XXX	9,354,140	0.0000	0	0.1945	1,819,380	0.1945	1,819,380
70.		Total with Common Stock Characteristics (Sum of Lines 65 through 69)	783,603,790	XXX	XXX	783,603,790	XXX	0	XXX	152,410,937	XXX	152,410,937
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF REAL ESTATE												
71.		Home Office Property (General Account only)					0.0000		0.0912		0.0912	
72.		Investment Properties	84,369,232		15,328,326	99,697,558	0.0000	0	0.0912	9,092,417	0.0912	9,092,417
73.		Properties Acquired in Satisfaction of Debt					0.0000		0.1337		0.1337	
74.		Total with Real Estate Characteristics (Sum of Lines 71 through 73)	84,369,232	0	15,328,326	99,697,558	XXX	0	XXX	9,092,417	XXX	9,092,417
LOW INCOME HOUSING TAX CREDIT INVESTMENTS												
75.		Guaranteed Federal Low Income Housing Tax Credit					0.0003		0.0006		0.0010	
76.		Non-guaranteed Federal Low Income Housing Tax Credit					0.0063		0.0120		0.0190	
77.		Guaranteed State Low Income Housing Tax Credit					0.0003		0.0006		0.0010	
78.		Non-guaranteed State Low Income Housing Tax Credit					0.0063		0.0120		0.0190	
79.		All Other Low Income Housing Tax Credit					0.0273		0.0600		0.0975	
80.		Total LIHTC (Sum of Lines 75 through 79)					XXX		XXX		XXX	
RESIDUAL TRanches OR INTERESTS												
81.		Fixed Income Instruments - Unaffiliated	73,577,244	XXX	XXX	73,577,244	0.0000	0	0.1580	11,625,205	0.1580	11,625,205
82.		Fixed Income Instruments - Affiliated	11,783,839	XXX	XXX	11,783,839	0.0000	0	0.1580	1,861,847	0.1580	1,861,847
83.		Common Stock - Unaffiliated	0	XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
84.		Common Stock - Affiliated		XXX	XXX		0.0000		0.1580		0.1580	
85.		Preferred Stock - Unaffiliated		XXX	XXX		0.0000		0.1580		0.1580	
86.		Preferred Stock - Affiliated		XXX	XXX		0.0000		0.1580		0.1580	
87.		Real Estate - Unaffiliated					0.0000		0.1580		0.1580	
88.		Real Estate - Affiliated					0.0000		0.1580		0.1580	
89.		Mortgage Loans - Unaffiliated		XXX	XXX		0.0000		0.1580		0.1580	
90.		Mortgage Loans - Affiliated		XXX	XXX		0.0000		0.1580		0.1580	
91.		Other - Unaffiliated		XXX	XXX		0.0000		0.1580		0.1580	
92.		Other - Affiliated		XXX	XXX		0.0000		0.1580		0.1580	
93.		Total Residual Tranches or Interests (Sum of Lines 81 through 92)	85,361,083	0	0	85,361,083	XXX	0	XXX	13,487,051	XXX	13,487,051
ALL OTHER INVESTMENTS												
94.		NAIC 1 Working Capital Finance Investments		XXX			0.0000		0.0042		0.0042	
95.		NAIC 2 Working Capital Finance Investments		XXX			0.0000		0.0137		0.0137	
96.		Other Invested Assets - Schedule BA	92,448,357	XXX		92,448,357	0.0000	0	0.1580	14,606,840	0.1580	14,606,840
97.		Other Short-Term Invested Assets - Schedule DA		XXX			0.0000		0.1580		0.1580	
98.		Total All Other (Sum of Lines 94, 95, 96 and 97)	92,448,357	XXX	0	92,448,357	XXX	0	XXX	14,606,840	XXX	14,606,840
99.		Total Other Invested Assets - Schedules BA & DA (Sum of Lines 29, 37, 64, 70, 74, 80, 93 and 98)	1,363,435,254	0	15,328,326	1,378,763,580	XXX	923,804	XXX	192,360,166	XXX	193,446,284

(a) Times the company's weighted average portfolio beta (Minimum .1215, Maximum .2431).
 (b) Determined using the same factors and breakdowns used for directly owned real estate.
 (c) This will be the factor associated with the risk category determined in the company generated worksheet.

Asset Valuation Reserve - Replications (Synthetic) Assets

NONE

Schedule F - Claims

NONE

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE H - ACCIDENT AND HEALTH EXHIBIT
PART 1 - ANALYSIS OF UNDERWRITING OPERATIONS

	Total		Comprehensive (Hospital and Medical) Individual		Comprehensive (Hospital and Medical) Group		Medicare Supplement		Vision Only		Dental Only		Federal Employees Health Benefits Plan	
	1 Amount	2 %	3 Amount	4 %	5 Amount	6 %	7 Amount	8 %	9 Amount	10 %	11 Amount	12 %	13 Amount	14 %
1. Premiums written	3,191,778	XXX		XXX		XXX		XXX		XXX		XXX		XXX
2. Premiums earned	3,240,047	XXX		XXX		XXX		XXX		XXX		XXX		XXX
3. Incurred claims	4,645,113	143.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4. Cost containment expenses	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0
5. Incurred claims and cost containment expenses (Lines 3 and 4)	4,645,113	143.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6. Increase in contract reserves	967,733	29.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7. Commissions (a)	569,762	17.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8. Other general insurance expenses	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0
9. Taxes, licenses and fees	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0
10. Total other expenses incurred	569,762	17.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11. Aggregate write-ins for deductions	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12. Gain from underwriting before dividends or refunds	(2,942,561)	(90.8)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13. Dividends or refunds	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0
14. Gain from underwriting after dividends or refunds	(2,942,561)	(90.8)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
DETAILS OF WRITE-INS														
1101.														
1102.														
1103.														
1198. Summary of remaining write-ins for Line 11 from overflow page	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

	Medicare Title XVIII		Medicaid Title XIX		Credit A&H		Disability Income		Long-Term Care		Other Health	
	15 Amount	16 %	17 Amount	18 %	19 Amount	20 %	21 Amount	22 %	23 Amount	24 %	25 Amount	26 %
1. Premiums written		XXX		XXX		XXX		XXX	3,191,778	XXX		XXX
2. Premiums earned		XXX		XXX		XXX		XXX	3,240,047	XXX		XXX
3. Incurred claims	0	0.0	0	0.0	0	0.0	0	0.0	4,645,113	143.4	0	0.0
4. Cost containment expenses		0.0		0.0		0.0		0.0		0.0		0.0
5. Incurred claims and cost containment expenses (Lines 3 and 4)	0	0.0	0	0.0	0	0.0	0	0.0	4,645,113	143.4	0	0.0
6. Increase in contract reserves	0	0.0	0	0.0	0	0.0	0	0.0	967,733	29.9	0	0.0
7. Commissions (a)		0.0		0.0		0.0		0.0	569,762	17.6		0.0
8. Other general insurance expenses		0.0		0.0		0.0		0.0		0.0		0.0
9. Taxes, licenses and fees		0.0		0.0		0.0		0.0		0.0		0.0
10. Total other expenses incurred	0	0.0	0	0.0	0	0.0	0	0.0	569,762	17.6	0	0.0
11. Aggregate write-ins for deductions	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12. Gain from underwriting before dividends or refunds	0	0.0	0	0.0	0	0.0	0	0.0	(2,942,561)	(90.8)	0	0.0
13. Dividends or refunds		0.0		0.0		0.0		0.0		0.0		0.0
14. Gain from underwriting after dividends or refunds	0	0.0	0	0.0	0	0.0	0	0.0	(2,942,561)	(90.8)	0	0.0
DETAILS OF WRITE-INS												
1101.												
1102.												
1103.												
1198. Summary of remaining write-ins for Line 11 from overflow page	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

(a) Includes \$ reported as "Contract, membership and other fees retained by agents."

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE H - ACCIDENT AND HEALTH EXHIBIT (Continued)

PART 2. - RESERVES AND LIABILITIES

	1	2	3	4	5	6	7	8	9	10	11	12	13
	Total	Comprehensive (Hospital and Medical) Individual	Comprehensive (Hospital and Medical) Group	Medicare Supplement	Vision Only	Dental Only	Federal Employees Health Benefits Plan	Medicare Title XVIII	Medicaid Title XIX	Credit A&H	Disability Income	Long-Term Care	Other Health
A. Premium Reserves:													
1. Unearned premiums	794,792											794,792	
2. Advance premiums	14,599											14,599	
3. Reserve for rate credits	0												
4. Total premium reserves, current year	809,391	0	0	0	0	0	0	0	0	0	0	809,391	0
5. Total premium reserves, prior year	865,542											865,542	
6. Increase in total premium reserves	(56,151)	0	0	0	0	0	0	0	0	0	0	(56,151)	0
B. Contract Reserves:													
1. Additional reserves (a)	37,409,913											37,409,913	
2. Reserve for future contingent benefits	0												
3. Total contract reserves, current year	37,409,913	0	0	0	0	0	0	0	0	0	0	37,409,913	0
4. Total contract reserves, prior year	36,442,180											36,442,180	
5. Increase in contract reserves	967,733	0	0	0	0	0	0	0	0	0	0	967,733	0
C. Claim Reserves and Liabilities:													
1. Total current year	12,696,171	0	0	0	0	0	0	0	0	0	0	12,696,171	0
2. Total prior year	11,888,136											11,888,136	
3. Increase	808,035	0	0	0	0	0	0	0	0	0	0	808,035	0

PART 3. - TEST OF PRIOR YEAR'S CLAIM RESERVES AND LIABILITIES

	1	2	3	4	5	6	7	8	9	10	11	12	13
	Total	Comprehensive (Hospital and Medical) Individual	Comprehensive (Hospital and Medical) Group	Medicare Supplement	Vision Only	Dental Only	Federal Employees Health Benefits Plan	Medicare Title XVIII	Medicaid Title XIX	Credit A&H	Disability Income	Long-Term Care	Other Health
1. Claims paid during the year:													
1.1 On claims incurred prior to current year	3,663,617											3,663,617	
1.2 On claims incurred during current year	173,461											173,461	
2. Claim reserves and liabilities, December 31, current year:													
2.1 On claims incurred prior to current year	8,717,518											8,717,518	
2.2 On claims incurred during current year	3,978,653											3,978,653	
3. Test:													
3.1 Lines 1.1 and 2.1	12,381,135	0	0	0	0	0	0	0	0	0	0	12,381,135	0
3.2 Claim reserves and liabilities, December 31, prior year	11,888,136											11,888,136	
3.3 Line 3.1 minus Line 3.2	492,999	0	0	0	0	0	0	0	0	0	0	492,999	0

PART 4. - REINSURANCE

	1	2	3	4	5	6	7	8	9	10	11	12	13
	Total	Comprehensive (Hospital and Medical) Individual	Comprehensive (Hospital and Medical) Group	Medicare Supplement	Vision Only	Dental Only	Federal Employees Health Benefits Plan	Medicare Title XVIII	Medicaid Title XIX	Credit A&H	Disability Income	Long-Term Care	Other Health
A. Reinsurance Assumed:													
1. Premiums written	3,191,778											3,191,778	
2. Premiums earned	3,240,047											3,240,047	
3. Incurred claims	4,645,110											4,645,110	
4. Commissions	569,762											569,762	
B. Reinsurance Ceded:													
1. Premiums written	5,004,506			2,100,937							2,810	2,898,513	2,246
2. Premiums earned	4,968,361			2,110,060							3,089	2,852,919	2,293
3. Incurred claims	4,712,627			1,582,679							7,602	3,121,230	1,116
4. Commissions	163,476			11,896								151,540	40

(a) Includes \$ premium deficiency reserve.

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE H - PART 5 - HEALTH CLAIMS

	1 Comprehensive (Hospital and Medical) Individual	2 Comprehensive (Hospital and Medical) Group	3 Medicare Supplement	4 Vision Only	5 Dental Only	6 Federal Employees Health Benefits Plan	7 Medicare Title XVIII	8 Medicaid Title XIX	9 Credit A&H	10 Disability Income	11 Long-Term Care	12 Other Health	13 Total
A. Direct:													
1. Incurred claims													0
2. Beginning claim reserves and liabilities													0
3. Ending claim reserves and liabilities													0
4. Claims paid	0	0	0	0	0	0	0	0	0	0	0	0	0
B. Assumed Reinsurance:													
1. Incurred claims											4,645,110		4,645,110
2. Beginning claim reserves and liabilities													0
3. Ending claim reserves and liabilities													0
4. Claims paid	0	0	0	0	0	0	0	0	0	0	4,645,110	0	4,645,110
C. Ceded Reinsurance:													
1. Incurred claims			1,582,679							7,602	3,121,230	1,116	4,712,627
2. Beginning claim reserves and liabilities													0
3. Ending claim reserves and liabilities													0
4. Claims paid	0	0	1,582,679	0	0	0	0	0	0	7,602	3,121,230	1,116	4,712,627
D. Net:													
1. Incurred claims	0	0	(1,582,679)	0	0	0	0	0	0	(7,602)	1,523,880	(1,116)	(67,517)
2. Beginning claim reserves and liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Ending claim reserves and liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Claims paid	0	0	(1,582,679)	0	0	0	0	0	0	(7,602)	1,523,880	(1,116)	(67,517)
E. Net Incurred Claims and Cost Containment Expenses:													
1. Incurred claims and cost containment expenses	0	0	0	0	0	0	0	0	0	0	4,645,113	0	4,645,113
2. Beginning reserves and liabilities													0
3. Ending reserves and liabilities													0
4. Paid claims and cost containment expenses	0	0	0	0	0	0	0	0	0	0	4,645,113	0	4,645,113

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 1 - SECTION 1

Reinsurance Assumed Life Insurance, Annuities, Deposit Funds and Other Liabilities Without Life or Disability Contingencies, and Related Benefits Listed by Reinsured Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Reinsured	5 Domiciliary Jurisdiction	6 Type of Reinsurance Assumed	7 Type of Business Assumed	8 Amount of In Force at End of Year	9 Reserve	10 Premiums	11 Reinsurance Payable on Paid and Unpaid Losses	12 Modified Coinsurance Reserve	13 Funds Withheld Under Coinsurance
0399999. Total General Account - U.S. Affiliates							0	0	0	0	0	0
0699999. Total General Account - Non-U.S. Affiliates							0	0	0	0	0	0
0799999. Total General Account - Affiliates							0	0	0	0	0	0
71404	47-0463747	10/31/2015	Continental General Insurance Company	TX	CO/I	FA		493,567				
71404	47-0463747	10/31/2015	Continental General Insurance Company	TX	CO/I	OL	2,445,530	1,113,047	149,010	87,870		
71404	47-0463747	10/31/2015	Continental General Insurance Company	TX	CO/G	FA		1,200,158	13,270			
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	CO/I	FA		79,738,800	259,694	895,738		
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	CO/I	OL	236,017,838	96,094,149	2,509,752	2,977,292		
61727	34-0970995	08/31/2012	Cigna National Health Insurance Company	OH	CO/I	FA		3,639,035	37,740	0		
61727	34-0970995	08/31/2012	Cigna National Health Insurance Company	OH	CO/I	OL	7,538,652	1,187,015	193,088	28,816		
67903	23-1335885	08/31/2012	Provident American Life & Health Insurance Company	OH	CO/I	OL	4,572,355	2,093,069	345,211	83,568		
88366	59-2760189	08/31/2012	American Retirement Life Insurance Company	OH	CO/I	OL	944,375	670,315		3,000		
65722	63-0343428	01/01/2007	Loyal American Life Insurance Company	OH	CO/I	IA		14,508,188		164,594		
62200	95-2496321	06/30/2011	Accordia Life and Annuity Company	IA	CO/I	FA		2,700,982	2,200	11,132		
62200	95-2496321	06/30/2011	Accordia Life and Annuity Company	IA	CO/I	OL	2,159,899	1,697,348		21,577		
0899999. General Account - U.S. Non-Affiliates							253,678,649	205,135,673	3,509,965	4,273,587	0	0
1099999. Total General Account - Non-Affiliates							253,678,649	205,135,673	3,509,965	4,273,587	0	0
1199999. Total General Account							253,678,649	205,135,673	3,509,965	4,273,587	0	0
1499999. Total Separate Accounts - U.S. Affiliates							0	0	0	0	0	0
1799999. Total Separate Accounts - Non-U.S. Affiliates							0	0	0	0	0	0
1899999. Total Separate Accounts - Affiliates							0	0	0	0	0	0
2199999. Total Separate Accounts - Non-Affiliates							0	0	0	0	0	0
2299999. Total Separate Accounts							0	0	0	0	0	0
2399999. Total U.S. (Sum of 0399999, 0899999, 1499999 and 1999999)							253,678,649	205,135,673	3,509,965	4,273,587	0	0
2499999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999 and 2099999)							0	0	0	0	0	0
9999999 - Totals							253,678,649	205,135,673	3,509,965	4,273,587	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 1 - SECTION 2

Reinsurance Assumed Accident and Health Insurance Listed by Reinsured Company as of December 31, Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Effective Date	Name of Reinsured	Domiciliary Jurisdiction	Type of Reinsurance Assumed	Type of Business Assumed	Premiums	Unearned Premiums	Reserve Liability Other Than for Unearned Premiums	Reinsurance Payable on Paid and Unpaid Losses	Modified Coinsurance Reserve	Funds Withheld Under Coinsurance
0399999. Total - U.S. Affiliates							0	0	0	0	0	0
0699999. Total - Non-U.S. Affiliates							0	0	0	0	0	0
0799999. Total - Affiliates							0	0	0	0	0	0
71404	47-0463747	10/31/2015	Continental General Insurance Company	TX	QA/I	LTC	3,180,373	793,625	49,512,303	390,521		
71404	47-0463747	10/31/2015	Continental General Insurance Company	TX	QA/G	LTC	11,405	1,167	203,138	121		
0899999. U.S. Non-Affiliates							3,191,778	794,792	49,715,441	390,642	0	0
1099999. Total - Non-Affiliates							3,191,778	794,792	49,715,441	390,642	0	0
1199999. Total U.S. (Sum of 0399999 and 0899999)							3,191,778	794,792	49,715,441	390,642	0	0
1299999. Total Non-U.S. (Sum of 0699999 and 0999999)							0	0	0	0	0	0
9999999 - Totals							3,191,778	794,792	49,715,441	390,642	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 2

Reinsurance Recoverable on Paid and Unpaid Losses Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domiciliary Jurisdiction	6 Paid Losses	7 Unpaid Losses
0399999. Total Life and Annuity - U.S. Affiliates					0	0
0699999. Total Life and Annuity - Non-U.S. Affiliates					0	0
0799999. Total Life and Annuity - Affiliates					0	0
68713	84-0499703	01/01/1998	Security Life of Denver Insurance Company	CO		80,800
68713	84-0499703	01/01/2000	Security Life of Denver Insurance Company	CO	715,000	4,654,049
68713	84-0499703	01/01/2003	Security Life of Denver Insurance Company	CO		125,000
68713	84-0499703	01/01/1998	Security Life of Denver Insurance Company	CO	26,621	9,602
86231	39-0989781	01/01/2003	Transamerica Life Insurance Company	IA		500,000
87572	23-2038295	01/01/2003	Scottish Re US, Inc.	DE	2,376,900	
88340	59-2859797	12/31/2002	Hannover Life Reassurance Company of America	FL		9,994
93572	43-1235868	01/01/2003	RGA Reinsurance Company	MO		125,000
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	104,729	
88340	59-2859797	08/31/2012	Hannover Life Reassurance Company of America	FL		2,270,893
82627	06-0839705	01/01/1973	Swiss Re Life and Health of America	MO	112,500	50,000
87572	23-2038295	01/01/1983	Scottish Re US, Inc.	DE	106,250	
67989	46-0260270	09/01/1996	American Memorial Life Insurance Company	SD	248,014	114,484
84824	04-6145677	05/07/2020	Commonwealth Annuity and Life Insurance Company	MA		7,303,842
84824	04-6145677	10/01/2020	Commonwealth Annuity and Life Insurance Company	MA		35,351,971
0899999. Life and Annuity - U.S. Non-Affiliates					3,690,014	50,595,635
1099999. Total Life and Annuity - Non-Affiliates					3,690,014	50,595,635
1199999. Total Life and Annuity					3,690,014	50,595,635
1499999. Total Accident and Health - U.S. Affiliates					0	0
00000	AA-3191494	02/01/2022	Martello Re Limited	BMU		113,613,906
1699999. Accident and Health - Non-U.S. Affiliates - Other					0	113,613,906
1799999. Total Accident and Health - Non-U.S. Affiliates					0	113,613,906
1899999. Total Accident and Health - Affiliates					0	113,613,906
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH		240,763
71404	47-0463747	10/31/2015	Continental General Insurance Company	TX		202,074
1999999. Accident and Health - U.S. Non-Affiliates					0	442,837
2199999. Total Accident and Health - Non-Affiliates					0	442,837
2299999. Total Accident and Health					0	114,056,743
2399999. Total U.S. (Sum of 0399999, 0899999, 1499999 and 1999999)					3,690,014	51,038,472
2499999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999 and 2099999)					0	113,613,906
9999999 Totals - Life, Annuity and Accident and Health					3,690,014	164,652,378

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 3 - SECTION 1

Reinsurance Ceded Life Insurance, Annuities, Deposit Funds and Other Liabilities Without Life or Disability Contingencies, and Related Benefits Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domi- ciliary Juris- diction	6 Type of Reinsurance Ceded	7 Type of Business Ceded	8 Amount in Force at End of Year	Reserve Credit Taken		11 Premiums	Outstanding Surplus Relief		14 Modified Coinsurance Reserve	15 Funds Withheld Under Coinsurance
								9 Current Year	10 Prior Year		12 Current Year	13 Prior Year		
2999999	Total General Account - Certified Affiliates						0	0	0	0	0	0	0	0
3299999	Total General Account - Certified Non-Affiliates						0	0	0	0	0	0	0	0
3399999	Total General Account Certified						0	0	0	0	0	0	0	0
3699999	Total General Account - Reciprocal Jurisdiction U.S. Affiliates						0	0	0	0	0	0	0	0
3999999	Total General Account - Reciprocal Jurisdiction Non-U.S. Affiliates						0	0	0	0	0	0	0	0
4099999	Total General Account - Reciprocal Jurisdiction Affiliates						0	0	0	0	0	0	0	0
4399999	Total General Account - Reciprocal Jurisdiction Non-Affiliates						0	0	0	0	0	0	0	0
4499999	Total General Account Reciprocal Jurisdiction						0	0	0	0	0	0	0	0
4599999	Total General Account Authorized, Unauthorized, Reciprocal Jurisdiction and Certified						3,200,825,848	18,665,390,808	6,635,417,624	14,698,283,362	317,161,240	0	568,891	0
4899999	Total Separate Accounts - Authorized U.S. Affiliates						0	0	0	0	0	0	0	0
5199999	Total Separate Accounts - Authorized Non-U.S. Affiliates						0	0	0	0	0	0	0	0
5299999	Total Separate Accounts - Authorized Affiliates						0	0	0	0	0	0	0	0
5599999	Total Separate Accounts - Authorized Non-Affiliates						0	0	0	0	0	0	0	0
5699999	Total Separate Accounts Authorized						0	0	0	0	0	0	0	0
5999999	Total Separate Accounts - Unauthorized U.S. Affiliates						0	0	0	0	0	0	0	0
6299999	Total Separate Accounts - Unauthorized Non-U.S. Affiliates						0	0	0	0	0	0	0	0
6399999	Total Separate Accounts - Unauthorized Affiliates						0	0	0	0	0	0	0	0
6699999	Total Separate Accounts - Unauthorized Non-Affiliates						0	0	0	0	0	0	0	0
6799999	Total Separate Accounts Unauthorized						0	0	0	0	0	0	0	0
7099999	Total Separate Accounts - Certified U.S. Affiliates						0	0	0	0	0	0	0	0
7399999	Total Separate Accounts - Certified Non-U.S. Affiliates						0	0	0	0	0	0	0	0
7499999	Total Separate Accounts - Certified Affiliates						0	0	0	0	0	0	0	0
7799999	Total Separate Accounts - Certified Non-Affiliates						0	0	0	0	0	0	0	0
7899999	Total Separate Accounts Certified						0	0	0	0	0	0	0	0
8199999	Total Separate Accounts - Reciprocal Jurisdiction U.S. Affiliates						0	0	0	0	0	0	0	0
8499999	Total Separate Accounts - Reciprocal Jurisdiction Non-U.S. Affiliates						0	0	0	0	0	0	0	0
8599999	Total Separate Accounts - Reciprocal Jurisdiction Affiliates						0	0	0	0	0	0	0	0
8899999	Total Separate Accounts - Reciprocal Jurisdiction Non-Affiliates						0	0	0	0	0	0	0	0
8999999	Total Separate Accounts Reciprocal Jurisdiction						0	0	0	0	0	0	0	0
9099999	Total Separate Accounts Authorized, Unauthorized, Reciprocal Jurisdiction and Certified						0	0	0	0	0	0	0	0
9199999	Total U.S. (Sum of 0399999, 0899999, 1499999, 1999999, 2599999, 3099999, 3699999, 4199999, 4899999, 5399999, 5999999, 6499999, 7099999, 7599999, 8199999 and 8699999)						3,200,825,848	6,130,314,688	6,635,417,624	466,362,911	0	0	568,891	0
9299999	Total Non-U.S. (Sum of 0699999, 0999999, 1799999, 2099999, 2899999, 3199999, 3999999, 4299999, 5199999, 5499999, 6299999, 6599999, 7399999, 7699999, 8499999 and 8799999)						0	12,535,076,120	0	14,231,920,451	317,161,240	0	0	0
9999999	- Totals						3,200,825,848	18,665,390,808	6,635,417,624	14,698,283,362	317,161,240	0	568,891	0

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 3 - SECTION 2

Reinsurance Ceded Accident and Health Insurance Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domi- ciliary Juris- diction	6 Type of Reinsur- ance Ceded	7 Type of Business Ceded	8 Premiums	9 Unearned Premiums (Estimated)	10 Reserve Credit Taken Other than for Unearned Premiums	Outstanding Surplus Relief		13 Modified Coinsurance Reserve	14 Funds Withheld Under Coinsurance
										11 Current Year	12 Prior Year		
0399999	Total General Account - Authorized U.S. Affiliates						0	0	0	0	0	0	0
0699999	Total General Account - Authorized Non-U.S. Affiliates						0	0	0	0	0	0	0
0799999	Total General Account - Authorized Affiliates						0	0	0	0	0	0	0
71404	47-0463747	01/01/2009	Continental General Insurance Company	TX	QA/I	LTC	2,822,277	783,406	47,655,228				
71404	47-0463747	01/01/2009	Continental General Insurance Company	TX	QA/G	LTC	76,237	7,735	4,586,470				
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	A		889	249	2,994				
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	OTH/I	LTDI	2,810	1,589	43,659				
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	OTH/I	MS	2,100,937	95,029	1,030,404				
65722	63-0343428	08/31/2012	Loyal American Life Insurance Company	OH	OTH/I	OM	1,357	444	15,253				
0899999	General Account - Authorized U.S. Non-Affiliates						5,004,507	888,452	53,334,008	0	0	0	0
1099999	Total General Account - Authorized Non-Affiliates						5,004,507	888,452	53,334,008	0	0	0	0
1199999	Total General Account Authorized						5,004,507	888,452	53,334,008	0	0	0	0
1499999	Total General Account - Unauthorized U.S. Affiliates						0	0	0	0	0	0	0
1799999	Total General Account - Unauthorized Non-U.S. Affiliates						0	0	0	0	0	0	0
1899999	Total General Account - Unauthorized Affiliates						0	0	0	0	0	0	0
2199999	Total General Account - Unauthorized Non-Affiliates						0	0	0	0	0	0	0
2299999	Total General Account Unauthorized						0	0	0	0	0	0	0
2599999	Total General Account - Certified U.S. Affiliates						0	0	0	0	0	0	0
2899999	Total General Account - Certified Non-U.S. Affiliates						0	0	0	0	0	0	0
2999999	Total General Account - Certified Affiliates						0	0	0	0	0	0	0
3299999	Total General Account - Certified Non-Affiliates						0	0	0	0	0	0	0
3399999	Total General Account Certified						0	0	0	0	0	0	0
3699999	Total General Account - Reciprocal Jurisdiction U.S. Affiliates						0	0	0	0	0	0	0
3999999	Total General Account - Reciprocal Jurisdiction Non-U.S. Affiliates						0	0	0	0	0	0	0
4099999	Total General Account - Reciprocal Jurisdiction Affiliates						0	0	0	0	0	0	0
4399999	Total General Account - Reciprocal Jurisdiction Non-Affiliates						0	0	0	0	0	0	0
4499999	Total General Account Reciprocal Jurisdiction						0	0	0	0	0	0	0
4599999	Total General Account Authorized, Unauthorized, Reciprocal Jurisdiction and Certified						5,004,507	888,452	53,334,008	0	0	0	0
4899999	Total Separate Accounts - Authorized U.S. Affiliates						0	0	0	0	0	0	0
5199999	Total Separate Accounts - Authorized Non-U.S. Affiliates						0	0	0	0	0	0	0
5299999	Total Separate Accounts - Authorized Affiliates						0	0	0	0	0	0	0
5599999	Total Separate Accounts - Authorized Non-Affiliates						0	0	0	0	0	0	0
5699999	Total Separate Accounts Authorized						0	0	0	0	0	0	0
5999999	Total Separate Accounts - Unauthorized U.S. Affiliates						0	0	0	0	0	0	0
6299999	Total Separate Accounts - Unauthorized Non-U.S. Affiliates						0	0	0	0	0	0	0
6399999	Total Separate Accounts - Unauthorized Affiliates						0	0	0	0	0	0	0
6699999	Total Separate Accounts - Unauthorized Non-Affiliates						0	0	0	0	0	0	0
6799999	Total Separate Accounts Unauthorized						0	0	0	0	0	0	0
7099999	Total Separate Accounts - Certified U.S. Affiliates						0	0	0	0	0	0	0
7399999	Total Separate Accounts - Certified Non-U.S. Affiliates						0	0	0	0	0	0	0
7499999	Total Separate Accounts - Certified Affiliates						0	0	0	0	0	0	0
7799999	Total Separate Accounts - Certified Non-Affiliates						0	0	0	0	0	0	0
7899999	Total Separate Accounts Certified						0	0	0	0	0	0	0
8199999	Total Separate Accounts - Reciprocal Jurisdiction U.S. Affiliates						0	0	0	0	0	0	0
8499999	Total Separate Accounts - Reciprocal Jurisdiction Non-U.S. Affiliates						0	0	0	0	0	0	0
8599999	Total Separate Accounts - Reciprocal Jurisdiction Affiliates						0	0	0	0	0	0	0
8899999	Total Separate Accounts - Reciprocal Jurisdiction Non-Affiliates						0	0	0	0	0	0	0
8999999	Total Separate Accounts Reciprocal Jurisdiction						0	0	0	0	0	0	0
9099999	Total Separate Accounts Authorized, Unauthorized, Reciprocal Jurisdiction and Certified						0	0	0	0	0	0	0
9199999	Total U.S. (Sum of 0399999, 0899999, 1499999, 1999999, 2599999, 3099999, 3699999, 4199999, 4899999, 5399999, 5999999, 6499999, 7099999, 7599999, 8199999 and 8699999)						5,004,507	888,452	53,334,008	0	0	0	0
9299999	Total Non-U.S. (Sum of 0699999, 0999999, 1799999, 2099999, 2899999, 3199999, 3999999, 4299999, 5199999, 5499999, 6299999, 6599999, 7399999, 7699999, 8499999 and 8799999)						0	0	0	0	0	0	0
9999999	Totals						5,004,507	888,452	53,334,008	0	0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 4

Reinsurance Ceded to Unauthorized Companies

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Reinsurer	5 Reserve Credit Taken	6 Paid and Unpaid Losses Recoverable (Debit)	7 Other Debits	8 Total (Cols.5+6+7)	9 Letters of Credit	10 Issuing or Confirming Bank Reference Number (a)	11 Trust Agreements	12 Funds Deposited by and Withheld from Reinsurers	13 Other	14 Miscellaneous Balances (Credit)	15 Sum of Cols. 9+11+12+13 +14 but not in Excess of Col. 8
0399999			Total General Account - Life and Annuity U.S. Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
0699999			Total General Account - Life and Annuity Non-U.S. Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
0799999			Total General Account - Life and Annuity Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
1099999			Total General Account - Life and Annuity Non-Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
1199999			Total General Account Life and Annuity	0	0	0	0	0	XXX	0	0	0	0	0
1499999			Total General Account - Accident and Health U.S. Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
00000	AA-3191494	02/01/2022	Martello Re Limited	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
1699999			General Account - Accident and Health Non-U.S. Affiliates - Other	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
1799999			Total General Account - Accident and Health Non-U.S. Affiliates	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
1899999			Total General Account - Accident and Health Affiliates	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
2199999			Total General Account - Accident and Health Non-Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
2299999			Total General Account Accident and Health	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
2399999			Total General Account	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
2699999			Total Separate Accounts - U.S. Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
2999999			Total Separate Accounts - Non-U.S. Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
3099999			Total Separate Accounts - Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
3399999			Total Separate Accounts - Non-Affiliates	0	0	0	0	0	XXX	0	0	0	0	0
3499999			Total Separate Accounts	0	0	0	0	0	XXX	0	0	0	0	0
3599999			Total U.S. (Sum of 0399999, 0899999, 1499999, 1999999, 2699999 and 3199999)	0	0	0	0	0	XXX	0	0	0	0	0
3699999			Total Non-U.S. (Sum of 0699999, 0999999, 1799999, 2099999, 2999999 and 3299999)	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503
9999999			Totals	12,535,076,119	113,613,906	28,607,478	12,677,297,503	0	XXX	0	11,246,343,359	1,430,954,144	0	12,677,297,503

(a)

Issuing or Confirming Bank Reference Number	Letters of Credit Code	American Bankers Association (ABA) Routing Number	Issuing or Confirming Bank Name	Letters of Credit Amount
NONE				

Schedule S - Part 5

NONE

Schedule S - Part 5 - Bank Footnote

NONE

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 6

Five Year Exhibit of Reinsurance Ceded Business
(\$000 Omitted)

	1 2022	2 2021	3 2020	4 2019	5 2018
A. OPERATIONS ITEMS					
1. Premiums and annuity considerations for life and accident and health contracts	14,584,804	774,396	6,717,488	126,925	30,721
2. Commissions and reinsurance expense allowances	496,787	(50,838)	(26,623)	514,414	(504,084)
3. Contract claims	645,173	165,253	96,053	43,248	46,219
4. Surrender benefits and withdrawals for life contracts	2,268,715	648,827	219,717	36,540	5,242
5. Dividends to policyholders and refunds to members	176	183	190	195	205
6. Reserve adjustments on reinsurance ceded	0	0	0	(1,080)	(2,815)
7. Increase in aggregate reserve for life and accident and health contracts	11,926,055	186,928	5,973,186	(533,772)	625,707
B. BALANCE SHEET ITEMS					
8. Premiums and annuity considerations for life and accident and health contracts deferred and uncollected	25	16	32	21	13
9. Aggregate reserves for life and accident and health contracts	18,719,613	6,687,740	6,500,988	527,778	1,061,574
10. Liability for deposit-type contracts	118,878	256	79	103	80
11. Contract claims unpaid	164,652	52,308	38,332	6,871	7,156
12. Amounts recoverable on reinsurance	1,961	2,745	4,067	1,618	1,848
13. Experience rating refunds due or unpaid					
14. Policyholders' dividends and refunds to members (not included in Line 10)					
15. Commissions and reinsurance expense allowances due					
16. Unauthorized reinsurance offset	0	0	0	0	0
17. Offset for reinsurance with Certified Reinsurers			0	0	0
C. UNAUTHORIZED REINSURANCE (DEPOSITS BY AND FUNDS WITHHELD FROM)					
18. Funds deposited by and withheld from (F)	11,246,343	0	0	0	0
19. Letters of credit (L)	0	0	0	0	0
20. Trust agreements (T)	0	0	0	0	0
21. Other (O)	1,430,954	0	0	0	0
D. REINSURANCE WITH CERTIFIED REINSURERS (DEPOSITS BY AND FUNDS WITHHELD FROM)					
22. Multiple Beneficiary Trust			0	0	0
23. Funds deposited by and withheld from (F)			0	0	0
24. Letters of credit (L)			0	0	0
25. Trust agreements (T)			0	0	0
26. Other (O)			0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE S - PART 7

Restatement of Balance Sheet to Identify Net Credit for Ceded Reinsurance

	1 As Reported (net of ceded)	2 Restatement Adjustments	3 Restated (gross of ceded)
ASSETS (Page 2, Col. 3)			
1. Cash and invested assets (Line 12)	41,690,381,157	47,986,206	41,738,367,363
2. Reinsurance (Line 16)	249,071,219	(249,071,219)	0
3. Premiums and considerations (Line 15)	7,742,452	25,419	7,767,871
4. Net credit for ceded reinsurance	XXX	19,070,243,728	19,070,243,728
5. All other admitted assets (balance)	832,147,837		832,147,837
6. Total assets excluding Separate Accounts (Line 26)	42,779,342,665	18,869,184,134	61,648,526,799
7. Separate Account assets (Line 27)	103,698,994		103,698,994
8. Total assets (Line 28)	42,883,041,659	18,869,184,134	61,752,225,793
LIABILITIES, CAPITAL AND SURPLUS (Page 3)			
9. Contract reserves (Lines 1 and 2)	24,310,383,982	18,600,735,267	42,911,119,249
10. Liability for deposit-type contracts (Line 3)	779,823,617	118,877,997	898,701,614
11. Claim reserves (Line 4)	140,558,821	164,652,378	305,211,199
12. Policyholder dividends/member refunds/reserves (Lines 5 through 7)	0		0
13. Premium & annuity considerations received in advance (Line 8)	165,594	47,989	213,583
14. Other contract liabilities (Line 9)	107,467,413	(13,885,362)	93,582,051
15. Reinsurance in unauthorized companies (Line 24.02 minus inset amount)	0	0	0
16. Funds held under reinsurance treaties with unauthorized reinsurers (Line 24.03 minus inset amount)	12,677,297,503		12,677,297,503
17. Reinsurance with Certified Reinsurers (Line 24.02 inset amount)	0		0
18. Funds held under reinsurance treaties with Certified Reinsurers (Line 24.03 inset amount)	0		0
19. All other liabilities (balance)	1,931,062,897	(1,244,135)	1,929,818,762
20. Total liabilities excluding Separate Accounts (Line 26)	39,946,759,827	18,869,184,134	58,815,943,961
21. Separate Account liabilities (Line 27)	103,698,994		103,698,994
22. Total liabilities (Line 28)	40,050,458,821	18,869,184,134	58,919,642,955
23. Capital & surplus (Line 38)	2,832,582,838	XXX	2,832,582,838
24. Total liabilities, capital & surplus (Line 39)	42,883,041,659	18,869,184,134	61,752,225,793
NET CREDIT FOR CEDED REINSURANCE			
25. Contract reserves	18,600,735,267		
26. Claim reserves	164,652,378		
27. Policyholder dividends/reserves	0		
28. Premium & annuity considerations received in advance	47,989		
29. Liability for deposit-type contracts	118,877,997		
30. Other contract liabilities	(13,885,362)		
31. Reinsurance ceded assets	249,071,219		
32. Other ceded reinsurance recoverables	(47,986,206)		
33. Total ceded reinsurance recoverables	19,071,513,282		
34. Premiums and considerations	25,419		
35. Reinsurance in unauthorized companies	0		
36. Funds held under reinsurance treaties with unauthorized reinsurers	0		
37. Reinsurance with Certified Reinsurers	0		
38. Funds held under reinsurance treaties with Certified Reinsurers	0		
39. Other ceded reinsurance payables/offsets	1,244,135		
40. Total ceded reinsurance payable/offsets	1,269,554		
41. Total net credit for ceded reinsurance	19,070,243,728		

**SCHEDULE T - PART 2
INTERSTATE COMPACT - EXHIBIT OF PREMIUMS WRITTEN**

Allocated by States and Territories

		Direct Business Only					6 Totals
		1 Life (Group and Individual)	2 Annuities (Group and Individual)	3 Disability Income (Group and Individual)	4 Long-Term Care (Group and Individual)	5 Deposit-Type Contracts	
States, Etc.							
1. Alabama	AL	183,975	199,989,263		12,086	0	200,185,324
2. Alaska	AK	8,983	1,520,599			0	1,529,582
3. Arizona	AZ	497,726	126,248,756		11,633	152,907	126,911,022
4. Arkansas	AR	140,009	68,665,035		5,065	0	68,810,109
5. California	CA	4,845,071	520,103,731	345	7,325	569,755	525,526,227
6. Colorado	CO	224,922	73,173,837		82,667	129,354	73,610,780
7. Connecticut	CT	376,092	137,774,752	82	1,285	348,939	138,501,150
8. Delaware	DE	70,403	35,706,028			0	35,776,431
9. District of Columbia	DC	28,843	4,792,569			0	4,821,412
10. Florida	FL	1,750,959	680,702,930	164	34,480	1,555,281	684,043,814
11. Georgia	GA	982,442	225,748,676		73,417	0	226,804,535
12. Hawaii	HI	278,142	69,534,688			59,466	69,872,296
13. Idaho	ID	84,011	36,658,503		8,483	0	36,750,997
14. Illinois	IL	762,736	223,479,657		93,302	17,472	224,353,167
15. Indiana	IN	174,068	175,969,724		1,693	1,243,542	177,389,027
16. Iowa	IA	171,489	67,039,155		3,753	90,198	67,304,595
17. Kansas	KS	133,051	21,800,362		69,167	0	22,002,580
18. Kentucky	KY	179,194	111,070,122		613	0	111,249,929
19. Louisiana	LA	235,003	184,096,228			0	184,331,231
20. Maine	ME	70,937	42,707,342		4,023	64,677	42,846,979
21. Maryland	MD	582,250	114,414,700		10,133	38,806	115,045,889
22. Massachusetts	MA	500,251	204,428,031		701	762,112	205,691,095
23. Michigan	MI	312,851	305,743,864			0	306,056,715
24. Minnesota	MN	365,041	100,745,067		5,068	0	101,115,176
25. Mississippi	MS	137,874	56,535,197		2,932	0	56,676,003
26. Missouri	MO	311,871	300,402,566		112,120	0	300,826,557
27. Montana	MT	9,561	3,076,385		6,987	0	3,092,933
28. Nebraska	NE	171,170	39,022,360		50,276	0	39,243,806
29. Nevada	NV	289,745	40,186,737	357		0	40,476,839
30. New Hampshire	NH	65,968	51,204,329		47,897	498,014	51,816,208
31. New Jersey	NJ	619,828	314,639,150	(46)	2,829	37,728	315,299,489
32. New Mexico	NM	208,289	16,718,910			16,169	16,943,368
33. New York	NY	153,466	32,888,873		4,052	0	33,046,391
34. North Carolina	NC	988,178	371,775,764		1,202,384	0	373,966,326
35. North Dakota	ND	49,288	18,595,250			0	18,644,538
36. Ohio	OH	529,288	339,256,618		3,374	665,737	340,455,017
37. Oklahoma	OK	503,401	34,737,876		3,054	362,382	35,606,713
38. Oregon	OR	105,547	38,615,408		62,232	19,215	38,802,402
39. Pennsylvania	PA	1,158,667	409,992,687		4,854	780,931	411,937,139
40. Rhode Island	RI	52,312	48,598,974		9,390	0	48,660,676
41. South Carolina	SC	402,286	223,645,126		15,971	419,261	224,482,644
42. South Dakota	SD	44,370	14,586,336			0	14,630,706
43. Tennessee	TN	393,404	316,586,182		108,487	163,870	317,251,943
44. Texas	TX	2,349,244	362,869,980		5,490	591,025	365,815,739
45. Utah	UT	114,605	64,594,894			0	64,709,499
46. Vermont	VT	29,590	21,592,332		18,900	0	21,640,822
47. Virginia	VA	858,245	158,396,129	23	190,849	0	159,445,246
48. Washington	WA	377,946	150,095,154	104	174,315	181,710	150,829,229
49. West Virginia	WV	119,675	54,419,250			0	54,538,925
50. Wisconsin	WI	211,883	130,542,796		189,435	395,819	131,339,933
51. Wyoming	WY	22,093	4,238,285			0	4,260,378
52. American Samoa	AS	0	0			0	0
53. Guam	GU	88,482	0			0	88,482
54. Puerto Rico	PR	654	0			0	654
55. U.S. Virgin Islands	VI	3,379	0			0	3,379
56. Northern Mariana Islands	MP	0	0			0	0
57. Canada	CAN	1,144	0			0	1,144
58. Aggregate Other Alien	OT	67,986	55,260			0	123,246
59. Total		23,397,888	7,349,982,427	1,029	2,640,722	9,164,370	7,385,186,436

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

PART 1 – ORGANIZATIONAL CHART

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

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
CML Global Capabilities LLC	None		Delaware
MM Global Capabilities I LLC	None		Delaware
MassMutual Global Business Services India LLP	None		India
MM Global Capabilities (Netherlands) B.V.	None		Netherlands
MassMutual Global Business Services Romania S.R.L.	None		Romania
MM Global Capabilities I I LLC	None		Delaware
MM Global Capabilities I II LLC	None		Delaware
MM/Barings Multifamily TEBS 2020 LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
Lyme Adirondack Timber Sales, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
ITPS Holding LLC	None		Delaware
HITPS LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
MassMutual Ventures US IV, GP, LLC	None		Delaware
MassMutual Ventures US IV, L.P.	None		Delaware
MassMutual Ventures Europe/APAC I GP, LLC	None		Delaware
MassMutual Ventures Europe/APAC I GP, L.P.	None		Cayman Islands
MassMutual Ventures Europe/APAC I L.P.	None		Cayman Islands
JFIN Parent LLC	None		Delaware
Jefferies Finance LLC	27-0105644		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
Jefferies Credit Partners LLC	None		Delaware

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

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of</u>
APEX Credit Partners LLC	None		Delaware
Jefferies Credit Management LLC	None		Delaware
JCP Direct Lending CLO 2022 LLC	None		Delaware
Jefferies Direct Lending Europe SCSp SICAV-RAIF	None		Luxembourg
Jefferies Credit Management Holdings LLC	None		Delaware
Senior Credit Investments, LLC	None		Delaware
JDLF GP (Europe) S.a.r.l	None		Luxembourg
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
JDLF II GP LLC	None		Delaware
JDLF II GP LP	None		Delaware
Jefferies Direct Lending Fund II C LP	None		Delaware
Jefferies DLF II C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund II C SPE LLC	None		Delaware
Jefferies Private Credit BDC Inc.	None		Maryland
Jefferies Senior Lending LLC	None		Delaware
Jefferies Credit Partners BDC Inc	None		Maryland
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Revolver Holdings IV LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, S.L.P.	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN Funding 2021 LLC	None		Delaware
JFIN High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2018 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2020 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-V Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-III Ltd.	None		Cayman Islands

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

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
JFIN Revolver CLO 2022-IV Ltd.	None		Cayman Islands
JFIN Revolver Fund, L.P.	None		Delaware
JFIN Revolver Funding 2021 Ltd.	None		Delaware
JFIN Revolver Funding 2021-III Ltd.	None		Delaware
JFIN Revolver Funding 2021-IV Ltd.	None		Delaware
JFIN Revolver Funding 2022-I Ltd.	None		Bermuda
JFIN Revolver SPE1 2022 LLC	None		Delaware
JFIN Revolver SPE3 2022 LLC	None		Delaware
JFIN Revolver SPE4 2022 LLC	None		Delaware
SFL Parkway Funding 2022 LLC	None		Delaware
Beauty Brands Acquisition Holdings LLC	None		Delaware
Beauty Brands Acquisition LLC	None		Delaware
Beauty Brands Acquisition Intermediate LLC	None		Delaware
FB Acquisition LLC	None		Delaware
Apex Credit Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.	None		Cayman Islands
JFIN CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
JFIN CLO 2017 Ltd.	None		Cayman Islands
JFIN CLO 2017 II Ltd.	None		Cayman Islands
Tomorrow Parent, LLC	None		Delaware
Custom Ecology Holdco, LLC	None		Delaware
Glidepath Holdings Inc.	86-2294635		Delaware
MassMutual Ascend Life Insurance Company	13-1935920	63312	Ohio
AAG Insurance Agency, LLC	31-1422717		Kentucky
Annuity Investors Life Insurance Company	31-1021738	93661	Ohio
MM Ascend Life Investor Services, LLC	31-1395344		Ohio
Manhattan National Holding, LLC	26-3260520		Ohio
Manhattan National Life Insurance Company	45-0252531	67083	Ohio
MassMutual Mortgage Lending LLC	None		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MM Direct Private Investment Holding LLC	None		Delaware
MM Direct Private Investments UK Limited	None		United Kingdom
DPI-ACRES Capital LLC	None		Delaware
MM Investment Holding	None		Cayman Islands
MMIH Bond Holdings LLC	None		Delaware
MassMutual Asset Finance LLC*	26-0073611		Delaware
MMAF Equipment Finance LLC 2014-A	36-4785301		Delaware
MMAF Equipment Finance LLC 2017-A	35-2590691		Delaware

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

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MMAF Equipment Finance LLC 2017-B	32-0546197		Delaware
MMAF Equipment Finance LLC 2018-A	82-5335801		Delaware
MMAF Equipment Finance LLC 2019-A	83-3722640		Delaware
MMAF Equipment Finance LLC 2019-B	None		Delaware
MMAF Equipment Finance LLC 2020-A	None		Delaware
MMAF Equipment Finance LLC 2020-B	None		Delaware
MMAF Equipment Finance LLC 2021-A	None		Delaware
MMAF Equipment Finance LLC 2022-A	None		Delaware
MMAF Equipment Finance LLC 2022-B	None		Delaware
Rozier LLC	None		Delaware
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MML CM LLC	None		Delaware
Blueprint Income LLC	None		New York
Flourish Digital Assets LLC	None		Delaware
Flourish Financial LLC	None		Delaware
Flourish Holding Company LLC	None		Delaware
Flourish Insurance Agency LLC	None		Delaware
Flourish Technologies LLC	None		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Strategic Distributors, LLC	46-3238013		Delaware
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		Delaware
Low Carbon Energy Holding	None		United Kingdom
Sleeper Street LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
Aland Royalty Holdings LP	None		Delaware
GASL Holdings LLC	None		Delaware
Barings Asset-Based Income Fund (US) LP	None		Delaware
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings North American Private Loan Fund LP	38-4010344		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
Marco Hotel LLC	46-4255307		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
HB Naples Golf Owner LLC	45-3623262		Delaware
RB Apartments LLC	82-4411267		Delaware
MassMutual Ventures Holding LLC	None		Delaware
Athens Fund Management LLC	None		Delaware
Crane Venture Partners LLP	None		United Kingdom
MassMutual Ventures Management LLC	None		Delaware
MassMutual Ventures SEA Management Private Limited	None		Singapore
MassMutual Ventures Southeast Asia I LLC	None		Delaware
MassMutual Ventures Southeast Asia II LLC	None		Delaware
MassMutual Ventures Southeast Asia III LLC	None		Delaware
MMV Digital I LLC	None		Cayman Islands
MassMutual Ventures UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II LLC	None		Delaware
MassMutual Ventures US III LLC	None		Delaware
MassMutual Ventures US IV LLC	None		Delaware
MM Catalyst Fund LLC	None		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
Rothesay Limited	None		United Kingdom
Rothesay Mortgages Limited	None		United Kingdom
Rothesay Life Plc	None		United Kingdom
Rothesay MA No.1 Limited	None		United Kingdom
Rothesay MA No.3 Limited	None		United Kingdom
Rothesay MA No.4 Limited	None		United Kingdom
LT Mortgage Finance Limited	None		United Kingdom
Rothesay Property Partnership 1 LLP	None		United Kingdom
Rothesay Foundation	None		United Kingdom
Rothesay Pensions Management Limited	None		United Kingdom
Rothesay Asset Management UK Limited	None		United Kingdom
Rothesay Asset Management Australia Pty Ltd	None		Australia
Rothesay Asset Management North America LLC	None		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None		Korea
Barings Investment Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Overseas Investment Fund Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Barings Singapore Pte. Ltd.	None		Singapore
Barings Japan Limited	98-0236449		Japan
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	None		Australia
Barings Australia Real Estate Holdings Pty Ltd	None		Australia
Barings Australia Real Estate Pty Ltd	14-0045656		Australia
Altis Property Partners Holdings Pty Ltd	98-0457456		Australia
Altis Asset Management Pty Ltd	None		Australia
Altis Property Partners Pty Ltd	None		Australia
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
BCF Senior Funding I Designated Activity Company	None		Ireland
Barings Real Estate Acquisitions LLC	None		Delaware
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings Asset Management Spain SL	None		Spain
Baring France SAS	None		France
Baring International Fund Managers (Ireland) Limited	None		Ireland
Barings GmbH	None		Germany
Barings Italy S.r.l.	None		Italy
Barings Sweden AB	None		Sweden
Barings Netherlands B.V.	None		Netherlands
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Switzerland Sàrl	None		Switzerland
Baring Asset Management Limited	98-0241935		United Kingdom
Barings European Direct Lending 1 GP LLP	None		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Fund Managers Limited	98-0457586		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Core Fund Feeder I GP S.à.r.l.	None		Luxembourg
Barings Investment Fund (LUX) GP S.à.r.l.	None		Luxembourg
Barings BME GP S.à.r.l.	None		United Kingdom
Barings GPC GP S.à.r.l.	None		Luxembourg
Barings European Core Property Fund GP Sà.r.l	None		United Kingdom
Barings Umbrella Fund (LUX) GP S.à.r.l.	None		Luxembourg
GPLF4(S) GP S.à.r.l	None		Luxembourg

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
PREIF Holdings Limited Partnership	None		United Kingdom
BMC Holdings DE LLC	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
EIP Holdings I, LLC	None		Delaware
Intermodal Holding II LLC	46-2344300		Delaware
Milestone Acquisition Holding LLC	47-3055009		Delaware
Novation Companies, Inc.	None		Maryland
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC*	81-4065378		Connecticut
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
Techquity, LP	None		Delaware
Validus Holding Company LLC	46-0687392		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Aland Royalty GP, LLC	None		Delaware
Alaska Future Fund GP, LLC	None		Delaware
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Barings CMS Fund GP, LLC	None		Delaware
Barings Infiniti Fund Management LLC	None		Delaware
Barings Hotel Opportunity Venture I GP, LLC	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings Emerging Generation Fund GP II, LLC	None		Delaware
Barings ERS PE Emerging Manager III GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Core Property Fund GP LLC	None		Delaware
Barings Direct Lending GP Ltd.	None		Cayman Islands
Barings Emerging Generation Fund LP	84-3784245		Delaware
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership GP, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership LP	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings GPSF LLC	None		Delaware
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings North American Private Loan Fund II Management, LLC	None		Delaware
Barings North American Private Loan Fund III Management, LLC	None		Delaware
Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	None		Delaware
Barings - MM Revolver Fund GP LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
BMT RE Debt Fund GP LLC	None		Delaware
Barings Small Business Fund LLC	84-5063008		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
BHOVI Incentive LLC	None		Delaware
BIG Real Estate Fund GP LLC	None		Delaware
BIG Real Estate Incentive I LLC	None		Delaware
BIG Real Estate Incentive II LLC	None		Delaware
BRECS VII GP LLC	None		Delaware
BREDIF GP LLC	None		Delaware
CREF X GP LLC	None		Delaware
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Barings Emerging Markets Blended Fund I GP, LLC	None		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
SBNP SIA II LLC	None		Delaware
SBNP SIA III LLC	None		Delaware
Amherst Long Term Holdings, LLC	None		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware
Haven Technologies Asia Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MML Mezzanine Investor II, LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
Other Affiliates & Funds:			
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
2160 Grand Manager LLC	04-1590850		Delaware
300 South Tryon LLC	04-1590850		Delaware
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Barings Affordable Housing Mortgage Fund I LLC	82-3468147		Delaware
Barings Affordable Housing Mortgage Fund II LLC	61-1902329		Delaware
Barings Affordable Housing Mortgage Fund III LLC	85-3036663		Delaware
Barings Emerging Markets Corporate Bond Fund*	None		Ireland
Barings European Real Estate Debt Income Fund	None		Luxembourg
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
Barings CLO 2019-III	None		Cayman Islands
Barings CLO 2019-IV	None		Cayman Islands
Barings CLO 2020-I	None		Cayman Islands
Barings CLO 2020-II	None		Cayman Islands
Barings CLO 2020-III	None		Cayman Islands
Barings CLO 2020-IV	None		Cayman Islands
Barings CLO 2021-I	None		Cayman Islands
Barings CLO 2021-II	None		Cayman Islands
Barings CLO 2021-III	None		Cayman Islands
Barings CLO 2022-I	98-1624360		Cayman Island
Barings CLO 2022-II	None		Cayman Island
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Barings Euro CLO 2019-I	36037260H		Ireland
Barings Euro CLO 2019-II	None		Ireland
Barings Euro CLO 2020-I DAC	None		Ireland
Barings Euro CLO 2021-I DAC	3715576VH		Ireland
Barings Euro CLO 2021-II DAC	3750378QH		Ireland
Barings Euro CLO 2021-III DAC	None		Ireland
Barings Euro CLO 2022-I DAC	None		Ireland
Barings Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands
Barings Global Special Situations Credit 4 Delaware*	85-1465973		Delaware
Barings Global Special Situations Credit 4 LUX*	98-1570693		Luxembourg
Barings Global Technology Equity Fund	None		Ireland
Barings Europe Select Fund	None		Ireland
Barings Hotel Opportunity Venture	87-0977058		Connecticut
Barings Innovations & Growth Real Estate Fund*	86-3661023		Delaware
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands
Barings Middle Market CLO 2019-I	None		Cayman Islands
Barings Middle Market CLO Ltd 2021-I	98-1612604		Cayman Islands
Barings RE Credit Strategies VII LP	98-1332384		Delaware
Barings Target Yield Infrastructure Debt Fund*	98-1567942		Luxembourg

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

PART 1 – ORGANIZATIONAL CHART

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Euro Value Add II (BREEVA II) *	None		Luxembourg
Barings Real Estate European Value Add I SCSp*	None		United Kingdom
Barings Real Estate Debt Income Fund LP*	85-3449260		Delaware
Barings Transportation Fund LP*	87-1262754		Delaware
Braemar Energy Ventures I, L.P.*	None		Delaware
Barings European Core Property Fund SCSp	None		Luxembourg
Barings European Private Loan Fund III A	46-5001122		Luxembourg
Benchmark 2018-B2 Mortgage Trust	38-4059932		New York
Benchmark 2018-B4	None		New York
Benchmark 2018-B8	38-4096530		New York
Barings Core Property Fund LP	20-5578089		Delaware
Cornerstone Real Estate Fund X LP	46-5432619		Delaware
DPI Acres Capital SPV LLC	04-1590850		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
GIA EU Holdings - Emerson JV Sarl	98-1607033		Luxembourg
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012		New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059		New York
Martello Re	None		Bermuda
Miami Douglas Two GP LLC*	04-1590850		Delaware
Miami Douglas Two LP*	04-1590850		Delaware
Miami Douglas Three MM LLC	04-1590850		Delaware
MM BIG Peninsula Co-Invest Member LLC	87-4021641		Delaware
MM Direct Private Investment Holding	04-1590850		Delaware
MM CM Holding LLC	None		Delaware
MM Debt Participations LLC	81-3000420		Delaware
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
Ten Fan Pier Boulevard LLC	35-2553915		Delaware
Tower Square Capital Partners III, L.P.	41-2280127		Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129		Delaware
Trailside MM Member LLC*	04-1590850		Delaware
Washington Gateway Two LLC*	83-1325764		Delaware
Washington Gateway Three LLC*	32-0574045		Delaware
Barings Affiliates & Funds:			
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings China Aggregate Bond Private Securities Investment Fund	None		Peoples Republic of China
Barings European Growth Trust Fund	None		United Kingdom
Barings Global High Yield Fund	47-3790192		Massachusetts
CCIC Fund	None		Peoples Republic of China
Great Lakes II LLC*	71-1018134		Delaware
Wood Creek Venture Fund LLC	04-1590850		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Real Estate Affiliates & Funds:			
Barings California Mortgage Fund IV	None		California
Barings Umbrella Fund LUX SCSp SICAV RAIF*	None		Luxembourg
Calgary Railway Holding LLC*	82-2285211		Delaware
Cornbrook PRS Holdings LLC	82-3307907		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
CREA/PPC Venture LLC	20-0348173		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Euro Real Estate Holdings LLC	04-1590850		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
GIA EU Holdings LLC	04-1590850		Delaware
Landmark Manchester Holdings LLC	81-5360103		Delaware
MM Brookhaven Member LLC	04-1590850		Delaware
MM East South Crossing Member LLC	04-1590850		Delaware
MM Horizon Savannah Member LLC*	04-1590850		Delaware
MM National Self-Storage Program Member LLC	04-1590850		Delaware
MM 1400 E 4th Street Member LLC	04-1590850		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
PACO France Logistics LLC	04-1590850		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Trailside MM Member II LLC	04-1590850		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
West 37th Street Hotel LLC*	88-3861481		Delaware
MassMutual Premier Funds:			
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Select Funds:			
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
MML Series Investment Funds:			
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2035 Fund	27-1933380		Massachusetts
MassMutual RetireSMART 2045 Fund	27-1932769		Massachusetts
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual 20/80 Allocation Fund	45-1618155		Massachusetts
MassMutual 80/20 Allocation Fund	45-1618222		Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464		Massachusetts
MassMutual 40/60 Allocation Fund	45-1618262		Massachusetts
MassMutual 60/40 Allocation Fund	45-1618046		Massachusetts

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							Trad Investments I LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MLLIC		
.0000							ITPSHolding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							HITPS LLC	DE	NIA	ITPS Holding LLC	Ownership	100.000	MLLIC		
.0000							JFIN Parent LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			27-0105644				Jefferies Finance LLC	DE	NIA	JFIN Parent LLC	Ownership	50.000	MLLIC		1
.0000			86-2294635				Glidepath Holdings Inc.	DE	UDP	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0435	Massachusetts Mut Life Ins Co	63312	13-1935920				MassMutual Ascend Life Insurance Company	OH	RE	Glidepath Holdings Inc.	Ownership	100.000	MLLIC		
.0000			31-1422717				AAG Insurance Agency, LLC	KY	NIA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MLLIC		
.0435	Massachusetts Mut Life Ins Co	93661	31-1021738				Annuity Investors Life Insurance Company	OH	DS	MassMutual Ascend Life Insurance Company	Ownership	100.000	MLLIC		
.0000			31-1395344				MM ASCEND LIFE INVESTOR SERVICES, LLC	OH	NIA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MLLIC		
.0000			26-3260520				Manhattan National Holding, LLC	OH	DS	MassMutual Ascend Life Insurance Company	Ownership	100.000	MLLIC		
.0435	Massachusetts Mut Life Ins Co	67083	45-0252531				Manhattan National Life Insurance Company	OH	DS	Manhattan National Holding LLC	Ownership	100.000	MLLIC		
.0000							MassMutual Mortgage Lending LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Jefferies Private Credit BDC Inc.	MD	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Fund III LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Apex Credit Partners LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Credit Management LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JCP Direct Lending CLO 2022 LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	9.900	MLLIC		
.0000							Jefferies Direct Lending Europe SCSp SICAV-RAIF	LUX	NIA	Jefferies Credit Partners LLC	Ownership	9.900	MLLIC		
.0000							Jefferies Credit Management Holdings LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	9.900	MLLIC		
.0000							Senior Credit Investments, LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	9.900	MLLIC		
.0000							JDLF GP (Europe) S.a.r.l	LUX	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JFAM GP LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JFAM GP LP	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund C LP	DE	NIA	JFAM GP LP	Ownership	100.000	MLLIC		
.0000							Jefferies DLF C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund C LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund C SPE LLC	DE	NIA	Jefferies DLF C Holdings LLC	Ownership	100.000	MLLIC		
.0000							JDLF II GP LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JDLF II GP LP	DE	NIA	JDLF II GP LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund II C LP	DE	NIA	JDLF II GP LP	Ownership	100.000	MLLIC		
.0000							Jefferies DLF II C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund II C LP	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund II C SPE LLC	DE	NIA	Jefferies DLF II C Holdings LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Senior Lending LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Credit Partners BDC Inc	MD	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver Holdings II LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver Holdings IV LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Europe GP, S.a.r.l	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Finance Europe, S.L.P.	LUX	NIA	JFIN Europe GP, S.a.r.l	Ownership	100.000	MLLIC		
.0000							Jefferies Finance Europe, SCSp	LUX	NIA	JFIN Europe GP, S.a.r.l	Ownership	100.000	MLLIC		
.0000							Jefferies Finance Business Credit LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Business Credit Fund I LLC	DE	NIA	Jefferies Finance Business Credit LLC	Ownership	100.000	MLLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000							JFIN Funding 2021 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN High Yield Investments LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN LC Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition LLC	DE	NIA	Beauty Brands Acquisition Holdings LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Intermediate LLC	DE	NIA	Beauty Brands Acquisition LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Intermediate LLC	DE	NIA	Beauty Brands Acquisition Intermediate LLC	Ownership	100.000	MMLIC		
.0000							FB Acquisition LLC	DE	NIA		Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2018 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2020 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-V Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-IV Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Fund, L.P.	DE	NIA	Jefferies Finance LLC	Ownership	90.000	MMLIC		
.0000							JFIN Revolver Funding 2021 Ltd.	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 III Ltd.	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 IV Ltd.	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2022-I Ltd.	BMJ	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE1 2022 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE3 2022 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE4 2022 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							SFL Parkway Funding 2022 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit Holdings LLC	DE	NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2012 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2013 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014-III Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015-III Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	85.000	MMLIC		
.0000							JFIN CLO 2016 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2017 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2017-III Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							Tomorrow Parent, LLC	DE	NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000							Custom Ecology Holdco, LLC	DE	NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Copper Hill Road LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments UK Limited	GBR	NIA	MM Direct Private Investments Holding LLC	Ownership	100.000	MMLIC		
.0000							DPI-ACRES Capital LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Investment Holding	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000							MMIH Bond Holdings LLC	DE	NIA	MM Investment Holding	Ownership	99.600	MLLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	MM Investment Holding	Ownership	99.600	MLLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.400	MLLIC		
.0000			36-4785301				MMAF Equipment Finance LLC 2014-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000			35-2590691				MMAF Equipment Finance LLC 2017-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000			32-0546197				MMAF Equipment Finance LLC 2017-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000			82-5335801				MMAF Equipment Finance LLC 2018-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000			83-3722640				MMAF Equipment Finance LLC 2019-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							MMAF Equipment Finance LLC 2019-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							MMAF Equipment Finance LLC 2020-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							MMAF Equipment Finance LLC 2020-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							MMAF Equipment Finance LLC 2021-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							MMAF Equipment Finance LLC 2022-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							MMAF Equipment Finance LLC 2022-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000							Rozier LLC	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MLLIC		
.0000			04-2443240				MML Management Corporation	MA	NIA	MM Investment Holding	Ownership	100.000	MLLIC		
.0000			04-3548444				MassMutual International Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MLLIC		
.0000			04-3341767				MassMutual Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MLLIC		
.0000							MML CM LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Blueprint Income LLC	NY	NIA	MML CM LLC	Ownership	100.000	MLLIC		
.0000							Flourish Digital Assets LLC	DE	NIA	MML CM LLC	Ownership	100.000	MLLIC		
.0000							Flourish Financial LLC	DE	NIA	MML CM LLC	Ownership	100.000	MLLIC		
.0000							Flourish Holding Company LLC	DE	NIA	MML CM LLC	Ownership	100.000	MLLIC		
.0000							Flourish Insurance Agency LLC	DE	NIA	MML CM LLC	Ownership	100.000	MLLIC		
.0000							Flourish Technologies LLC	DE	NIA	MML CM LLC	Ownership	100.000	MLLIC		
.0000			04-3356880				MML Distributors LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MLLIC		
.0000			04-3356880				MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership	1.000	MLLIC		
.0000							MML Investment Advisers, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			46-3238013				MML Strategic Distributors, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB	CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				MML Private Placement Investment Company I, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Baring Asset Management Limited	Management		MLLIC		
.0000			04-1590850				MM Private Equity Intercontinental LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			45-2738137				Pioneers Gate LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-2854319	2392316			MassMutual Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			06-1597528				MassMutual Assignment Company	NC	NIA	MassMutual Holding LLC	Ownership	100.000	MLLIC		
.0000			37-1732913				Fern Street LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLLIC		
.0000							Low Carbon Energy Holding	GBR	NIA	MassMutual Holding LLC	Ownership	49.000	MLLIC		
.0000							Steeper Street LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000			04-1590850				MassMutual Capital Partners LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			46-4255307				Marco Hotel LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			45-3623262				HB Naples Golf Owner LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			82-4411267				RB Apartments LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000							Athens Fund Management LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							Crane Venture Partners LLP	GBR	NIA	MassMutual Ventures Holding LLC	Ownership	33.000	MLL IC		
.0000							MassMutual Ventures Management LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures SEA Management Private Limited	DE	NIA	MassMutual Ventures Management LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures Southeast Asia I LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures Southeast Asia II LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures Southeast Asia III LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MMV Digital I LLC	CYM	NIA	MassMutual Ventures Southeast Asia III LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures UK LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000			47-1296410				MassMutual Ventures US I LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures US II LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures US III LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000							MassMutual Ventures US IV LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MLL IC		
.0000			04-1590850				MM Rothesay Holdco US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000							Rothesay Limited	GBR	NIA	MM Rothesay Holdco US LLC	Ownership	48.800	MLL IC		
.0000							Rothesay Life Plc	GBR	NIA	Rothesay Limited	Ownership	100.000	MLL IC		
.0000							Rothesay MA No.1 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MLL IC		
.0000							Rothesay Mortgages Limited	GBR	NIA	Rothesay Limited	Ownership	100.000	MLL IC		
.0000							Rothesay MA No.3 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MLL IC		
.0000							Rothesay MA No.4 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MLL IC		
.0000							LT Mortgage Finance Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MLL IC		
.0000							Rothesay Property Partnership 1 LLP	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MLL IC		
.0000							Rothesay Foundation	GBR	NIA	Rothesay Limited	Ownership	100.000	MLL IC		
.0000							Rothesay Pensions Management Limited	GBR	NIA	Rothesay Limited	Ownership	100.000	MLL IC		
.0000							Rothesay Asset Management UK Limited	GBR	NIA	Rothesay Limited	Ownership	100.000	MLL IC		
.0000							Rothesay Asset Management Australia Pty Ltd	AUS	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MLL IC		
.0000							Rothesay Asset Management North America LLC	DE	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MLL IC		
.0000							MM Catalyst Fund LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			47-1466022				LifeScore Labs, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			45-4000072				MM Asset Management Holding LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			04-1590850				MML Investors Services, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MLL IC		
.0000			04-1590850				MML Insurance Agency, LLC	MA	NIA	MML Investors Services, LLC	Ownership	100.000	MLL IC		
.0000			41-2011634				MMLISI Financial Alliances, LLC	DE	NIA	MML Investors Services, LLC	Ownership	100.000	MLL IC		
.0000			51-0504477				Barings LLC	DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MLL IC		
.0000			98-0524271				Baring Asset Management (Asia) Holdings Limited	HKG	NIA	Barings LLC	Ownership	100.000	MLL IC		
.0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	BMU	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MLL IC		
.0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MLL IC		
.0000							Baring Asset Management Korea Limited	KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MLL IC		

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.0000							Barings Investment Management (Shanghai) Limited	.HKG.	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Overseas Investment Fund Management (Shanghai) Limited	.HKG.	NIA	Barings Investment Management (Shanghai) Limited	Ownership	100.000	MMLIC		
.0000			98-0457707				Baring SICE (Taiwan) Limited	.TWN.	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Singapore Pte. Ltd.	.SGP.	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0236449				Barings Japan Limited	.JPN.	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Holding Company Pty Ltd	.AUS.	NIA	Barings Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Pty Ltd	.AUS.	NIA	Barings Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Real Estate Holdings Pty Ltd	.AUS.	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			14-0045656				Barings Australia Real Estate Pty Ltd	.AUS.	NIA	Barings Australia Real Estate Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000			98-0457456				Altis Property Partners Holdings Pty Ltd	.AUS.	NIA	Barings Australia Real Estate Pty Ltd	Ownership	100.000	MMLIC		
.0000							Altis Asset Management Pty Ltd	.AUS.	NIA	Altis Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000			80-0875475				Altis Property Partners Pty Ltd	.AUS.	NIA	Altis Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Finance LLC	.DE.	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	.IRL.	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	.DE.	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	.IRL.	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							Barings Real Estate Acquisitions LLC	.DE.	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351				Barings Securities LLC	.DE.	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0437588				Barings Guernsey Limited	.GGY.	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Europe Limited	.GBR.	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Spain SL	.ESP.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Baring France SAS	.FRA.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Baring International Fund Managers (Ireland) Limited	.IRL.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings GmbH	.DEU.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Italy S.r.l.	.ITA.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Sweden AB	.SWE.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Netherlands B.V.	.NLD.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Barings (U.K.) Limited	.GBR.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Switzerland Sarl	.CHE.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Baring Asset Management Limited	.GBR.	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	.GBR.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Baring International Investment Limited	.GBR.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Baring International Investment Management Holdings	.GBR.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457587				Baring International Investment Management Holdings	.GBR.	NIA	Baring International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0457576				Baring Asset Management UK Holdings Limited	.GBR.	NIA	Baring International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0457586				Baring Fund Managers Limited	.GBR.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	.GBR.	NIA	Baring Fund Managers Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Baring Investment Services Limited	.GBR.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Core Fund Feeder I GP S.à.r.l.	.LUX.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings BME GP S.à.r.l.	.GBR.	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000							Barings GPC GP S.à. r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MLLIC		
.0000							Barings European Core Property Fund GP Sàrl	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MLLIC		
.0000							Barings Investment Fund (LUX) GP S.à. r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MLLIC		
.0000							Barings Umbrella Fund (LUX) GP S.à.r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MLLIC		
.0000							GPLF4(S) GP S.à. r. l	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MLLIC		
.0000							PREF Holdings Limited Partnership	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MLLIC		
.0000							BMC Holdings DE LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	.CA	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000			81-2244465				Chassis Acquisition Holding LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	30.000	MLLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.000	MLLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	.DE	NIA	Barings LLC	Influence		MLLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	26.700	MLLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	NIA	Barings LLC	Management		MLLIC		
.0000			82-2932156				GASL Holdings LLC	.DE	NIA	MassMutual Holding LLC	Ownership	11.300	MLLIC		
.0000			82-2932156				GASL Holdings LLC	.DE	NIA	Barings LLC	Board		MLLIC		
.0000			46-2344300				Intermodal Holdings II LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	18.000	MLLIC		
.0000			46-2344300				Intermodal Holdings II LLC	.DE	NIA	Barings LLC	Management		MLLIC		
.0000			47-3055009				Milestone Acquisition Holding, LLC	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	19.800	MLLIC		
.0000							Novation Companies, Inc.	.MD	NIA	Massachusetts Mutual Life Insurance Company	Ownership	17.100	MLLIC		
.0000							Novation Companies, Inc.	.MD	NIA	Barings LLC	Influence		MLLIC		
.0000			46-5460309				Red Lake Ventures, LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	31.500	MLLIC		
.0000			46-5460309				Red Lake Ventures, LLC	.DE	NIA	Barings LLC	Influence		MLLIC		
.0000			81-4065378				Remington L & W Holdings LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	19.900	MLLIC		
.0000			81-4065378				Remington L & W Holdings LLC	.DE	NIA	Barings LLC	Influence		MLLIC		
.0000							Tamiami Citrus, LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.700	MLLIC		
.0000							Tamiami Citrus, LLC	.DE	NIA	Barings LLC	Management/Board		MLLIC		
.0000							Teaktree Acquisition, LLC	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	14.700	MLLIC		
.0000							Teaktree Acquisition, LLC	.DE	NIA	Barings LLC	Influence		MLLIC		
.0000							Techquity, LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.600	MLLIC		
.0000							Techquity, LP	.DE	NIA	Barings LLC	Influence		MLLIC		
.0000							EIP Holdings I, LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	29.000	MLLIC		
.0000			46-0687392				Validus Holding Company LLC	.DE	NIA	Barings LLC	Ownership	40.400	MLLIC		
.0000							VGS Acquisition Holding, LLC	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	33.300	MLLIC		
.0000							VGS Acquisition Holding, LLC	.DE	NIA	Barings LLC	Management		MLLIC		
.0000							Aland Royalty GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							Alaska Future Fund GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							BAI GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							BAI Funds SLP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							Baring Asset-Based Income Fund (US) GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							Barings CMS Fund GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							Barings Infiniti Fund Management LLC	.DE	NIA	Barings LLC	Ownership	100.000	MLLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000							Barings Hotel Opportunity Venture I GP, LLC	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000							Barings Investment Series LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP II, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings ERS PE Emerging Manager III GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000			04-1590850				Barings Global Investment Funds (U.S.) Management LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings CLO Investment Partners GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Core Property Fund GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Direct Lending GP Ltd.	..CYM.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000			84-3784245				Barings Emerging Generation Fund LP	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	42.600	MMLIC		
.0000			84-3784245				Barings Emerging Generation Fund LP	..DE.....	..NIA.....	Barings LLC	Management.....		MMLIC		
.0000							Barings Global Energy Infrastructure Advisors, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Centre Street CLO Equity Partnership GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings North American Private Loan Fund II Management, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings North American Private Loan Fund III Management, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings - MM Revolver Fund GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BMT RE Debt Fund GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Global Real Assets Fund GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings GPSF LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	33.600	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	..DE.....	..NIA.....	Barings LLC	Management.....		MMLIC		
.0000			98-0536233				Benton Street Advisors, Inc.	..CYM.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BHOVI Incentive LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BIG Real Estate Fund GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BIG Real Estate Incentive I LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BIG Real Estate Incentive II LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BRECS VII GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							BREDIF GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							CREF X GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000			04-1590850				Great Lakes III GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Lake Jackson LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							Barings Emerging Markets Blended Fund I GP, LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000			41-2280126				Mezzco III LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	99.300	MMLIC		
.0000			80-0920285				Mezzco IV LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	99.300	MMLIC		
.0000							Mezzco Australia II LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000							RECSA-NY GP LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		
.0000			04-1590850				SBNP SIA II LLC	..DE.....	..NIA.....	Barings LLC	Ownership.....	100.000	MMLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000							SBNP SIA III LLC	DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000							Amherst Long Term Holdings, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.500	MLLIC		
.0000			04-3313782				MassMutual International LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							MassMutual Solutions LLC	DE	NIA	MassMutual International LLC	Ownership	100.000	MLLIC		
.0000							Haven Technologies Asia Limited	HKG	NIA	MassMutual Solutions LLC	Ownership	100.000	MLLIC		
.0000							Yunfeng Financial Group Limited	HKG	NIA	MassMutual International LLC	Ownership	24.900	MLLIC		
.0000							MassMutual Asia Limited (SPV)	HKG	NIA	MassMutual International LLC	Ownership	100.000	MLLIC		
.0000			04-1590850				MML Mezzanine Investor II, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				MML Mezzanine Investor III, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	11.100	MLLIC		
.0000			27-3576835				MassMutual External Benefits Group LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				2160 Grand Manager LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MLLIC		
.0000			82-2432216				300 South Tryon Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				300 South Tryon LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	72.900	MLLIC		
.0000							Barings Affordable Housing Mortgage Fund I LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Barings Affordable Housing Mortgage Fund I LLC	DE	NIA	Barings LLC	Management		MLLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	DE	NIA	Barings LLC	Management		MLLIC		
.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.900	MLLIC		
.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	DE	NIA	Barings LLC	Management		MLLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	12.800	MLLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	C.M. Life Insurance Company	Ownership/Influence	1.300	MLLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	52.900	MLLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Barings LLC	Ownership	17.100	MLLIC		
.0000							Barings European Real Estate Debt Income Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	67.100	MLLIC		
.0000							Barings European Real Estate Debt Income Fund	LUX	NIA	Barings LLC	Influence		MLLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	MassMutual Holding LLC	Ownership/Influence	20.400	MLLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership		MLLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.700	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	54.600	MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Babson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MMLIC		2
.0000							Babson CLO Ltd. 2015-I	CYM	NIA	Barings LLC	Influence		MMLIC		3
.0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence		MMLIC		4
.0000							Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson CLO Ltd. 2016-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO Ltd. 2017-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2018-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1473665				Barings CLO 2018-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1624360				Barings CLO 2022-I	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence		MMLIC		
.0000							Barings CLO 2022-II	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence		MMLIC		
.0000							Babson Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000			36-037260H				Barings Euro CLO 2019-I BV	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2019-II BV	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2020-I DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000			37-15576VH				Barings Euro CLO 2021-I DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2021-II DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2021-III DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2022-I DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	98.500	MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			88-3792609				Barings Centre Street CLO Equity Partnership LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	23.900	MMLIC		
.0000							Barings Euro Value Add II (BREEVA II)	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	29.700	MMLIC		
.0000							Barings Euro Value Add II (BREEVA II)	LUX	NIA	C.M. Life Insurance Company	Ownership	2.600	MMLIC		

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.0000							Barings Euro Value Add II (BREEVA II)	.LUX	NIA	Barings LLC	Management				
.0000							Barings Real Estate European Value Add I SCSp	.GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	44.200	MLLIC		
.0000							Barings Real Estate European Value Add I SCSp	.GBR	NIA	C.M. Life Insurance Company	Ownership	4.900	MLLIC		
.0000							Barings Real Estate European Value Add I SCSp	.GBR	NIA	Barings LLC	Management		MLLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	82.400	MLLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	.DE	NIA	C.M. Life Insurance Company	Influence		MLLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	.DE	NIA	Barings LLC	Management		MLLIC		
.0000			82-5330194				Barings Global Em. Markets Equity Fund	.NC	NIA	Barings LLC	Management		MLLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	.CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	95.300	MLLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	.CYM	NIA	Baring Asset Management Limited	Management		MLLIC		
.0000							Barings Global Dividends Champion Fund	.IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Europe Select Fund	.IRL	NIA	Barings LLC	Management		MLLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	26.200	MLLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	C.M. Life Insurance Company	Ownership	7.000	MLLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Special Situations Credit Fund 3	.IRL	NIA	MassMutual Holding LLC	Ownership/Influence	19.700	MLLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	67.700	MLLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	.DE	NIA	C.M. Life Insurance Company	Ownership	3.600	MLLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	.DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Special Situations Credit 4 LUX	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	13.300	MLLIC		
.0000							Barings Global Special Situations Credit 4 LUX	.LUX	NIA	C.M. Life Insurance Company	Ownership	0.700	MLLIC		
.0000							Barings Global Special Situations Credit 4 LUX	.LUX	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Special Situations Credit Fund 3	.IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Technology Equity Fund	.IRL	NIA	Barings LLC	Ownership/Influence	73.900	MLLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	.CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	66.000	MLLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	.CT	NIA	Barings LLC	Management		MLLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	33.400	MLLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	.DE	NIA	C.M. Life Insurance Company	Ownership	0.500	MLLIC		
.0000							Barings Middle Market CLO 2017-I Ltd & LLC	.CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Middle Market CLO 2018-I	.CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Middle Market CLO 2019-I	.CYM	NIA	Barings LLC	Influence		MLLIC		
.0000			98-1612604				Barings Middle Market CLO Ltd 2021-I	.CYM	NIA	Barings LLC	Influence		MLLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	36.400	MLLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	Baring Asset Management Limited	Management		MLLIC		

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	33.600	MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	23.600	MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	LUX	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	11.300	MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	7.900	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	88.000	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	MassMutual Holding LLC	Ownership/Influence	7.400	MMLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company	Ownership	0.500	MMLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5001122				Barings European Private Loan Fund III A	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	52.100	MMLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	NY	NIA	Barings LLC	Influence		MMLIC		
.0000							Benchmark 2018-B4	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4096530				Benchmark 2018-B8	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	23.200	MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	38.600	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	C.M. Life Insurance Company	Ownership	4.300	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	98.600	MMLIC		
.0000			90-0991195				Gateway Mezzanine Partners II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	35.200	MMLIC		
.0000			90-0991195				Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.300	MMLIC		
.0000			90-0991195				Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.400	MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	72.600	MMLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	LUX	NIA	Barings LLC	Management		MMLIC		
.0000			38-4041011				JPMCC Commercial Mortgage Securities Trust 2017-JP7	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4032059				JPMDB Commercial Mortgage Securities Trust 2017-C5	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	C.M. Life Insurance Company	Influence	0.000	MMLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000			04-1590850				Miami Douglas Two LP	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
.0000			04-1590850				Miami Douglas Three MM LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	27.000	MMLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.800	MMLIC		
.0000							MM CM Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Direct Private Investment Holding	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Company	Ownership/Influence	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NIA	Company	Ownership/Influence	40.100	MMLIC		
.0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.900	MMLIC		
.0000			35-2553915				Ten Fan Pier Boulevard LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	MassMutual Holding LLC	Ownership/Influence	17.900	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000			04-1590850				Trailside MM Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	66.970	MMLIC		
.0000			04-1590850				Trailside MM Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC		
.0000			04-1590850				Trailside MM Member II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	47.100	MMLIC		
.0000			83-1325764				Washington Gateway Two LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	96.020	MMLIC		
.0000			83-1325764				Washington Gateway Two LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.700	MMLIC		
.0000			32-0574045				Washington Gateway Three LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.380	MMLIC		
.0000			32-0574045				Washington Gateway Three LLC	DE	NIA	C.M. Life Insurance Company	Ownership	11.400	MMLIC		
.0000			88-3861481				West 37th Street Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	93.800	MMLIC		
.0000			88-3861481				West 37th Street Hotel LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.300	MMLIC		
.0000							Martello Re	BMU	NIA	Company	Ownership/Influence		MMLIC		
.0000							Babson Capital Loan Strategies Master Fund LP	CYM	NIA	Barings LLC	Management		MMLIC		
.0000							Barings China Aggregate Bond Private Securities Investment Fund	CHN	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Growth Trust Fund	GBR	NIA	Barings LLC	Ownership/Influence	23.900	MMLIC		
.0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000							CCIC Fund	CHN	NIA	Barings LLC	Ownership/Influence	67.600	MMLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	10.600	MMLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.980	MMLIC		
.0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	40.000	MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Required? (Yes/No)	*
.0000							Barings California Mortgage Fund IV	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund LUX SCSp SICAV RAIF	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		
.0000							Barings Umbrella Fund LUX SCSp SICAV RAIF	LUX	NIA	C.M. Life Insurance Company	Ownership	2.300	MMLIC		
.0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
.0000			82-3307907				Cornbrook PRS Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund I LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund II LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund III LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	28.500	MMLIC		
.0000			82-2783393				Danville Riverwalk Venture, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	94.400	MMLIC		
.0000			04-1590850				DPI Acres Capital SPV LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				Euro Real Estate Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	65.000	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
.0000			04-1590850				GIA EU Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-5360103				Landmark Manchester Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Brookhaven Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC		
.0000			04-1590850				MM East South Crossing Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC		
.0000			04-1590850				MM Horizon Savannah Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC		
.0000			04-1590850				MM Horizon Savannah Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.700	MMLIC		
.0000			04-1590850				MM National Self-Storage Program Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	98.000	MMLIC		
.0000			04-1590850				MM 1400 E 4th Street Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	96.000	MMLIC		
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	94.990	MMLIC		

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	MLLIC		
.0000			04-1590850				PACO France Logistics LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Salomon Brothers Commercial Mortgage Trust 2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MLLIC		
.0000			81-5273574				Three PW Office Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.100	MLLIC		
.0000			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.440	MLLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MLLIC		
.0000			51-0529328				MassMutual Premier Main Street Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	89.110	MLLIC		
.0000			26-3229251				MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	27.790	MLLIC		
.0000			04-3512593				MassMutual Select Fundamental Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.000	MLLIC		
.0000			42-1710935				MassMutual Select Mid-Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.800	MLLIC		
.0000			02-0769954				MassMutual Select Small Capital Value Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			04-3584140				MassMutual Select Small Company Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	8.110	MLLIC		
.0000			82-3347422				MassMutual Select T. Rowe Price Retirement 2005 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	5.490	MLLIC		
.0000			82-3355639				MassMutual Select T. Rowe Price Retirement 2010 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3382389				MassMutual Select T. Rowe Price Retirement 2015 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3396442				MassMutual Select T. Rowe Price Retirement 2020 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3417420				MassMutual Select T. Rowe Price Retirement 2025 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3430358				MassMutual Select T. Rowe Price Retirement 2030 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3439837				MassMutual Select T. Rowe Price Retirement 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3451779				MassMutual Select T. Rowe Price Retirement 2040 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3472295				MassMutual Select T. Rowe Price Retirement 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3481715				MassMutual Select T. Rowe Price Retirement 2050 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3502011				MassMutual Select T. Rowe Price Retirement 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3525148				MassMutual Select T. Rowe Price Retirement 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			82-3533944				MassMutual Select T. Rowe Price Retirement Balanced Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			46-4257056				MML Series International Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000			47-3529636				MML Series II Dynamic Bond Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			47-3544629				MML Series II Equity Rotation Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	95.800	MMLIC		
.0000			27-1933389				MassMutual RetireSMART 2035 Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	3.920	MMLIC		
.0000			27-1932769				MassMutual RetireSMART 2045 Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	9.030	MMLIC		
.0000			46-3289207				MassMutual RetireSMART 2055 Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	22.360	MMLIC		
.0000			47-5326235				MassMutual RetireSMART 2060 Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	45.980	MMLIC		
.0000			45-1618155				MassMutual 20/80 Allocation Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			45-1618222				MassMutual 80/20 Allocation Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	52.970	MMLIC		
.0000			03-0532464				MassMutual RetireSMART In Retirement Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	2.030	MMLIC		
.0000			45-1618262				MassMutual 40/60 Allocation Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			45-1618046				MassMutual 60/40 Allocation Fund	..MANIA	Massachusetts Mutual Life Insurance Company	Ownership	79.870	MMLIC		

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

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
65935	04-1590850	Massachusetts Mutual Life Insurance Company (MMLIC)	1,168,717,502	(916,712,358)	(317,232,840)					(3,861,276,921)	(3,926,504,617)	(39,707,062)
93432	06-1041383	C.M. Life Insurance Company	(134,668,814)	49,313,329							(85,355,485)	15,946,249
70416	43-0581430	MML Bay State Life Insurance Company	(26,000,000)								(26,000,000)	7,439,196
	04-1590850	2160 Grand Manager LLC	0	6,912,006							6,912,006	
	36-4823011	50 Liberty LLC	(2,265,699)	0							(2,265,699)	
	83-0560183	Aland Royalty Holdings LP	0	(12,816,564)							(12,816,564)	
		Barings Affordable Housing Mortgage Fund I LLC	(3,274,932)	(1,276,415)							(4,551,347)	
	61-1902329	Barings Affordable Housing Mortgage Fund II LLC	(2,798,631)	18,881,413							16,082,782	
	85-3036663	Barings Affordable Housing Mortgage Fund III LLC	(1,091,124)	13,746,102							12,654,978	
	36-4868350	Barings Asset-Based Income Fund (US) LP	0	(64,079,457)							(64,079,457)	
		Barings California Mortgage Fund IV	0	8,528,058							8,528,058	
	88-3792609	Barings Centre Street CLO Equity Partnership LP	(155,729)	14,082,607							13,926,878	
	81-0841854	Barings CLO Investment Partners LP	0	(7,814,300)							(7,814,300)	
	84-3784245	Barings Emerging Generation Fund LP	464,054	(6,021,968)							(5,557,914)	
		Barings European Core Property Fund SCSp	(298,185)	0							(298,185)	
	46-5001122	Barings European Private Loan Fund III A	(1,728,256)	36,642,130							34,913,874	
		Barings European Real Estate Debt Income Fund	(7,103,118)	(178,296)							(7,281,414)	
	80-0875475	Barings Finance LLC			249,000,000						249,000,000	
	98-1332384	Barings Global Energy Infrastructure Fund I LP	0	(88,536,092)							(88,536,092)	
		Barings Global Private Loan Fund	(1,084,583)	(9,608,327)							(10,692,910)	
	82-3867745	Barings Global Real Assets Fund LP	0	(48,641,209)							(48,641,209)	
		Barings Global Special Situations Credit 4 Delaware	0	9,452,630							9,452,630	
		Barings Global Special Situations Credit 4 LUX	(22,929)	20,248,189							20,225,260	
		Barings Global Special Situations Credit Fund 3	0	(67,173,413)							(67,173,413)	
	87-0977058	Barings Hotel Opportunity Venture	0	28,310,001							28,310,001	
	86-3661023	Barings Innovations & Growth Real Estate Fund	0	1,837,566							1,837,566	
	38-4010344	Barings North American Private Loan Fund LP	0	(29,714,170)							(29,714,170)	
	98-1332384	Barings RE Credit Strategies VII LP	(4,336,968)	10,405,517							6,068,549	
	85-3449260	Barings Real Estate Debt Income Fund LP	(6,951,123)	49,660,625							42,709,502	
		Barings Real Estate European Value Add I SCSp	(2,655,677)	(12,783,578)							(15,439,255)	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
84-5063008	84-5063008	Barings Small Business Fund LLC	0	5,070,923							5,070,923	
98-1567942	98-1567942	Barings Target Yield Infrastructure Debt Fund	(780,464)	17,834,729							17,054,265	
87-1262754	87-1262754	Barings Transportation Fund LP	(1,717,700)	(38,839,205)							(40,556,905)	
04-1590850	04-1590850	Barings Umbrella Fund LUX SCSp SICAV RAIF	0	17,440,938							17,440,938	
		Berkshire Way LLC	0	100,000							100,000	
		Braemar Energy Ventures I, L.P.	0	(23,909,241)							(23,909,241)	
		CML Special Situations Investor LLC	(123,325)	(477,883)							(601,208)	
82-3307907	82-3307907	Cornbrook PRS Holdings LLC	0	2,948,810							2,948,810	
95-4207717	95-4207717	Cornerstone California Mortgage Fund I LLC	(2,120,062)	(3,831,001)							(5,951,063)	
95-4207717	95-4207717	Cornerstone California Mortgage Fund II LLC	(3,014,895)	(1,075,534)							(4,090,429)	
95-4207717	95-4207717	Cornerstone California Mortgage Fund III LLC	(1,992,194)	3,278,733							1,286,539	
56-2630592	56-2630592	Cornerstone Fort Pierce Development LLC	0	127,154							127,154	
45-2632610	45-2632610	Cornerstone Permanent Mortgage Fund	(3,854,265)	(1,664,123)							(5,518,388)	
61-1750537	61-1750537	Cornerstone Permanent Mortgage Fund II	(3,318,290)	(1,575,706)							(4,893,996)	
61-1793735	61-1793735	Cornerstone Permanent Mortgage Fund IV LLC	(3,458,251)	23,218,181							19,759,930	
46-5432619	46-5432619	Cornerstone Real Estate Fund X LP	(234,046)	(20,273,720)							(20,507,766)	
81-0890084	81-0890084	CREA Madison Member LLC	0	(6,750,000)							(6,750,000)	
20-0348173	20-0348173	CREA/PPC Venture LLC	0	1,680,000							1,680,000	
04-1590850	04-1590850	DPI Acres Capital SPV LLC	0	153,735,043							153,735,043	
		EIP Holdings I, LLC	(246,207)	0							(246,207)	
		EM Opportunities LLC	0	200,000							200,000	
04-1590850	04-1590850	Euro Real Estate Holdings LLC	(3,884,675)	11,060,583							7,175,908	
82-2932156	82-2932156	GASL Holdings LLC	0	(30,164,435)							(30,164,435)	
90-0991195	90-0991195	Gateway Mezzanine Partners II LP	(3,465,147)	(10,301,902)							(13,767,049)	
04-1590850	04-1590850	GIA EU Holdings LLC	(243,146)	58,395,858							58,152,712	
71-1018134	71-1018134	Great Lakes II LLC	(1,313,501)	69,228							(1,244,273)	
37-1708623	37-1708623	Great Lakes III, L.P.	(408,621)	(2,544,589)							(2,953,210)	
04-1590850	04-1590850	Insurance Road LLC	(101,905,052)	80,178,512							(21,726,540)	
46-2344300	46-2344300	Intermodal Holdings II LLC	(553,687)	(593,813)							(1,147,500)	
		JFIN Revolver Fund, L.P.	0	(3,402,700)							(3,402,700)	
82-1512591	82-1512591	KKR-MM Vector LP	(11,460,057)	0							(11,460,057)	
81-5360103	81-5360103	Landmark Manchester Holdings LLC	0	27,285							27,285	
		Martello Re								3,861,276,921	3,861,276,921	
04-2854319	04-2854319	MassMutual Holding LLC	(710,000,000)	639,490,465							(70,509,535)	
04-3313782	04-3313782	MassMutual International LLC	0	16,966,955							16,966,955	
51-0529328	51-0529328	MassMutual Premier Main Street Fund	(41,926)								(41,926)	
26-3229251	26-3229251	MassMutual Premier Strategic Emerging Markets Fund	(14,779)								(14,779)	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES

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NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
04-1590850	03-0532464	MassMutual Private Equity Funds LLC	0	(61,557,808)							(61,557,808)	
		MassMutual RetireSMART In Retirement Fund	(26,131)								(26,131)	
01-0821120	04-3512593	MassMutual Select Diversified Value Fund	(12,691)								(12,691)	
		MassMutual Select Fundamental Growth Fund	(136,422)								(136,422)	
42-1710935	04-3584140	MassMutual Select Mid-Cap Value Fund	(137,855)								(137,855)	
		MassMutual Select Small Company Value Fund	(21,479)								(21,479)	
82-3347422		MassMutual Select T. Rowe Price Retirement 2005 Fund	(3,363)								(3,363)	
82-3439837		MassMutual Select T. Rowe Price Retirement 2035 Fund	(23,305)								(23,305)	
82-3472295		MassMutual Select T. Rowe Price Retirement 2045 Fund	(28,176)								(28,176)	
82-3502011		MassMutual Select T. Rowe Price Retirement 2055 Fund	(269,342)								(269,342)	
82-3525148		MassMutual Select T. Rowe Price Retirement 2060 Fund	(2,842,371)								(2,842,371)	
04-1590850		Miami Douglas Three MM LLC	0	921,729							921,729	
04-1590850		MM 1400 E 4th Street Member LLC	0	16,160,025							16,160,025	
87-4021641		MM BIG Peninsula Co-Invest Member LLC	0	(63,262,654)							(63,262,654)	
04-1590850		MM Brookhaven Member LLC	0	6,155,588							6,155,588	
		MM CM Holding LLC	0	23,746,742							23,746,742	
04-1590850		MM Copper Hill Road LLC	0	2,925,552							2,925,552	
81-3000420		MM Debt Participations LLC	0	200,000							200,000	
04-1590850		MM Direct Private Investment Holding	0	6,260,000							6,260,000	
04-1590850		MM East South Crossing Member LLC	0	4,229,005							4,229,005	
		MM Global Capabilities I LLC	0	(360)							(360)	
04-1590850		MM Horizon Savannah Member LLC	0	17,008,704							17,008,704	
		MM Investment Holding			68,232,840						68,232,840	
04-1590850		MM National Self-Storage Program Member LLC	(30,173)	84,139,244							84,109,071	
04-1590850		MM Rothesay Holdco US LLC		20,914,665							20,914,665	
		MML Investment Advisers, LLC	(62,028,998)	3							(62,028,995)	
04-1590850		MML Private Equity Fund Investor LLC	(32,952,546)	(12,352,485)							(45,305,031)	
47-3517233		MML Series II Asset Momentum Fund		(379,749)							(379,749)	
47-3544629		MML Series II Equity Rotation Fund	(5,090,592)								(5,090,592)	
47-3559064		MML Series II Special Situations Fund	(858,471)								(858,471)	
		MML Special Situations Investor LLC	0	(29,817,476)							(29,817,476)	
04-1590850		New Haven Holdco LLC	0	35,000,000							35,000,000	
85-3886824		NYDIG Digital Assets Fund II LP	(885,338)	9,880,982							8,995,644	
80-0948028		One Harbor Shore LLC	0	992,866							992,866	
04-1590850		PACO France Logistics LLC	0	(432,805)							(432,805)	
46-5460309		Red Lake Ventures, LLC	0	31,515							31,515	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
		Rothesay Life Plc									0	16,321,617
	27-2977720	Sawgrass Village Shopping Center LLC	(893,280)	(681,720)							(1,575,000)	
	20-8856877	Somerset Special Opportunities Fund L.P.	(2,323,093)	0							(2,323,093)	
		STOA Holding LLC	(403,180)	0							(403,180)	
		Tamiami Citrus, LLC	0	4,801							4,801	
	06-1563535	The MassMutual Trust Company, FSB	(5,000,000)								(5,000,000)	
	81-5273574	Three PW Office Holding LLC	0	6,777,930							6,777,930	
	47-5322979	Timberland Forest Holding LLC	0	(1,073,000)							(1,073,000)	
	41-2280129	Tower Square Capital Partners IIIA, L.P.	1,207,723	(7,827,826)							(6,620,103)	
	04-1590850	Trailside MM Member II LLC	0	1,413,615							1,413,615	
	04-1590850	Trailside MM Member LLC	0	(2,333,662)							(2,333,662)	
	35-2484550	Twenty Two Liberty LLC	(3,025,018)	0							(3,025,018)	
	82-3250684	Unna, Dortmund Holding LLC	(427,412)	(564,532)							(991,944)	
	45-5401109	Washington Gateway Apartments Venture LLC										
			(2,352,752)	932,300							(1,420,452)	
	32-0574045	Washington Gateway Three LLC	0	11,274,007							11,274,007	
	88-3861481	West 37th Street Hotel LLC	(1,651,484)	41,851,484							40,200,000	
	9999999	Control Totals							xxx			

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE Y

PART 3 - ULTIMATE CONTROLLING PARTY AND LISTING OF OTHER U.S. INSURANCE GROUPS OR ENTITIES UNDER THAT ULTIMATE CONTROLLING PARTY'S CONTROL

1 Insurers in Holding Company	2 Owners with Greater Than 10% Ownership	3 Ownership Percentage Column 2 of Column 1	4 Granted Disclaimer of Control/ Affiliation of Column 2 Over Column 1 (Yes/No)	5 Ultimate Controlling Party	6 U.S. Insurance Groups or Entities Controlled by Column 5	7 Ownership Percentage (Column 5 of Column 6)	8 Granted Disclaimer of Control/ Affiliation of Column 5 Over Column 6 (Yes/No)
Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO
C.M. Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO
MML Bay State Life Insurance Company	C.M. Life Insurance Company	100.000	NO	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO
MassMutual Ascend Life Insurance Company	Glidepath Holdings Inc.	100.000	NO	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO
Annuity Investors Life Insurance Company	MassMutual Ascend Life Insurance Company	100.000	NO	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO
Manhattan National Life Insurance Company	Manhattan National Holding LLC	100.000	NO	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	NO

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

REQUIRED FILINGS

The following supplemental reports are required to be filed as part of your statement filing unless specifically waived by the domiciliary state. However, in the event that your domiciliary state waives the filing requirement, your response of WAIVED to the specific interrogatory will be accepted in lieu of filing a "NONE" report and a bar code will be printed below. If the supplement is required of your company but is not being filed for whatever reason enter SEE EXPLANATION and provide an explanation following the interrogatory questions.

	Responses
MARCH FILING	
1. Will the Supplemental Compensation Exhibit be filed with the state of domicile by March 1?	YES
2. Will the confidential Risk-based Capital Report be filed with the NAIC by March 1?	YES
3. Will the confidential Risk-based Capital Report be filed with the state of domicile, if required, by March 1?	YES
4. Will an actuarial opinion be filed by March 1?	YES
APRIL FILING	
5. Will Management's Discussion and Analysis be filed by April 1?	YES
6. Will the Life, Health & Annuity Guaranty Association Assessable Premium Exhibit - Parts 1 and 2 be filed with the state of domicile and the NAIC by April 1? (Not applicable to fraternal benefit societies)	YES
7. Will the Supplemental Investment Risks Interrogatories be filed by April 1?	YES
JUNE FILING	
8. Will an audited financial report be filed by June 1?	YES
9. Will Accountant's Letter of Qualifications be filed with the state of domicile and electronically with the NAIC by June 1?	YES

SUPPLEMENTAL FILINGS

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

MARCH FILING

10. Will Schedule SIS (Stockholder Information Supplement) be filed with the state of domicile by March 1? (Not applicable to fraternal benefit societies) ..	NO
11. Will the Medicare Supplement Insurance Experience Exhibit be filed with the state of domicile and the NAIC by March 1?	YES
12. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC by March 1?	NO
13. Will the actuarial opinion on participating and non-participating policies as required in Interrogatories 1 and 2 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1?	YES
14. Will the actuarial opinion on non-guaranteed elements as required in interrogatory #3 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1?	YES
15. Will the actuarial opinion on X-Factors be filed with the state of domicile and electronically with the NAIC by March 1?	YES
16. Will the actuarial opinion on Separate Accounts Funding Guaranteed Minimum Benefit be filed with the state of domicile and electronically with the NAIC by March 1?	NO
17. Will the actuarial opinion on Synthetic Guaranteed Investment Contracts be filed with the state of domicile and electronically with the NAIC by March 1?	NO
18. Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1?	NO
19. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1?	YES
20. Will the Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI be filed with the state of domicile and electronically with the NAIC by March 1?	NO
21. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Average Market Value) be filed with the state of domicile and electronically with the NAIC by March 1?	NO
22. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) be filed with the state of domicile and electronically with the NAIC by March 1?	NO
23. Will the C-3 RBC Certifications required under C-3 Phase I be filed with the state of domicile and electronically with the NAIC by March 1?	YES
24. Will the C-3 RBC Certifications required under C-3 Phase II be filed with the state of domicile and electronically with the NAIC by March 1?	YES
25. Will the Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities be filed with the state of domicile and electronically with the NAIC by March 1?	NO

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

- 26. Will the actuarial opinion required by the Modified Guaranteed Annuity Model Regulation be filed with the state of domicile and electronically with the NAIC by March 1? NO
- 27. Will the Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities be filed with the state of domicile and electronically with the NAIC by March 1? NO
- 28. Will the Worker's Compensation Carve-Out Supplement be filed by March 1? (Not applicable to fraternal benefit societies) NO
- 29. Will Supplemental Schedule O be filed with the state of domicile and the NAIC by March 1? YES
- 30. Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC by March 1? NO
- 31. Will an approval from the reporting entity's state of domicile for relief related to the five-year rotation requirement for lead audit partner be filed electronically with the NAIC by March 1? NO
- 32. Will an approval from the reporting entity's state of domicile for relief related to the one-year cooling off period for independent CPA be filed electronically with the NAIC by March 1? NO
- 33. Will an approval from the reporting entity's state of domicile for relief related to the Requirements for Audit Committees be filed electronically with the NAIC by March 1? NO
- 34. Will the VM-20 Reserves Supplement be filed with the state of domicile and the NAIC by March 1? YES
- 35. Will the Health Care Receivables Supplement be filed with the state of domicile and the NAIC by March 1? NO

APRIL FILING

- 36. Will the confidential Regulatory Asset Adequacy Issues Summary (RAAIS) required by the Valuation Manual be filed with the state of domicile by April 1? YES
- 37. Will the Long-Term Care Experience Reporting Forms be filed with the state of domicile and the NAIC by April 1? YES
- 38. Will the Credit Insurance Experience Exhibit be filed with the state of domicile and the NAIC by April 1? (Not applicable to fraternal benefit societies) .. NO
- 39. Will the Accident and Health Policy Experience Exhibit be filed by April 1? YES
- 40. Will the Supplemental Health Care Exhibit (Parts 1, 2 and 3) be filed with the state of domicile and the NAIC by April 1? NO
- 41. Will the regulator only (non-public) Supplemental Health Care Exhibit's Expense Allocation Report be filed with the state of domicile and the NAIC by April 1? NO
- 42. Will the confidential Actuarial Memorandum required by Actuarial Guideline XXXVIII 8D be filed with the state of domicile by April 30? NO
- 43. Will the Supplemental Term and Universal Life Insurance Reinsurance Exhibit be filed with the state of domicile and the NAIC by April 1? YES
- 44. Will the Variable Annuities Supplement be filed with the state of domicile and the NAIC by April 1? YES
- 45. Will the confidential Executive Summary of the PBR Actuarial Report be filed with the state of domicile by April 1? YES
- 46. Will the confidential Life Summary of the PBR Actuarial Report be filed with the state of domicile by April 1? NO
- 47. Will the confidential Variable Annuities Summary of the PBR Actuarial Report be filed with the state of domicile by April 1? YES

AUGUST FILING

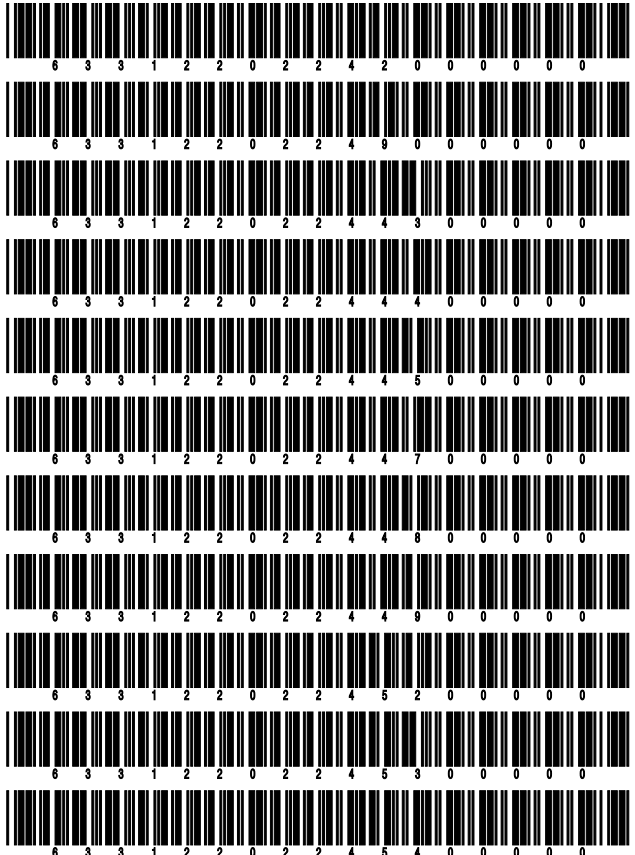
- 48. Will Management's Report of Internal Control Over Financial Reporting be filed with the state of domicile by August 1? YES

Explanations:

- 10. The data for this supplement is not required to be filed.
- 12. The data for this supplement is not required to be filed.
- 16. The data for this supplement is not required to be filed.
- 17. The data for this supplement is not required to be filed.
- 18. The data for this supplement is not required to be filed.
- 20. The data for this supplement is not required to be filed.
- 21. The data for this supplement is not required to be filed.
- 22. The data for this supplement is not required to be filed.
- 25. The data for this supplement is not required to be filed.
- 26. The data for this supplement is not required to be filed.
- 27. The data for this supplement is not required to be filed.
- 28. The data for this supplement is not required to be filed.
- 30. The data for this supplement is not required to be filed.
- 31. The data for this supplement is not required to be filed.
- 32. The data for this supplement is not required to be filed.
- 33. The data for this supplement is not required to be filed.
- 35. The data for this supplement is not required to be filed.
- 38. The data for this supplement is not required to be filed.
- 40. The data for this supplement is not required to be filed.
- 41. The data for this supplement is not required to be filed.
- 42. The data for this supplement is not required to be filed.
- 46. The data for this supplement is not required to be filed.

Bar Codes:

- 10. SIS Stockholder Information Supplement [Document Identifier 420]
- 12. Trusteed Surplus Statement [Document Identifier 490]
- 16. Actuarial Opinion on Separate Accounts Funding Guaranteed Minimum Benefit [Document Identifier 443]
- 17. Actuarial Opinion on Synthetic Guaranteed Investment Contracts [Document Identifier 444]
- 18. Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]
- 20. Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
- 21. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]
- 22. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]
- 25. Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities [Document Identifier 452]
- 26. Modified Guaranteed Annuity Model Regulation [Document Identifier 453]
- 27. Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities [Document Identifier 454]



SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

28. Workers' Compensation Carve-Out Supplement [Document Identifier 495]



30. Medicare Part D Coverage Supplement [Document Identifier 365]



31. Relief from the five-year rotation requirement for lead audit partner [Document Identifier 224]



32. Relief from the one-year cooling off period for independent CPA [Document Identifier 225]



33. Relief from the Requirements for Audit Committees [Document Identifier 226]



35. Health Care Receivables Supplement [Document Identifier 470]



38. Credit Insurance Experience Exhibit [Document Identifier 230]



40. Supplemental Health Care Exhibit (Parts 1, 2 and 3) [Document Identifier 216]



41. Supplemental Health Care Exhibit's Expense Allocation Report [Document Identifier 217]



42. Actuarial Memorandum Required by Actuarial Guideline XXXVIII 8D [Document Identifier 435]



46. Life Summary of the PBR Actuarial Report [Document Identifier 458]



ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Assets Line 25

	Current Year			Prior Year
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols: 1 - 2)	4 Net Admitted Assets
2504. Funds held as collateral			0	408,306,658
2597. Summary of remaining write-ins for Line 25 from overflow page	0	0	0	408,306,658

Additional Write-ins for Liabilities Line 25

	1 Current Year	2 Prior Year
2504. Interest rate swap collateral payable		27,756,100
2597. Summary of remaining write-ins for Line 25 from overflow page	0	27,756,100

Additional Write-ins for Summary of Operations Line 8.3

	1 Current Year	2 Prior Year
08.304. Miscellaneous income	87,840	192,990
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	87,840	192,990

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Analysis of Operations - Summary Line 8.3

	1	2	3	4	5	6	7	8	9
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Fraternal	Other Lines of Business	YRT Mortality Risk Only
08.304. Miscellaneous income	87,840			83,031	4,809				
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	87,840	0	0	83,031	4,809	0	0	0	0

SUMMARY INVESTMENT SCHEDULE

Investment Categories	Gross Investment Holdings		Admitted Assets as Reported in the Annual Statement			
	1 Amount	2 Percentage of Column 1 Line 13	3 Amount	4 Securities Lending Reinvested Collateral Amount	5 Total (Col. 3 + 4) Amount	6 Percentage of Column 5 Line 13
1. Long-Term Bonds (Schedule D, Part 1):						
1.01 U.S. governments	98,902,747	0.237	98,902,747		98,902,747	0.237
1.02 All other governments	19,164,997	0.046			0	0.000
1.03 U.S. states, territories and possessions, etc. guaranteed	190,684,775	0.457	190,684,775		190,684,775	0.457
1.04 U.S. political subdivisions of states, territories, and possessions, guaranteed	272,686,233	0.654	272,686,233		272,686,233	0.654
1.05 U.S. special revenue and special assessment obligations, etc. non-guaranteed	1,691,650,066	4.058	1,691,650,066		1,691,650,066	4.058
1.06 Industrial and miscellaneous	27,641,259,241	66.301	22,076,250,674		22,076,250,674	52.953
1.07 Hybrid securities	634,223,003	1.521	535,342,223		535,342,223	1.284
1.08 Parent, subsidiaries and affiliates	505,922,314	1.214	120,467,571		120,467,571	0.289
1.09 SVO identified funds						
1.10 Unaffiliated bank loans	2,277,410,910	5.463	8,345,919,997		8,345,919,997	20.019
1.11 Unaffiliated certificates of deposit						
1.12 Total long-term bonds	33,331,904,286	79.951	33,331,904,286	0	33,331,904,286	79.951
2. Preferred stocks (Schedule D, Part 2, Section 1):						
2.01 Industrial and miscellaneous (Unaffiliated)	184,968,184	0.444	184,968,184		184,968,184	0.444
2.02 Parent, subsidiaries and affiliates						
2.03 Total preferred stocks	184,968,184	0.444	184,968,184	0	184,968,184	0.444
3. Common stocks (Schedule D, Part 2, Section 2):						
3.01 Industrial and miscellaneous Publicly traded (Unaffiliated)	113,553,887	0.272	113,553,887		113,553,887	0.272
3.02 Industrial and miscellaneous Other (Unaffiliated)	167,829,721	0.403	167,829,721		167,829,721	0.403
3.03 Parent, subsidiaries and affiliates Publicly traded						
3.04 Parent, subsidiaries and affiliates Other	401,901,977	0.964	401,901,977		401,901,977	0.964
3.05 Mutual funds						
3.06 Unit investment trusts						
3.07 Closed-end funds						
3.08 Exchange traded funds						
3.09 Total common stocks	683,285,585	1.639	683,285,585	0	683,285,585	1.639
4. Mortgage loans (Schedule B):						
4.01 Farm mortgages						
4.02 Residential mortgages	1,802,764,160	4.324	1,802,764,160		1,802,764,160	4.324
4.03 Commercial mortgages	1,263,455,753	3.031	1,263,455,753		1,263,455,753	3.031
4.04 Mezzanine real estate loans	22,593,648	0.054	22,593,648		22,593,648	0.054
4.05 Total valuation allowance						
4.06 Total mortgage loans	3,088,813,561	7.409	3,088,813,561	0	3,088,813,561	7.409
5. Real estate (Schedule A):						
5.01 Properties occupied by company						
5.02 Properties held for production of income						
5.03 Properties held for sale						
5.04 Total real estate						
6. Cash, cash equivalents and short-term investments:						
6.01 Cash (Schedule E, Part 1)	65,861,003	0.158	65,861,003		65,861,003	0.158
6.02 Cash equivalents (Schedule E, Part 2)	1,535,691,774	3.684	1,535,691,774		1,535,691,774	3.684
6.03 Short-term investments (Schedule DA)	389,684,178	0.935	389,684,178		389,684,178	0.935
6.04 Total cash, cash equivalents and short-term investments	1,991,236,955	4.776	1,991,236,955	0	1,991,236,955	4.776
7. Contract loans	31,459,162	0.075	31,459,162		31,459,162	0.075
8. Derivatives (Schedule DB)	872,965,902	2.094	872,965,902		872,965,902	2.094
9. Other invested assets (Schedule BA)	1,363,435,253	3.270	1,363,435,253		1,363,435,253	3.270
10. Receivables for securities	142,312,266	0.341	142,312,266		142,312,266	0.341
11. Securities Lending (Schedule DL, Part 1).....				XXX	XXX	XXX
12. Other invested assets (Page 2, Line 11)						
13. Total invested assets	41,690,381,154	100.000	41,690,381,154	0	41,690,381,154	100.000

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE A - VERIFICATION BETWEEN YEARS

Real Estate

1.	Book/adjusted carrying value, December 31 of prior year	0
2.	Cost of acquired:	
	2.1 Actual cost at time of acquisition (Part 2, Column 6)	0
	2.2 Additional investment made after acquisition (Part 2, Column 9)	0
3.	Current year change in encumbrances:	
	3.1 Totals, Part 1, Column 13	0
	3.2 Totals, Part 3, Column 11	0
4.	Total gain (loss) on disposals, Part 3, Column 18	0
5.	Deduct amounts received on disposals, Part 3, Column 15	0
6.	Total foreign exchange change in book/adjusted carrying value:	
	6.1 Totals, Part 1, Column 15	0
	6.2 Totals, Part 3, Column 13	0
7.	Deduct current year's other than temporary impairment recognized:	
	7.1 Totals, Part 1, Column 12	0
	7.2 Totals, Part 3, Column 10	0
8.	Deduct current year's depreciation:	
	8.1 Totals, Part 1, Column 11	0
	8.2 Totals, Part 3, Column 9	0
9.	Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)	0
10.	Deduct total nonadmitted amounts	0
11.	Statement value at end of current period (Line 9 minus Line 10)	0

SCHEDULE B - VERIFICATION BETWEEN YEARS

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	2,148,469,101
2.	Cost of acquired:	
	2.1 Actual cost at time of acquisition (Part 2, Column 7)	1,426,971,997
	2.2 Additional investment made after acquisition (Part 2, Column 8)	43,507,818
3.	Capitalized deferred interest and other:	
	3.1 Totals, Part 1, Column 12	153,558
	3.2 Totals, Part 3, Column 11	928,049
4.	Accrual of discount	13,017,034
5.	Unrealized valuation increase (decrease):	
	5.1 Totals, Part 1, Column 9	0
	5.2 Totals, Part 3, Column 8	0
6.	Total gain (loss) on disposals, Part 3, Column 18	0
7.	Deduct amounts received on disposals, Part 3, Column 15	537,024,492
8.	Deduct amortization of premium and mortgage interest points and commitment fees	7,209,504
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest:	
	9.1 Totals, Part 1, Column 13	0
	9.2 Totals, Part 3, Column 13	0
10.	Deduct current year's other than temporary impairment recognized:	
	10.1 Totals, Part 1, Column 11	0
	10.2 Totals, Part 3, Column 10	0
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	3,088,813,561
12.	Total valuation allowance	
13.	Subtotal (Line 11 plus 12)	3,088,813,561
14.	Deduct total nonadmitted amounts	0
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14)	3,088,813,561

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - VERIFICATION BETWEEN YEARS

Other Long-Term Invested Assets

1.	Book/adjusted carrying value, December 31 of prior year	1,092,315,061
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 8)	34,554,124
2.2	Additional investment made after acquisition (Part 2, Column 9)	386,006,631
		420,560,753
3.	Capitalized deferred interest and other:	
3.1	Totals, Part 1, Column 16	0
3.2	Totals, Part 3, Column 12	0
		0
4.	Accrual of discount	0
5.	Unrealized valuation increase (decrease):	
5.1	Totals, Part 1, Column 13	131,001,321
5.2	Totals, Part 3, Column 9	(710,253)
		130,291,068
6.	Total gain (loss) on disposals, Part 3, Column 19	(362,017)
7.	Deduct amounts received on disposals, Part 3, Column 16	291,108,114
8.	Deduct amortization of premium and depreciation	1,983,147
9.	Total foreign exchange change in book/adjusted carrying value:	
9.1	Totals, Part 1, Column 17	7,800
9.2	Totals, Part 3, Column 14	0
		7,800
10.	Deduct current year's other than temporary impairment recognized:	
10.1	Totals, Part 1, Column 15	(13,713,847)
10.2	Totals, Part 3, Column 11	0
		(13,713,847)
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	1,363,435,250
12.	Deduct total nonadmitted amounts	
13.	Statement value at end of current period (Line 11 minus Line 12)	1,363,435,250

SCHEDULE D - VERIFICATION BETWEEN YEARS

Bonds and Stocks

1.	Book/adjusted carrying value, December 31 of prior year	32,199,605,856
2.	Cost of bonds and stocks acquired, Part 3, Column 7	16,491,151,584
3.	Accrual of discount	161,977,324
4.	Unrealized valuation increase (decrease):	
4.1	Part 1, Column 12	(14,197,165)
4.2	Part 2, Section 1, Column 15	(42,762,430)
4.3	Part 2, Section 2, Column 13	2,856,468
4.4	Part 4, Column 11	0
		(54,103,127)
5.	Total gain (loss) on disposals, Part 4, Column 19	51,389,809
6.	Deduction consideration for bonds and stocks disposed of, Part 4, Column 7	14,559,739,657
7.	Deduct amortization of premium	59,049,938
8.	Total foreign exchange change in book/adjusted carrying value:	
8.1	Part 1, Column 15	8,850,307
8.2	Part 2, Section 1, Column 19	0
8.3	Part 2, Section 2, Column 16	0
8.4	Part 4, Column 15	0
		8,850,307
9.	Deduct current year's other than temporary impairment recognized:	
9.1	Part 1, Column 14	17,457,754
9.2	Part 2, Section 1, Column 17	4,387,814
9.3	Part 2, Section 2, Column 14	14,315,906
9.4	Part 4, Column 13	4,366,380
		40,527,854
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees, Note 5Q, Line 2	603,750
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	34,200,158,053
12.	Deduct total nonadmitted amounts	0
13.	Statement value at end of current period (Line 11 minus Line 12)	34,200,158,053

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND 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	98,902,747	63,969,575	98,902,747	541,297,800
	2. Canada				
	3. Other Countries	19,164,997	17,782,764	19,164,997	18,715,000
	4. Totals	118,067,744	81,752,339	118,067,744	560,012,800
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals	190,684,775	183,055,580	190,684,775	182,325,728
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6. Totals	272,686,233	268,730,922	272,686,233	266,685,067
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	1,691,650,066	1,536,952,443	1,691,642,721	1,659,493,518
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans, Unaffiliated Certificates of Deposit and Hybrid Securities (unaffiliated)	8. United States	29,498,409,295	26,514,630,454	29,545,314,656	29,693,662,146
	9. Canada	412,322,597	365,021,577	412,322,597	403,327,986
	10. Other Countries	642,161,262	620,889,192	660,317,809	699,334,272
	11. Totals	30,552,893,154	27,500,541,223	30,617,955,062	30,796,324,404
Parent, Subsidiaries and Affiliates	12. Totals	505,922,314	449,912,380	503,849,582	505,114,616
	13. Total Bonds	33,331,904,286	30,020,944,887	33,394,886,117	33,969,956,133
PREFERRED STOCKS					
Industrial and Miscellaneous (unaffiliated)	14. United States	180,476,094	192,094,644	161,086,017	
	15. Canada	0	0	0	
	16. Other Countries	4,492,090	6,230,778	11,564,349	
	17. Totals	184,968,184	198,325,422	172,650,366	
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks	184,968,184	198,325,422	172,650,366	
COMMON STOCKS					
Industrial and Miscellaneous (unaffiliated), Mutual Funds, Unit Investment Trusts, Closed-End Funds and Exchange Traded Funds	20. United States	257,711,078	257,711,079	208,933,611	
	21. Canada	0	0	0	
	22. Other Countries	23,672,530	23,672,531	11,598,667	
	23. Totals	281,383,608	281,383,610	220,532,278	
Parent, Subsidiaries and Affiliates	24. Totals	401,901,977	401,901,977	236,348,177	
	25. Total Common Stocks	683,285,585	683,285,587	456,880,455	
	26. Total Stocks	868,253,769	881,611,009	629,530,821	
	27. Total Bonds and Stocks	34,200,158,055	30,902,555,896	34,024,416,938	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 1A - SECTION 1

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 12.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
1. U.S. Governments												
1.1 NAIC 1	10,774,533	33,777,722	26,070,426	21,972,663	6,307,403	XXX	98,902,747	0.3	103,557,216	0.3	98,902,748	(1)
1.2 NAIC 2	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
1.3 NAIC 3	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
1.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
1.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
1.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
1.7 Totals	10,774,533	33,777,722	26,070,426	21,972,663	6,307,403	XXX	98,902,747	0.3	103,557,216	0.3	98,902,748	(1)
2. All Other Governments												
2.1 NAIC 1	1,047,652	5,388,697	2,120,139	2,592,782	0	XXX	11,149,270	0.0	17,697,338	0.1	0	11,149,270
2.2 NAIC 2	0	0	4,015,727	0	0	XXX	4,015,727	0.0	0	0.0	0	4,015,727
2.3 NAIC 3	361,821	1,283,596	1,314,295	1,040,287	0	XXX	3,999,999	0.0	0	0.0	0	3,999,999
2.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
2.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
2.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
2.7 Totals	1,409,473	6,672,293	7,450,161	3,633,069	0	XXX	19,164,996	0.1	17,697,338	0.1	0	19,164,996
3. U.S. States, Territories and Possessions etc., Guaranteed												
3.1 NAIC 1	6,697,295	97,732,881	80,152,426	6,102,171	0	XXX	190,684,773	0.5	302,358,798	1.0	190,684,774	(1)
3.2 NAIC 2	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
3.3 NAIC 3	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
3.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
3.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
3.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
3.7 Totals	6,697,295	97,732,881	80,152,426	6,102,171	0	XXX	190,684,773	0.5	302,358,798	1.0	190,684,774	(1)
4. U.S. Political Subdivisions of States, Territories and Possessions, Guaranteed												
4.1 NAIC 1	60,456,501	99,917,594	61,483,132	40,068,310	1,759,227	XXX	263,684,764	0.8	354,592,511	1.1	263,684,763	1
4.2 NAIC 2	0	0	0	0	0	XXX	0	0.0	1,170,625	0.0	0	0
4.3 NAIC 3	0	9,001,470	0	0	0	XXX	9,001,470	0.0	8,698,935	0.0	9,001,470	0
4.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
4.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
4.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
4.7 Totals	60,456,501	108,919,064	61,483,132	40,068,310	1,759,227	XXX	272,686,234	0.8	364,462,071	1.1	272,686,233	1
5. U.S. Special Revenue & Special Assessment Obligations, etc., Non-Guaranteed												
5.1 NAIC 1	139,028,085	554,583,408	460,123,130	401,163,534	136,749,552	XXX	1,691,647,709	4.8	2,199,489,716	6.9	1,690,553,514	1,094,195
5.2 NAIC 2	0	0	0	0	0	XXX	0	0.0	30,812,446	0.1	0	0
5.3 NAIC 3	0	0	0	0	0	XXX	0	0.0	3,876,363	0.0	0	0
5.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
5.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
5.6 NAIC 6	2,271	87	0	0	0	XXX	2,358	0.0	0	0.0	0	2,358
5.7 Totals	139,030,356	554,583,495	460,123,130	401,163,534	136,749,552	XXX	1,691,650,067	4.8	2,234,178,525	7.0	1,690,553,514	1,096,553

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 1A - SECTION 1 (Continued)

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 12.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
6. Industrial & Miscellaneous (Unaffiliated)												
6.1 NAIC 1	1,982,511,537	3,257,446,658	3,826,999,942	1,794,610,964	1,434,402,848	XXX	12,295,971,949	35.2	14,535,761,121	45.7	2,814,439,157	9,481,532,792
6.2 NAIC 2	2,035,928,268	5,374,546,952	4,487,345,565	2,226,351,809	1,167,900,356	XXX	15,292,072,950	43.8	11,850,286,448	37.3	7,269,035,914	8,023,037,036
6.3 NAIC 3	81,488,784	454,472,991	617,719,179	47,683,711	27,989,795	XXX	1,229,354,460	3.5	630,125,430	2.0	309,479,219	919,875,241
6.4 NAIC 4	37,890,586	135,770,207	95,101,346	32,689,052	0	XXX	301,451,191	0.9	335,105,438	1.1	58,991,241	242,459,950
6.5 NAIC 5	26,132,614	25,767,667	47,052,825	9,504,671	1,054,746	XXX	109,512,523	0.3	33,697,032	0.1	13,821,125	95,691,398
6.6 NAIC 6	7,374,987	9,001,962	3,716,869	3,768,284	6,715,947	XXX	30,578,049	0.1	33,948,739	0.1	2,305,792	28,272,257
6.7 Totals	4,171,326,776	9,257,006,437	9,077,935,726	4,114,608,491	2,638,063,692	XXX	29,258,941,122	83.7	27,418,924,209	86.3	10,468,072,448	18,790,868,674
7. Hybrid Securities												
7.1 NAIC 1	0	43,000,371	47,502,605	20,835,000	9,086,979	XXX	120,424,955	0.3	35,764,962	0.1	4,243,080	116,181,875
7.2 NAIC 2	26,530,613	77,704,417	127,422,079	28,044,871	197,269,732	XXX	456,971,712	1.3	6,709,091	0.0	363,280,769	93,690,943
7.3 NAIC 3	0	13,000,000	0	0	43,826,336	XXX	56,826,336	0.2	0	0.0	46,826,336	10,000,000
7.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
7.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
7.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
7.7 Totals	26,530,613	133,704,788	174,924,684	48,879,871	250,183,047	XXX	634,223,003	1.8	42,474,053	0.1	414,350,185	219,872,818
8. Parent, Subsidiaries and Affiliates												
8.1 NAIC 1	15,531,126	95,688,004	123,843,346	83,549,327	43,784,521	XXX	362,396,324	1.0	0	0.0	0	362,396,324
8.2 NAIC 2	421,856	41,976,140	47,522,369	9,037,060	0	XXX	98,957,425	0.3	0	0.0	0	98,957,425
8.3 NAIC 3	3,922,124	3,836,294	15,382,536	2,327,610	0	XXX	25,468,564	0.1	0	0.0	0	25,468,564
8.4 NAIC 4	55,795	201,143	18,813,667	29,394	0	XXX	19,099,999	0.1	0	0.0	0	19,099,999
8.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
8.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	0	0.0	0	0
8.7 Totals	19,930,901	141,701,581	205,561,918	94,943,391	43,784,521	XXX	505,922,312	1.4	0	0.0	0	505,922,312
9. SVO Identified Funds												
9.1 NAIC 1	XXX	XXX	XXX	XXX	XXX	0	0	0.0	0	0.0	0	0
9.2 NAIC 2	XXX	XXX	XXX	XXX	XXX	0	0	0.0	0	0.0	0	0
9.3 NAIC 3	XXX	XXX	XXX	XXX	XXX	0	0	0.0	0	0.0	0	0
9.4 NAIC 4	XXX	XXX	XXX	XXX	XXX	0	0	0.0	0	0.0	0	0
9.5 NAIC 5	XXX	XXX	XXX	XXX	XXX	0	0	0.0	0	0.0	0	0
9.6 NAIC 6	XXX	XXX	XXX	XXX	XXX	0	0	0.0	0	0.0	0	0
9.7 Totals	XXX	XXX	XXX	XXX	XXX							
10. Unaffiliated Bank Loans												
10.1 NAIC 1	573,522	343,629,480	71,571,570	74,581,810	1,290,891	XXX	491,647,273	1.4	518,920,565	1.6	0	491,647,273
10.2 NAIC 2	2,169,990	1,321,576,862	64,511,310	31,346,027	0	XXX	1,419,604,189	4.1	405,857,710	1.3	0	1,419,604,189
10.3 NAIC 3	12,901,589	74,025,488	32,109,489	12,594,567	0	XXX	131,631,133	0.4	120,256,109	0.4	0	131,631,133
10.4 NAIC 4	0	80,579,114	53,073,825	0	408,485	XXX	134,061,424	0.4	210,170,815	0.7	0	134,061,424
10.5 NAIC 5	153,463	73,426,459	26,297,001	0	0	XXX	99,876,923	0.3	36,261,338	0.1	0	99,876,923
10.6 NAIC 6	74,268	0	0	0	515,698	XXX	589,966	0.0	29,089	0.0	0	589,966
10.7 Totals	15,872,832	1,893,237,403	247,563,195	118,522,404	2,215,074	XXX	2,277,410,908	6.5	1,291,495,626	4.1	0	2,277,410,908
11. Unaffiliated Certificates of Deposit												
11.1 NAIC 1	0	0	0	0	0	XXX	0	0.0	XXX	XXX	0	0
11.2 NAIC 2	0	0	0	0	0	XXX	0	0.0	XXX	XXX	0	0
11.3 NAIC 3	0	0	0	0	0	XXX	0	0.0	XXX	XXX	0	0
11.4 NAIC 4	0	0	0	0	0	XXX	0	0.0	XXX	XXX	0	0
11.5 NAIC 5	0	0	0	0	0	XXX	0	0.0	XXX	XXX	0	0
11.6 NAIC 6	0	0	0	0	0	XXX	0	0.0	XXX	XXX	0	0
11.7 Totals						XXX			XXX	XXX		

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 1A - SECTION 1 (Continued)

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 12.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
12. Total Bonds Current Year												
12.1 NAIC 1	(d) 2,216,620,251	4,531,164,815	4,699,866,716	2,445,476,561	1,633,381,421	0	15,526,509,764	44.4	XXX	XXX	5,062,508,036	10,464,001,728
12.2 NAIC 2	(d) 2,065,050,727	6,815,804,371	4,730,817,050	2,294,779,767	1,365,170,088	0	17,271,622,003	49.4	XXX	XXX	7,632,316,683	9,639,305,320
12.3 NAIC 3	(d) 98,674,318	555,619,839	666,525,499	63,646,175	71,816,131	0	1,456,281,962	4.2	XXX	XXX	365,307,025	1,090,974,937
12.4 NAIC 4	(d) 37,946,381	216,550,464	166,988,838	32,718,446	408,485	0	454,612,614	1.3	XXX	XXX	58,991,241	395,621,373
12.5 NAIC 5	(d) 26,286,077	99,194,126	73,349,826	9,504,671	1,054,746	(c)	209,389,446	0.6	XXX	XXX	13,821,125	195,568,321
12.6 NAIC 6	(d) 7,451,526	9,002,049	3,716,869	3,768,284	7,231,645	0	31,170,373	0.1	XXX	XXX	2,305,792	28,864,581
12.7 Totals	4,452,029,280	12,227,335,664	10,341,264,798	4,849,893,904	3,079,062,516	0	(b) 34,949,586,162	100.0	XXX	XXX	13,135,249,902	21,814,336,260
12.8 Line 12.7 as a % of Col. 7	12.7	35.0	29.6	13.9	8.8	0.0	100.0	XXX	XXX	XXX	37.6	62.4
13. Total Bonds Prior Year												
13.1 NAIC 1	2,430,623,305	7,825,654,334	5,078,542,937	2,154,180,944	579,140,708	0	XXX	XXX	18,068,142,228	56.9	7,358,901,363	10,709,240,865
13.2 NAIC 2	749,099,998	4,790,735,587	3,970,704,208	1,510,411,305	1,273,885,222	0	XXX	XXX	12,294,836,321	38.7	9,071,622,498	3,223,213,823
13.3 NAIC 3	51,925,204	468,132,944	189,964,191	33,134,593	19,799,906	0	XXX	XXX	762,956,837	2.4	478,331,098	284,625,739
13.4 NAIC 4	28,539,372	177,335,947	294,830,032	33,934,096	10,636,807	0	XXX	XXX	545,276,253	1.7	253,572,677	291,703,577
13.5 NAIC 5	5,755,766	50,148,497	10,597,977	2,585,919	870,211	0	XXX	XXX	(c) 69,958,371	0.2	16,161,631	53,796,740
13.6 NAIC 6	10,141,840	4,385,326	1,147,490	9,088,997	9,214,173	0	XXX	XXX	(c) 33,977,827	0.1	16,536,667	17,441,161
13.7 Totals	3,276,085,485	13,316,392,636	9,545,786,835	3,743,335,854	1,893,547,027	0	XXX	XXX	(b) 31,775,147,837	100.0	17,195,125,933	14,580,021,904
13.8 Line 13.7 as a % of Col. 9	10.3	41.9	30.0	11.8	6.0	0.0	XXX	XXX	100.0	XXX	54.1	45.9
14. Total Publicly Traded Bonds												
14.1 NAIC 1	468,377,461	1,762,783,024	1,218,162,492	881,869,667	731,315,392	0	5,062,508,036	14.5	7,358,901,363	23.2	5,062,508,036	XXX
14.2 NAIC 2	362,661,308	3,511,442,475	1,960,490,392	1,024,412,519	773,309,990	0	7,632,316,684	21.8	9,071,622,498	28.5	7,632,316,684	XXX
14.3 NAIC 3	40,582,810	186,845,292	77,750,065	10,653,826	49,475,033	0	365,307,026	1.0	478,331,098	1.5	365,307,026	XXX
14.4 NAIC 4	14,565,538	30,650,984	12,064,410	1,710,309	0	0	58,991,241	0.2	253,572,677	0.8	58,991,241	XXX
14.5 NAIC 5	1,468,941	3,025,993	8,477,613	724,028	124,550	0	13,821,125	0.0	13,821,125	0.1	13,821,125	XXX
14.6 NAIC 6	603,592	1,030,926	439,693	202,923	28,658	0	2,305,792	0.0	16,536,667	0.1	2,305,792	XXX
14.7 Totals	888,259,650	5,495,778,694	3,277,384,665	1,919,573,272	1,554,253,623	0	13,135,249,904	37.6	17,195,125,933	54.1	13,135,249,904	XXX
14.8 Line 14.7 as a % of Col. 7	6.8	41.8	25.0	14.6	11.8	0.0	100.0	XXX	XXX	XXX	100.0	XXX
14.9 Line 14.7 as a % of Line 12.7, Col. 7, Section 12	2.5	15.7	9.4	5.5	4.4	0.0	37.6	XXX	XXX	XXX	37.6	XXX
15. Total Privately Placed Bonds												
15.1 NAIC 1	1,748,242,790	2,768,381,791	3,481,704,224	1,563,606,894	902,066,029	0	10,464,001,728	29.9	10,709,240,865	33.7	XXX	10,464,001,728
15.2 NAIC 2	1,702,389,419	3,304,361,896	2,770,326,658	1,270,367,248	591,860,098	0	9,639,305,319	27.6	3,223,213,823	10.1	XXX	9,639,305,319
15.3 NAIC 3	58,091,508	368,774,547	588,775,434	52,992,349	22,341,098	0	1,090,974,936	3.1	284,625,739	0.9	XXX	1,090,974,936
15.4 NAIC 4	23,380,843	185,899,480	154,924,428	31,008,137	408,485	0	395,621,373	1.1	291,703,577	0.9	XXX	395,621,373
15.5 NAIC 5	24,817,136	96,168,133	64,872,213	8,780,643	930,196	0	195,568,321	0.6	53,796,740	0.2	XXX	195,568,321
15.6 NAIC 6	6,847,934	7,971,123	3,277,176	3,565,361	7,202,987	0	28,864,581	0.1	17,441,161	0.1	XXX	28,864,581
15.7 Totals	3,563,769,630	6,731,556,970	7,063,880,133	2,930,320,632	1,524,808,893	0	21,814,336,258	62.4	14,580,021,904	45.9	XXX	21,814,336,258
15.8 Line 15.7 as a % of Col. 7	16.3	30.9	32.4	13.4	7.0	0.0	100.0	XXX	XXX	XXX	XXX	100.0
15.9 Line 15.7 as a % of Line 12.7, Col. 7, Section 12	10.2	19.3	20.2	8.4	4.4	0.0	62.4	XXX	XXX	XXX	XXX	62.4

(a) Includes \$ 14,964,868,479 freely tradable under SEC Rule 144 or qualified for resale under SEC Rule 144A.

(b) Includes \$ 1,201,622,419 current year of bonds with Z designations and \$ 1,085,347,541 prior year of bonds with Z designations. The letter "Z" means the NAIC designation was not assigned by the Securities Valuation Office (SVO) at the date of the statement.

(c) Includes \$ 102,166,634 current year, \$ 30,722,496 prior year of bonds with 5GI designations and \$ 27,474,029 current year, \$ 2,618,758 prior year of bonds with 6* designations. "5GI" means the NAIC designation was assigned by the (SVO) in reliance on the insurer's certification that the issuer is current in all principal and interest payments. "6*" means the NAIC designation was assigned by the SVO due to inadequate certification of principal and interest payments.

(d) Includes the following amount of short-term and cash equivalent bonds by NAIC designation: NAIC 1 \$ 319,921,575 ; NAIC 2 \$ 1,297,760,304 ; NAIC 3 \$; NAIC 4 \$ 0 ; NAIC 5 \$ 0 ; NAIC 6 \$ 0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

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	476,420,524	476,420,524	0	0	0
2. Cost of short-term investments acquired	433,155,035	433,155,035			
3. Accrual of discount	742,798	742,798			
4. Unrealized valuation increase (decrease)	0				
5. Total gain (loss) on disposals	(87,555)	(87,555)			
6. Deduct consideration received on disposals	520,546,624	520,546,624			
7. Deduct amortization of premium	0				
8. Total foreign exchange change in book/adjusted carrying value	0				
9. Deduct current year's other than temporary impairment recognized	0				
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	389,684,178	389,684,178	0	0	0
11. Deduct total nonadmitted amounts	0				
12. Statement value at end of current period (Line 10 minus Line 11)	389,684,178	389,684,178	0	0	0

(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)	706,855,811
2. Cost paid/(consideration received) on additions:	
2.1 Current year paid/(consideration received) at time of acquisition, still open, Section 1, Column 12	494,662,542
2.2 Current year paid/(consideration received) at time of acquisition, terminated, Section 2, Column 14	0
3. Unrealized valuation increase/(decrease):	
3.1 Section 1, Column 17	(572,364,216)
3.2 Section 2, Column 19	0
4. SSAP No. 108 Adjustments	
5. Total gain (loss) on termination recognized, Section 2, Column 22	277,376,843
6. Considerations received/(paid) on terminations, Section 2, Column 15	277,376,843
7. Amortization:	
7.1 Section 1, Column 19	(249,134,738)
7.2 Section 2, Column 21	(207,970,174)
8. Adjustment to the book/adjusted carrying value of hedged item:	
8.1 Section 1, Column 20	0
8.2 Section 2, Column 23	0
9. Total foreign exchange change in book/adjusted carrying value:	
9.1 Section 1, Column 18	40,966
9.2 Section 2, Column 20	0
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6+7+8+9)	172,090,191
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	172,090,191

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)	0
3.1 Add:	
Change in variation margin on open contracts - Highly effective hedges	
3.11 Section 1, Column 15, current year minus	0
3.12 Section 1, Column 15, prior year	0
Change in variation margin on open contracts - All other	
3.13 Section 1, Column 18, current year minus	0
3.14 Section 1, Column 18, prior year	0
3.2 Add:	
Change in adjustment to basis of hedged item	
3.21 Section 1, Column 17, current year to date minus	0
3.22 Section 1, Column 17, prior year	0
Change in amount recognized	
3.23 Section 1, Column 19, current year to date minus	0
3.24 Section 1, Column 19, prior year plus	
3.25 SSAP No. 108 Adjustments	0
3.3 Subtotal (Line 3.1 minus Line 3.2)	0
4.1 Cumulative variation margin on terminated contracts during the year (Section 2, Column 15)	3,074,366
4.2 Less:	
4.21 Amount used to adjust basis of hedged item (Section 2, Column 17)	0
4.22 Amount recognized (Section 2, Column 16)	3,074,366
4.23 SSAP No. 108 Adjustments	3,074,366
4.3 Subtotal (Line 4.1 minus Line 4.2)	0
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)	0
7. Deduct total nonadmitted amounts	
8. Statement value at end of current period (Line 6 minus Line 7)	0

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

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

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.....	172,090,190
2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance	0
3. Total (Line 1 plus Line 2)	172,090,190
4. Part D, Section 1, Column 6	872,965,553
5. Part D, Section 1, Column 7	(700,875,364)
6. Total (Line 3 minus Line 4 minus Line 5)	0
	Fair Value Check
7. Part A, Section 1, Column 16	211,309,661
8. Part B, Section 1, Column 13	0
9. Total (Line 7 plus Line 8)	211,309,661
10. Part D, Section 1, Column 9	281,107,417
11. Part D, Section 1, Column 10	(69,797,756)
12. Total (Line 9 minus Line 10 minus Line 11)	0
	Potential Exposure Check
13. Part A, Section 1, Column 21	57,659,761
14. Part B, Section 1, Column 20	0
15. Part D, Section 1, Column 12	57,659,761
16. Total (Line 13 plus Line 14 minus Line 15)	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE E - PART 2 - VERIFICATION BETWEEN YEARS

(Cash Equivalents)

	1	2	3	4
	Total	Bonds	Money Market Mutual funds	Other (a)
1. Book/adjusted carrying value, December 31 of prior year	279,044,687	157,169,559	121,875,127	0
2. Cost of cash equivalents acquired	99,903,606,155	26,568,942,734	73,334,663,422	0
3. Accrual of discount	14,187,427	14,187,427		0
4. Unrealized valuation increase (decrease)	0			0
5. Total gain (loss) on disposals	(1,203)	(1,203)		0
6. Deduct consideration received on disposals	98,661,145,292	25,512,300,817	73,148,844,475	0
7. Deduct amortization of premium	0	0	0	0
8. Total foreign exchange change in book/adjusted carrying value	0	0	0	0
9. Deduct current year's other than temporary impairment recognized	0	0	0	0
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	1,535,691,774	1,227,997,700	307,694,074	0
11. Deduct total nonadmitted amounts	0	0	0	0
12. Statement value at end of current period (Line 10 minus Line 11)	1,535,691,774	1,227,997,700	307,694,074	0

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

Schedule A - Part 1 - Real Estate Owned

N O N E

Schedule A - Part 2 - Real Estate Acquired and Additions Made

N O N E

Schedule A - Part 3 - Real Estate Disposed

N O N E

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE B - PART 1

Showing All Mortgage Loans OWNED December 31 of Current Year

1 Loan Number	2 Code	3 Location		5 Loan Type	6 Date Acquired	7 Rate of Interest	8 Book Value/Recorded Investment Excluding Accrued Interest	Change in Book Value/Recorded Investment					14 Value of Land and Buildings	15 Date of Last Appraisal or Valuation
		3 City	4 State					9 Unrealized Valuation Increase (Decrease)	10 Current Year's (Amortization)/ Accretion	11 Current Year's Other-Than-Temporary Impairment Recognized	12 Capitalized Deferred Interest and Other	13 Total Foreign Exchange Change in Book Value		
121836GH7	Various	FL	.....	12/22/2022	7.947	5,049,088	0	(175)	0	0	0	5,004,270	12/22/2022
151315BC1	Various	AZ	.....	03/01/2022	6.270	456,697	0	0	0	0	0	456,697	03/01/2022
1550201J1	Various	TX	.....	07/01/2021	3.687	2,546,919	0	(7,357)	0	0	0	2,426,305	07/01/2021
155020JK7	Various	NC	.....	09/01/2021	2.870	5,736,064	0	850,302	0	0	0	5,430,156	09/01/2021
155020KL3	Various	TX	.....	10/01/2021	2.990	4,732,824	0	2,190,206	0	0	0	4,512,769	10/01/2021
155020LM0	Various	FL	.....	11/01/2021	2.180	13,702,712	0	(386,622)	0	0	0	12,834,968	11/01/2021
155020MN7	Various	CA	.....	12/01/2021	2.240	10,435,372	0	84,289	0	0	0	9,853,835	12/01/2021
155020NO4	Various	TX	.....	01/03/2022	2.560	15,539,382	0	386,840	0	0	0	14,626,027	01/03/2022
155020PQ7	Various	VA	.....	02/01/2022	3.290	2,470,244	0	62,860	0	0	0	2,331,866	02/01/2022
155020QR4	Various	VA	.....	03/01/2022	4.130	3,707,390	0	94,471	0	0	0	3,519,717	03/01/2022
337945AA7	Various	CA	.....	12/22/2021	4.080	17,531,618	0	2,572,509	0	0	0	15,682,962	12/22/2021
709301KJ3	Various	FL	.....	07/01/2021	4.168	29,170,516	0	3,040,922	0	0	0	25,772,504	07/01/2021
709301LK9	Various	TX	.....	08/02/2021	3.772	62,653,941	0	74,833	0	0	0	57,530,264	08/02/2021
709301ML6	Various	MD	.....	09/01/2021	3.830	57,932,569	0	2,377,866	0	0	0	51,039,812	09/01/2021
709301MM3	Various	TX	.....	10/01/2021	3.470	70,351,842	0	157,746	0	0	0	63,973,382	10/01/2021
709301NO	Various	TX	.....	11/01/2021	3.590	67,184,800	0	(1,822,293)	0	0	0	59,314,472	11/01/2021
709301P07	Various	TX	.....	12/01/2021	2.750	59,446,066	0	(1,256,110)	0	0	0	52,761,695	12/01/2021
709301P03	Various	TX	.....	01/03/2022	3.360	26,046,189	0	(55,506)	0	0	0	23,627,251	01/03/2022
709301R00	Various	TX	.....	02/01/2022	3.560	20,498,001	0	4,248	0	0	0	18,560,792	02/01/2022
709301SR7	Various	FL	.....	03/01/2022	4.220	7,157,380	0	11,407	0	0	0	6,635,708	03/01/2022
709301TS4	Various	IL	.....	04/01/2022	4.570	4,296,220	0	10,775	0	0	0	4,018,126	04/01/2022
0299999. Mortgages in good standing - Residential mortgages-insured or guaranteed							486,645,834	0	8,391,210	0	0	0	439,913,578	XXX
121836AB6	Various	NJ	.....	08/02/2022	7.260	497,805	0	(313)	0	0	0	489,594	08/02/2022
121836BC3	Various	MI	.....	08/18/2022	7.490	838,634	0	(760)	0	0	0	828,100	08/18/2022
121836CD0	Various	NJ	.....	09/15/2022	7.426	3,911,570	0	(3,675)	0	0	0	3,831,985	09/15/2022
121836DE7	Various	NY	.....	10/20/2022	7.476	2,246,903	0	(1,452)	0	0	0	2,212,062	10/20/2022
121836EF3	Various	NJ	.....	11/03/2022	7.230	5,566,122	0	(964)	0	0	0	5,454,452	11/03/2022
121836FG0	Various	MD	.....	11/17/2022	7.870	16,601,260	0	(2,241)	0	0	0	16,603,459	11/17/2022
146738AB5	Various	FL	.....	11/29/2022	10.520	12,324,106	0	219	0	0	0	12,325,113	11/29/2022
146738BC2	Various	FL	.....	12/09/2022	11.320	4,778,022	0	0	0	0	0	4,778,022	12/09/2022
146738CD9	Various	TX	.....	12/22/2022	11.670	8,862,135	0	(59)	0	0	0	8,863,555	12/22/2022
15912ZAB3	Various	CA	.....	12/13/2021	4.829	17,884,867	0	(399,154)	0	0	0	14,622,140	12/13/2021
15912ZB00	Various	CA	.....	11/30/2021	5.079	18,744,212	0	(98,680)	0	0	0	15,501,524	11/30/2021
15912ZCD7	Various	CA	.....	01/28/2022	5.095	22,555,569	0	(134,114)	0	0	0	18,747,908	01/28/2022
15912ZDE4	Various	CA	.....	06/15/2022	6.880	16,939,153	0	(125,648)	0	0	0	15,743,758	06/15/2022
161225AA5	Various	AZ	.....	05/06/2022	5.441	541,306	0	724	0	0	0	502,448	05/06/2022
161225AB3	Various	NC	.....	06/09/2022	5.174	1,011,537	0	110	0	0	0	921,280	06/09/2022
161225BC0	Various	TN	.....	07/21/2022	7.300	688,660	0	(1,588)	0	0	0	688,493	07/21/2022
161225CD7	Various	WA	.....	08/18/2022	7.600	681,261	0	(616)	0	0	0	674,767	08/18/2022
161225DE4	Various	WA	.....	09/15/2022	7.480	1,389,364	0	(1,307)	0	0	0	1,368,997	09/15/2022
161225EF0	Various	AZ	.....	09/29/2022	7.676	1,322,118	0	(373)	0	0	0	1,316,278	09/29/2022
161225FG7	Various	NY	.....	11/03/2022	7.570	12,994,084	0	(2,064)	0	0	0	12,925,820	11/03/2022
161225GH7	Various	NY	.....	11/17/2022	7.574	11,465,109	0	(1,040)	0	0	0	11,466,155	11/17/2022
161225HJ9	Various	NC	.....	12/22/2022	8.810	8,682,331	0	(264)	0	0	0	8,682,590	12/22/2022
20258#Z29	Various	OH	.....	09/30/2022	3.760	91,680,000	0	0	0	0	0	78,375,380	09/30/2022
209999ZA2	Various	SC	.....	09/30/2019	3.580	80,000,000	0	0	0	0	0	74,013,456	09/30/2022
209999ZB0	Various	SC	.....	11/15/2019	3.250	44,500,000	0	0	0	0	0	40,796,723	09/30/2022
209999ZC8	Various	SC	.....	06/18/2020	3.260	39,959,924	0	0	0	0	0	36,749,057	09/30/2022
243820AB3	Various	CA	.....	09/29/2022	7.706	5,484,857	0	65,144	0	0	0	5,279,980	09/29/2022
243820WX1	Various	CA	.....	06/28/2022	5.780	14,031,232	0	(26,677)	0	0	0	12,648,979	06/28/2022
243820XY8	Various	FL	.....	07/21/2022	6.444	28,476,340	0	(120,571)	0	0	0	26,408,562	07/21/2022
243820YZ4	Various	FL	08/19/2022	7.370	30,695,938	0	(43,708)	0	0	0	29,636,608	08/19/2022

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE B - PART 1

Showing All Mortgage Loans OWNED December 31 of Current Year

1 Loan Number	2 Code	3 Location		5 Loan Type	6 Date Acquired	7 Rate of Interest	8 Book Value/Recorded Investment Excluding Accrued Interest	Change in Book Value/Recorded Investment					14 Value of Land and Buildings	15 Date of Last Appraisal or	
		3 City	4 State					9 Unrealized Valuation Increase (Decrease)	10 Current Year's (Amortization)/ Accretion	11 Current Year's Other-Than-Temporary Impairment Recognized	12 Capitalized Deferred Interest and Other	13 Total Foreign Exchange Change in Book Value			
243820ZAB		Various	CA		09/16/2022	7.919	10,248,297		(897)			0	10,046,203	09/16/2022	
243820ZBB		Various	CA		10/20/2022	7.945	13,714,560		(24,095)			0	13,471,366	10/20/2022	
243820ZCC		Various	CA		11/03/2022	8.050	24,306,121		(6,507)			0	23,763,861	11/03/2022	
243820ZDD		Various	CA		11/17/2022	8.256	20,379,289		(3,351)			0	20,071,723	11/17/2022	
243820ZEE		Various	CA		12/22/2022	8.256	12,082,308		(417)			0	12,082,756	12/22/2022	
365#AA7*7		Various	IN		09/30/2022	6.690	9,991,800					0	9,884,658	09/30/2022	
62938XAA2		Various	FL		03/09/2022	4.926	13,419,816		(31,049)			0	11,600,961	03/09/2022	
62938XBB9		Various	FL		04/21/2022	5.374	13,651,296		(34,715)			0	12,097,049	04/21/2022	
62938XCC6		Various	FL		05/12/2022	6.270	13,391,663		(24,089)			0	12,364,615	05/12/2022	
62938XDD3		Various	FL		06/09/2022	6.587	14,411,745		(21,014)			0	13,595,834	06/09/2022	
62938XEE0		Various	FL		07/15/2022	7.322	18,911,445		(94,753)			0	18,239,381	07/15/2022	
62938XFF6		Various	FL		08/19/2022	7.634	30,317,810		(44,216)			0	29,568,906	08/19/2022	
62938XGG3		Various	FL		09/16/2022	7.833	10,176,647		(13,934)			0	10,003,927	09/16/2022	
62938XHH0		Various	AZ		09/16/2022	8.115	3,907,002		(5,404)			0	3,861,182	09/16/2022	
62938XJJ4		Various	FL		09/30/2022	7.868	8,926,921		(7,728)			0	8,764,316	09/30/2022	
62938XKK9		Various	FL		09/30/2022	7.699	6,081,387		(4,597)			0	5,940,743	09/30/2022	
62938XMM3		Various	FL		10/20/2022	8.143	14,538,037		(18,030)			0	14,369,764	10/20/2022	
62938XNN0		Various	FL		11/17/2022	8.510	565,710		(136)			0	560,969	11/17/2022	
62938XPP3		Various	FL		11/17/2022	8.360	50,905,112		(6,827)			0	50,000,000	11/17/2022	
62938XQQ0		Various	CA		12/22/2022	8.909	29,285,803		(1,031)			0	29,286,699	12/22/2022	
671483AA3		Various	CA		06/09/2022	5.568	2,562,359		2,736			0	2,409,618	06/09/2022	
671483BB0		Various	SC		07/21/2022	6.500	1,667,114		(1,888)			0	1,590,342	07/21/2022	
671483CC8		Various	TX		09/01/2022	6.789	1,025,549		(634)			0	987,149	09/01/2022	
671483DD5		Various	AZ		09/29/2022	7.260	2,224,879		(882)			0	2,184,220	09/29/2022	
671483DE2		Various	TX		10/20/2022	8.375	460,393		(181)			0	473,502	10/20/2022	
671483EF8		Various	MD		12/22/2022	8.375	43,128		0			0	43,098	12/22/2022	
685422Z23		Various	GA		09/30/2022	5.130	37,220,482		3,329			0	36,817,939	09/30/2022	
6951#YY3		Various	TX		09/30/2022	4.070	15,000,000					0	13,285,364	09/30/2022	
6951#ZZ9		Various	TX		09/30/2022	5.340	900,861					0	887,752	09/30/2022	
749002AA9		Various	CA		01/15/2022	5.582	20,176,286		(462,199)			0	17,349,370	01/15/2022	
749002AB7		Various	NY		01/25/2022	5.570	27,324,532		(337,878)			0	23,414,749	01/25/2022	
749002AC5		Various	NY		02/24/2022	5.659	30,704,514		(356,809)			0	26,679,469	02/24/2022	
749002AD3		Various	NY		03/29/2022	5.415	23,051,622		(90,360)			0	20,110,733	03/29/2022	
749002AE1		Various	NY		05/20/2022	5.854	10,987,823		72,619			0	10,117,893	05/20/2022	
749002AF8		Various	NY		05/20/2022	5.822	22,952,126		99,913			0	21,192,828	05/20/2022	
749002AG6		Various	NY		05/27/2022	5.895	6,279,642		17,867			0	5,817,214	05/27/2022	
78415#AA9		Various	MI		09/30/2022	4.240	57,675,549					0	49,658,706	09/30/2022	
78416#ZZ6		Various	MO		09/30/2022	4.330	28,506,900					0	25,700,364	09/30/2022	
78417#AA7		Various	IN		09/30/2022	6.690	50,164,032					0	47,860,414	09/30/2022	
84*284WB3		Various	IN		09/30/2022	6.690	19,140,933					0	18,655,726	09/30/2022	
86106#YY8		Various	SC		09/30/2022	4.310	13,337,891		17,584			0	13,019,918	09/30/2022	
89#625Z1		Various	TN		09/30/2022	5.590	23,684,133					0	23,351,162	09/30/2022	
909055Z1		Various	AZ		09/30/2022	5.550	50,959,140		24,133			0	51,433,015	09/30/2022	
92838ZMM6		Various	CA		09/27/2021	6.370	22,501,436		(1,122,553)			0	20,742,290	09/27/2021	
92838ZNN4		Various	CA		10/22/2021	4.913	22,999,811		657,248			0	18,193,221	10/22/2021	
0399999. Mortgages in good standing - Residential mortgages-all other								1,316,118,325	0	(2,719,816)	0	0	0	1,223,988,214	XXX
N184123		Edgerton	KS		07/15/2022	4.670	4,958,507		236			0	6,754,761	07/15/2022	
N214051		Channahon	IL		09/10/2021	5.375	6,556,572		5,801			0	12,135,000	09/10/2021	
N214071		Denver	CO		07/29/2021	2.970	12,988,621		1,146			0	21,365,575	07/29/2021	
N214081		Dallas	TX		08/27/2021	2.670	9,991,778		1,328			0	15,950,619	08/27/2021	
N214111		The Woodlands	TX		01/31/2022	2.640	7,193,660		860			0	11,535,000	01/31/2022	
N214121		Austin	TX		12/15/2021	2.860	9,491,780		1,233			0	17,800,001	12/15/2021	

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		3 City	4 State					9 Unrealized Valuation Increase (Decrease)	10 Current Year's (Amortization)/ Accretion	11 Current Year's Other-Than-Temporary Impairment Recognized	12 Capitalized Deferred Interest and Other	13 Total Foreign Exchange Change in Book Value			
N214131		Centennial	CO		11/19/2021	3.020	11,210,398	0	1,459	0	0	0	21,845,000	11/19/2021	
N214141		Itasca	IL		12/22/2021	2.990	14,986,714	0	1,685	0	0	0	24,165,002	12/22/2021	
N216191		Hazlewood	MO		09/24/2021	6.675	45,046,487	0	98,861	0	0	0	62,643,281	09/24/2021	
N216311		Salt Lake City	UT		07/19/2022	11.724	771	0	0	0	27	0	87,743,707	07/19/2022	
N219011		Mansfield	MA		12/13/2021	2.620	9,361,916	0	1,231	0	0	0	15,218,389	12/13/2021	
N219012		Mansfield	MA		12/13/2021	3.490	127,483	0	0	0	0	0	207,053	12/13/2021	
N219031		Charleston	SC		11/04/2021	2.680	19,857,142	0	1,749	0	0	0	39,750,000	11/04/2021	
N219041		Hingham	MA		12/02/2021	2.990	9,991,396	0	1,294	0	0	0	18,075,424	12/02/2021	
N224021		Sedona	AZ		11/04/2022	4.500	29,970,378	0	378	0	0	0	95,000,000	11/04/2022	
N224031		Newville	PA		08/31/2022	6.074	39,715,655	0	15,654	0	0	0	71,887,061	08/31/2022	
N224041		Dallas	TX		12/21/2022	6.321	39,742,090	0	2,085	0	0	0	64,418,740	12/21/2022	
N226021		Arlington	VA		05/05/2022	4.490	10,773,489	0	0	0	153,527	0	108,131,878	05/05/2022	
N226161		Flower Mound	TX		12/02/2022	9.783	85	0	0	0	0	0	28,352	12/02/2022	
N229011		Rochester	NY		05/03/2022	3.730	13,714,909	0	1,136	0	0	0	27,455,000	05/03/2022	
NAG0021		New York	NY		07/07/2022	7.782	13,848,764	0	0	0	0	0	66,450,500	07/07/2022	
NAG0031		New York	NY		12/21/2022	8.884	11,000,000	0	0	0	0	0	198,478,261	12/21/2022	
NAG0041		New York	NY		09/29/2022	9.480	33,925,000	0	0	0	0	0	313,703,528	09/29/2022	
NAG0011		Miramar Beach	FL		06/01/2021	5.250	19,660,913	0	0	0	0	0	31,704,276	06/01/2021	
NAG0211		Philadelphia	PA		06/01/2021	6.050	14,188,315	0	0	0	0	0	32,100,000	06/01/2021	
NAG0431		Sacramento	CA		06/01/2021	4.650	37,801,631	0	0	0	0	0	35,000,000	06/01/2021	
NAG0471		Salt Lake City	UT		06/01/2021	5.000	10,824,970	0	0	0	0	0	11,459,116	06/01/2021	
NAG0491		Lehi	UT		06/01/2021	4.700	18,425,671	0	0	0	0	0	81,300,000	06/01/2021	
NAG0511		West Bloomfield	MI		06/01/2021	5.250	23,994,141	0	0	0	0	0	73,800,000	06/01/2021	
NAG0531		Tucson	AZ		06/01/2021	4.750	16,914,693	0	0	0	0	0	17,559,938	06/01/2021	
NAG0571		Prescott	AZ		06/01/2021	4.500	21,518,014	0	0	0	0	0	22,312,812	06/01/2021	
NAG0581		The Woodlands	TX		06/01/2021	4.500	19,712,444	0	0	0	0	0	20,449,247	06/01/2021	
NAG0641		Chatham	MA		06/01/2021	5.100	31,882,609	0	0	0	0	0	107,843,620	06/01/2021	
NAG0671		Indianapolis	IN		06/01/2021	5.000	20,313,672	0	0	0	0	0	53,100,000	06/01/2021	
NAG0681		Austin	TX		06/01/2021	4.600	19,101,184	0	0	0	0	0	39,700,000	06/01/2021	
NAG0711		Brooklyn	NY		06/01/2021	4.750	25,100,000	0	0	0	0	0	75,100,000	06/01/2021	
NAG0741		Houston	TX		06/01/2021	5.200	36,431,022	0	0	0	0	0	37,336,415	06/01/2021	
NAG0751		Jacksonville	FL		06/01/2021	5.200	24,321,928	0	0	0	0	0	24,879,462	06/01/2021	
NAG0761		Franklin	TN		06/01/2021	5.200	26,999,133	0	0	0	0	0	55,458,610	06/01/2021	
NAG0771		Miramar Beach	FL		06/01/2021	6.000	48,791,927	0	0	0	0	0	67,176,459	06/01/2021	
NAG0781		Miramar Beach	FL		06/01/2021	6.000	16,863,552	0	0	0	0	0	24,679,931	06/01/2021	
NAG0801		Beaverton	OR		06/01/2021	4.650	21,891,420	0	0	0	0	0	21,338,674	06/01/2021	
NAG0811		Kendall	FL		06/01/2021	3.800	82,875,000	0	0	0	0	0	82,875,000	06/01/2021	
NAG0821		Indianapolis	IN		06/01/2021	4.950	21,111,504	0	0	0	0	0	21,653,007	06/01/2021	
NAG0831		Portland	OR		06/01/2021	4.450	22,000,000	0	0	0	0	0	22,900,000	06/01/2021	
NAG0841		Middleburg	VA		06/01/2021	3.750	76,500,000	0	0	0	0	0	76,500,000	06/01/2021	
NAG0851		Denver	CO		06/01/2021	4.250	71,600,000	0	0	0	0	0	113,600,000	06/01/2021	
NAG0861		Avon	IN		06/01/2021	3.850	29,000,000	0	0	0	0	0	29,000,000	06/01/2021	
NAG0881		Colorado Springs	CO		06/01/2021	4.000	22,150,846	0	0	0	0	0	44,000,000	06/01/2021	
NAG0891		Louisville	KY		06/01/2021	3.000	8,500,000	0	0	0	0	0	17,000,000	06/01/2021	
NAG0892		Louisville	KY		06/01/2021	3.000	3,500,000	0	0	0	0	0	7,000,000	06/01/2021	
NAG0901		Northglenn	CO		06/01/2021	3.000	27,773,603	0	0	0	0	0	55,547,205	06/01/2021	
NAG0911		Greensboro	NC		06/01/2021	3.000	17,795,967	0	0	0	0	0	35,591,933	06/01/2021	
NAG0931		Colorado Springs	CO		06/01/2021	3.250	30,045,120	0	0	0	0	0	37,556,400	06/01/2021	
NAG0961		Columbus	OH		06/01/2021	3.250	35,700,000	0	0	0	0	0	51,000,000	06/01/2021	
NAG0971		Beloit	WI		02/24/2022	4.000	5,712,879	0	0	0	0	0	5,854,278	02/24/2022	
0599999. Mortgages in good standing - Commercial mortgages-all other								1,263,455,753	0	136,136	0	153,554	0	2,733,118,515	XXX
N226091		Brooklyn	NY		11/16/2022	13.283	604	0	0	0	4	0	293,999,026	11/16/2022	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE B - PART 1

Showing All Mortgage Loans OWNED December 31 of Current Year

1 Loan Number	2 Code	3 Location		5 Loan Type	6 Date Acquired	7 Rate of Interest	8 Book Value/Recorded Investment Excluding Accrued Interest	Change in Book Value/Recorded Investment					14 Value of Land and Buildings	15 Date of Last Appraisal or Valuation	
		3 City	4 State					9 Unrealized Valuation Increase (Decrease)	10 Current Year's (Amortization)/ Accretion	11 Current Year's Other-Than-Temporary Impairment Recognized	12 Capitalized Deferred Interest and Other	13 Total Foreign Exchange Change in Book Value			
NAC0011		Stafford	TX		02/24/2022	9.984	20,000,000	0	0	0	0	0	20,000,000	02/24/2022	
NAC0022		New York	NY		07/07/2022	12.234	2,593,044	0	0	0	0	0	66,450,500	07/07/2022	
0699999. Mortgages in good standing - Mezzanine Loans							22,593,648	0	0	0	4	0	380,449,526	XXX	
0899999. Total Mortgages in good standing							3,088,813,561	0	5,807,530	0	153,558	0	4,777,469,833	XXX	
1699999. Total - Restructured Mortgages							0	0	0	0	0	0	0	0	XXX
2499999. Total - Mortgages with overdue interest over 90 days							0	0	0	0	0	0	0	0	XXX
3299999. Total - Mortgages in the process of foreclosure							0	0	0	0	0	0	0	0	XXX
3399999 - Totals							3,088,813,561	0	5,807,530	0	153,558	0	4,777,469,833	XXX	

General Interrogatory:

- Mortgages in good standing \$ unpaid taxes \$ interest due and unpaid.
- Restructured mortgages \$ unpaid taxes \$ interest due and unpaid.
- Mortgages with overdue interest over 90 days not in process of foreclosure \$ unpaid taxes \$ interest due and unpaid.
- Mortgages in process of foreclosure \$ unpaid taxes \$ interest due and unpaid.

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE B - PART 2

Showing All Mortgage Loans ACQUIRED AND ADDITIONS MADE During the Current Year

1 Loan Number	2 Location		4 Loan Type	5 Date Acquired	6 Rate of Interest	7 Actual Cost at Time of Acquisition	8 Additional Investment Made After Acquisition	9 Value of Land and Buildings
	City	3 State						
121836GH7	Various	FL		12/22/2022	7.947	5,049,263	0	5,004,270
151315BC1	Various	AZ		03/01/2022	6.270	467,111	0	456,697
155020JK7	Various	NC		09/01/2021	2.870	0	(5,953,194)	5,430,156
155020KL3	Various	TX		10/01/2021	2.990	0	8,332,449	4,512,769
155020NO4	Various	TX		01/03/2022	2.560	36,256,905	0	14,626,027
155020PO7	Various	VA		02/01/2022	3.290	4,905,352	0	2,331,866
155020QR4	Various	NC		03/01/2022	4.130	7,375,727	0	3,519,717
709301QP3	Various	TX		01/03/2022	3.360	33,562,767	0	23,627,251
709301RQ0	Various	TX		02/01/2022	3.560	25,985,114	0	18,560,792
709301SR7	Various	FL		03/01/2022	4.220	8,971,491	0	6,635,708
709301TS4	Various	IL		04/01/2022	4.570	4,879,319	0	4,018,126
0299999. Mortgages in good standing - Residential mortgages-insured or guaranteed						127,453,049	2,379,255	88,723,379
121836AB6	Various	NJ		08/02/2022	7.260	500,405	0	489,594
121836BC3	Various	MI		08/18/2022	7.490	842,221	0	828,100
121836CD0	Various	NJ		09/15/2022	7.426	3,921,614	0	3,831,985
121836DE7	Various	NY		10/20/2022	7.476	2,248,355	0	2,212,062
121836EF3	Various	NJ		11/03/2022	7.230	5,567,086	0	5,454,452
121836FG0	Various	MD		11/17/2022	7.870	16,603,501	0	16,603,459
146738AB5	Various	FL		11/29/2022	10.520	12,323,888	0	12,323,113
146738BC2	Various	FL		12/09/2022	11.320	4,778,022	0	4,778,022
146738CD9	Various	TX		12/22/2022	11.670	8,862,195	0	8,863,555
15912ZCD7	Various	CA		01/28/2022	5.054	25,656,238	0	18,747,908
15912ZDE4	Various	CA		06/15/2022	6.880	19,332,008	0	15,743,758
161225AA5	Various	AZ		05/06/2022	5.202	543,588	0	502,448
161225AB3	Various	NC		06/09/2022	5.402	1,016,146	0	921,280
161225BC0	Various	TN		07/21/2022	7.154	692,356	0	668,493
161225CD7	Various	WA		08/18/2022	7.600	683,016	0	674,767
161225DE4	Various	WA		09/15/2022	7.480	1,391,865	0	1,368,997
161225EF0	Various	AZ		09/29/2022	7.676	1,323,203	0	1,316,278
161225FG7	Various	NY		11/03/2022	7.570	12,996,148	0	12,925,820
161225GH7	Various	NY		11/17/2022	7.574	11,466,149	0	11,466,155
161225HJ9	Various	NC		12/22/2022	8.810	8,682,595	0	8,682,590
2025HZZ9	Various	OH		09/30/2022	3.760	88,380,000	3,300,000	78,375,380
243820AB3	Various	CA		09/29/2022	7.706	5,427,660	0	5,279,980
243820WX1	Various	CA		06/28/2022	6.035	14,102,457	0	12,648,979
243820XY8	Various	FL		07/21/2022	6.478	30,746,793	0	26,408,562
243820Y24	Various	FL		08/19/2022	6.860	31,197,272	0	29,636,608
243820ZA8	Various	CA		09/16/2022	7.919	10,249,194	0	10,046,203
243820ZB6	Various	CA		10/20/2022	7.945	13,750,431	0	13,471,366
243820ZC4	Various	CA		11/03/2022	8.050	24,312,628	0	23,763,861
243820ZD2	Various	CA		11/17/2022	8.256	20,382,640	0	20,071,723
243820ZE0	Various	CA		12/22/2022	8.256	12,082,724	0	12,082,756
3655AA7*7	Various	IN		09/30/2022	6.690	6,740,175	3,251,625	9,884,658
62938XAA2	Various	FL		03/09/2022	4.910	13,707,553	0	11,600,961
62938XBB9	Various	FL		04/21/2022	5.353	13,754,694	0	12,097,049
62938XCC6	Various	FL		05/12/2022	6.270	13,968,015	0	12,364,615
62938XDD3	Various	FL		06/09/2022	6.576	14,585,517	0	13,595,834
62938XEEO	Various	FL		07/15/2022	7.322	19,665,293	0	18,239,381
62938XFF6	Various	FL		08/19/2022	7.634	30,700,281	0	29,568,906
62938XGG3	Various	FL		09/16/2022	7.833	10,204,235	0	10,003,927
62938XHH0	Various	AZ		09/16/2022	8.115	3,925,491	0	3,861,182
62938XJJ4	Various	FL		09/30/2022	7.868	8,945,176	0	8,764,316
62938XKK9	Various	FL		09/30/2022	7.699	6,093,833	0	5,940,743
62938XMM3	Various	FL		10/20/2022	8.143	14,556,067	0	14,369,764
62938XNN0	Various	FL		11/17/2022	8.510	565,847	0	560,969

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE B - PART 2

Showing All Mortgage Loans ACQUIRED AND ADDITIONS MADE During the Current Year

1 Loan Number	Location		4 Loan Type	5 Date Acquired	6 Rate of Interest	7 Actual Cost at Time of Acquisition	8 Additional Investment Made After Acquisition	9 Value of Land and Buildings
	2 City	3 State						
62938XPP3	Various	FL		11/17/2022	8.360	50,911,938	0	50,000,000
62938XQ00	Various	CA		12/22/2022	8.909	29,286,834	0	29,286,699
671483AA3	Various	CA		06/09/2022	4.948	2,560,348	0	2,409,618
671483B80	Various	SC		07/21/2022	6.456	1,670,308	0	1,590,342
671483B88	Various	TX		09/01/2022	6.789	1,028,459	0	987,149
671483C05	Various	AZ		09/29/2022	7.260	2,226,695	0	2,184,220
671483D22	Various	TX		10/20/2022	8.375	460,574	0	473,502
671483EF8	Various	MD		12/22/2022	8.375	43,128	0	43,098
685422Z23	Various	GA		09/30/2022	5.130	37,831,947	66,551	36,817,939
69511#YY3	Various	TX		09/30/2022	4.070	15,000,000	0	13,285,364
69511#ZZ9	Various	TX		09/30/2022	5.340	6,892,242	104,385	887,752
749002AB7	Various	NY		01/25/2022	5.570	31,350,000	0	23,414,749
749002AC5	Various	NY		02/24/2022	5.624	36,277,500	0	26,679,469
749002AD3	Various	NY		03/29/2022	5.378	24,427,988	0	20,110,733
749002AE1	Various	NY		05/20/2022	5.860	12,783,635	0	10,117,893
749002AF8	Various	NY		05/20/2022	5.802	24,520,735	0	21,192,828
749002AG6	Various	NY		05/27/2022	5.934	6,352,982	0	5,817,214
78415#AA9	Various	MI		09/30/2022	4.240	52,666,797	5,008,753	49,658,706
78416#Z26	Various	MO		09/30/2022	4.330	25,486,864	3,020,036	25,700,364
78417#AA7	Various	IN		09/30/2022	6.690	29,512,629	20,651,403	47,860,414
84*284#B3	Various	IN		09/30/2022	6.690	19,140,933	0	18,655,726
86106#YY8	Various	SC		09/30/2022	4.310	12,097,219	1,223,089	13,019,918
89#625Z21	Various	TN		09/30/2022	5.590	43,013,880	(13,182,026)	23,351,162
909055Z1	Various	AZ		09/30/2022	5.550	50,935,007	0	51,433,015
0399999. Mortgages in good standing - Residential mortgages-all other						1,063,953,217	23,443,816	986,020,433
N184123	Edgerton	KS		07/15/2022	4.670	4,993,750	0	6,754,761
N214111	The Woodlands	TX		01/31/2022	2.640	7,192,800	0	11,535,000
N216191	Hazlewood	MO		09/24/2021	6.680	0	6,035,273	62,643,281
N216311	Salt Lake City	UT		07/19/2022	11.720	744	0	87,743,707
N224021	Sedona	AZ		11/04/2022	4.500	29,970,000	0	95,000,000
N224031	Newville	PA		08/31/2022	6.070	39,700,001	0	71,887,061
N224041	Dallas	TX		12/21/2022	6.320	39,740,005	0	64,418,740
N226021	Arlington	VA		05/05/2022	4.490	3,587,165	7,032,796	108,131,878
N226161	Flower Mound	TX		12/02/2022	9.780	85	0	28,352
N229011	Rochester	NY		05/03/2022	3.730	13,713,773	0	27,455,000
NAC0021	New York	NY		07/07/2022	7.780	13,848,764	0	66,450,500
NAC0031	New York	NY		12/21/2022	8.880	11,000,000	0	198,478,261
NAC0041	New York	NY		09/29/2022	9.480	33,925,000	0	313,703,528
NAG0211	Philadelphia	PA		06/01/2021	6.050	0	335,074	32,100,000
NAG0641	Chatham	MA		06/01/2021	5.100	0	465,314	107,843,620
NAG0711	Brooklyn	NY		06/01/2021	4.750	0	317,000	75,100,000
NAG0771	Miramar Beach	FL		06/01/2021	6.000	0	3,183,390	67,176,459
NAG0781	Miramar Beach	FL		06/01/2021	6.000	0	315,900	24,679,931
NAG0971	Beloit	WI		02/24/2022	4.000	15,300,000	0	5,854,278
0599999. Mortgages in good standing - Commercial mortgages-all other						212,972,087	17,684,747	1,426,984,357
N226091	Brooklyn	NY		11/16/2022	13.280	600	0	293,999,026
NAC0011	Stafford	TX		02/24/2022	9.980	20,000,000	0	20,000,000
NAC0022	New York	NY		07/07/2022	12.230	2,593,044	0	66,450,500
0699999. Mortgages in good standing - Mezzanine Loans						22,593,644	0	380,449,526
0899999. Total Mortgages in good standing						1,426,971,997	43,507,818	2,882,177,695
1699999. Total - Restructured Mortgages						0	0	0
2499999. Total - Mortgages with overdue interest over 90 days						0	0	0
3299999. Total - Mortgages in the process of foreclosure						0	0	0
3399999 - Totals						1,426,971,997	43,507,818	2,882,177,695

E05.1

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE B - PART 3

Showing All Mortgage Loans DISPOSED, Transferred or Repaid During the Current Year

1 Loan Number	Location		4 Loan Type	5 Date Acquired	6 Disposal Date	7 Book Value/ Recorded Investment Excluding Accrued Interest Prior Year	Change in Book Value/Recorded Investment					14 Book Value/ Recorded Investment Excluding Accrued Interest on Disposal	15 Consid- eration	16 Foreign Exchange Gain (Loss) on Disposal	17 Realized Gain (Loss) on Disposal	18 Total Gain (Loss) on Disposal
	2 City	3 State					8 Unrealized Valuation Increase (Decrease)	9 Current Year's (Amortization) /Accretion	10 Current Year's Other- Than- Temporary Impairment Recognized	11 Capitalized Deferred Interest and Other	12 Total Change in Book Value (8+9-10+11)						13 Total Foreign Exchange Change in Book Value
NAG0351	Orlando	FL		06/01/2021	10/04/2022	9,328,284					0	9,328,284	9,328,284			0
NAG0451	Memphis	TN		06/01/2021	06/29/2022	22,874,841					0	22,874,841	22,874,841			0
NAG0621	Lincolnshire	IL		06/01/2021	09/21/2022	17,060,951				928,049	928,049	17,989,000	17,989,000			0
NAG0731	Austin	TX		06/01/2021	05/05/2022	38,000,000					0	38,000,000	38,000,000			0
0199999. Mortgages closed by repayment						87,264,076	0	0	0	928,049	928,049	88,192,125	88,192,125	0	0	0
Residential											0	428,633,573	428,633,573			0
Commercial											0	20,198,794	20,198,794			0
0299999. Mortgages with partial repayments						0	0	0	0	0	0	448,832,367	448,832,367	0	0	0
0599999 - Totals						87,264,076	0	0	0	928,049	928,049	537,024,492	537,024,492	0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 1

Showing Other Long-Term Invested Assets OWNED December 31 of Current Year

1 CUSIP Identification	2 Name or Description	3 Code	4 Location		6 Name of Vendor or General Partner	7 NAIC Designation, NAIC Designation Modifier and SVO Admini- strative Symbol	8 Date Originally Acquired	9 Type and Strategy	10 Actual Cost	11 Fair Value	12 Book/ Adjusted Carrying Value Less Encum- brances	Change in Book/Adjusted Carrying Value					18 Invest- ment Income	19 Commit- ment for Additional Invest- ment	20 Percent- age of Owner- ship										
			City	State								13 Unrealized Valuation Increase (Decrease)	14 Current Year's (Depreci- ation) or (Amorti- zation)/ Accretion	15 Current Year's Other- Than- Tempo- rary Impair- ment Recogn- ized	16 Capital- ized Deferred Interest and Other	17 Total Foreign Exchange in Book/ Adjusted Carrying Value													
1199999. Non-Registered Private Funds - Mortgage Loans - Unaffiliated												0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX	
000000-00-0	2725 Sprott Private Resource Lending Fund III LP		Toronto		Sprott Resource Lending Corp		11/29/2022	3	222,395	222,395	222,395	0	0	0	0	0	0	(6,632)	4,777,605	0.500									
1399999. Non-Registered Private Funds - Other Fixed Income Instruments - Unaffiliated												222,395	222,395	222,395	0	0	0	0	0	0	0	0	0	0	0	0	XXX		
000000-00-0	6116 Sierra Senior Loan Strategy JV I LLC		New York	NY	Medley Capital LLC		07/16/2015		10,209,829	10,209,829	10,209,829	0	0	0	0	0	0	0	0	11.250									
000000-00-0	6117 Monarch Capital Partners III LP		New York	NY	Monarch Alternative Capital GP III LLC		01/12/2015		4,424,941	4,424,941	4,424,941	(821,906)	0	0	0	0	0	942,682	1,474,472	2.930									
000000-00-0	6118 Yukon Capital Partners II LP		Minneapolis	MN	Yukon Partners II LLC		07/17/2014	2	3,846,745	3,846,745	3,846,745	453,868	0	0	0	0	0	699,424	0.953										
000000-00-0	6119 Northcreek Mezzanine Fund II LP		Cincinnati	OH	Yukon Partners II LLC		01/31/2014	2	1,164,533	1,164,533	1,164,533	116,993	0	0	0	0	0	229,383	348,083	3.250									
000000-00-0	6120 Northcreek Mezzanine Fund III LP		Cincinnati	OH	NMF GP III LLC		09/10/2019	2	1,779,822	1,779,822	1,779,822	303,564	0	0	0	0	0	204,852	393,727	3.025									
000000-00-0	6121 ExWorks Capital Fund I LP		Chicago	IL	ExWorks Capital Fund I GP LP		04/17/2017		0	0	0	0	0	0	0	0	0	0	0	11.007									
000000-00-0	6122 ExWorks Capital Fund II Parallel Vehicle LP		Chicago	IL	ExWorks Capital Fund I GP LP		06/22/2017		0	0	0	0	0	0	0	0	0	0	0	51.065									
000000-00-0	6123 NB Private Equity Credit Opportunities Fund LP		New York	NY	NB Private Equity Credit Opp Assocs LP		06/07/2017		5,315,559	5,315,559	5,315,559	(38,311)	0	0	0	0	0	900,902	1,439,119	0.856									
000000-00-0	6124 Yukon Capital Partners III LP		Minneapolis	MN	Yukon Partners III LLC		07/18/2017	2	2,430,017	2,430,017	2,430,017	438,480	0	0	0	0	0	346,752	1,057,289	5.980									
000000-00-0	6125 Monarch Capital Partners IV LP		New York	NY	Yukon Partners II LLC		10/30/2017		6,595,920	6,595,920	6,595,920	(83,867)	0	0	0	0	0	3,535,937	1,955,966	2.746									
000000-00-0	6126 Gryphon Mezzanine Partners LP		San Francisco	CA	Gryphon Mezzanine Partners GP LP		11/30/2017		3,892,692	3,892,692	3,892,692	353,661	0	0	0	0	0	257,910	448,741	6.340									
000000-00-0	6127 TTGA C-1 MMF LP		San Francisco	CA	TTGA C-1 MMF GP LLC		12/18/2017		0	0	0	0	0	0	0	0	0	0	0	65.740									
000000-00-0	6128 World Trade Finance LLC		Oak Brook	IL	ExWorks Capital LLC		04/20/2020		20	20	20	33,091	0	0	0	0	0	47,060	1,357,650										
000000-00-0	6129 SAAS Capital Fund III		Cincinnati	OH	Gryphon Mezzanine Partners GP LP		08/09/2018		304,854	304,854	304,854	21,986	0	0	0	0	0	43,090	225,000	6.716									
000000-00-0	6130 SAAS Capital Fund III (B) LP		Cincinnati	OH	SC GP III LLC		08/26/2020		1,379,758	1,379,758	1,379,758	179,603	0	0	0	0	0	187,601	187,500	7.583									
000000-00-0	6131 Great American Capital Partners Fund II LP		Los Angeles	CA	Great American Capital Partners LLC		01/12/2018		3,485,260	3,485,260	3,485,260	40,507	0	0	0	0	0	0	0	2.120									
000000-00-0	6132 Sagard Credit Partners LP		Toronto	ON	Sagard Credit Partners Cayman GP Inc		10/09/2018		280,862	280,862	280,862	(1,298,355)	0	0	0	0	0	0	4,243,100	7.515									
000000-00-0	6133 PineBridge Private Credit Feeder LP		New York	NY	PineBridge Private Credit Gen Part LP		11/28/2018		5,955,798	5,955,798	5,955,798	1,958,812	0	0	0	0	0	2,705,512	1,021,206	10.211									
000000-00-0	6134 Gryphon Mezzanine Partners II Feeder Fund LP		San Francisco	CA	Gryphon Mezzanine Partners II LP		12/20/2019		974,330	974,330	974,330	305,525	0	0	0	0	0	133,065	2,435,249	18.420									
000000-00-0	6135 NB Direct Access Insurance SPV LLC		Wilmington	DE	NB Direct Access Associates LP		08/21/2020		5,320,961	5,320,961	5,320,961	4,113,348	0	0	0	0	0	316,876	255,793	21.429									
000000-00-0	6136 Callius Partners III LP		Los Angeles	CA	GP III LP		06/25/2004		67,637	67,637	67,637	(46,768)	0	0	0	0	0	0	0	317,894	1.200								
000000-00-0	6137 Cyprium Parallel Investors V LP		Cleveland	OH	Cyprium V Management LLC		08/15/2019		4,789,379	4,789,379	4,789,379	408,112	0	0	0	0	0	548,824	1,875,206	3.382									
000000-00-0	6148 TTGA SBIC Pioneer Feeder Fund LP		Purchase	NY	TTGA SBIC Feeder GP LLC		05/25/2021		329,190	329,190	329,190	24,896	0	0	0	0	0	(389,315)	7,735,819	3.618									
1799999. Joint Venture Interests - Fixed Income - NAIC Designation Not Assigned by the SVO - Unaffiliated												62,548,109	55,952,189	62,548,109	6,663,241	0	0	0	0	0	0	0	0	0	0	0	10,011,131	27,471,237	XXX
000000-00-0	2182 River Cities Capital Fund VI LP		Cincinnati	OH	River Cities Management VI LLC		02/15/2018	3	6,651,447	6,651,447	6,651,447	1,045,503	0	0	0	0	0	0	184,943	1,260,000									
000000-00-0	2244 Hidden Harbor Capital Partners I LP		Boca Raton	FL	Hidden Harbor Capital Partners GP I LP		02/08/2018	3	3,000,000	3,000,000	3,000,000	0	0	0	0	0	0	0	0	1.872									
000000-00-0	2250 Goldner Hawn Fund VII LP		Minneapolis	MN	Goldner Hawn GP LLC		04/29/2019	3	365,343	365,343	365,343	0	0	0	0	0	0	0	0	3,334,502									
000000-00-0	2416 Gryphon Partners VI LP		San Francisco	CA	Gryphon GenPar VI LP		11/26/2021	3	3,345,435	3,345,435	3,345,435	213,395	0	0	0	0	0	158,258	1,867,960	0.482									
000000-00-0	2518 MidOcean Partners VI LP		New York	NY	MidOcean Associates V LP		11/09/2021	3	359,380	359,380	359,380	(105,451)	0	0	0	0	0	(879)	4,535,169										
000000-00-0	2556 FSS Software Topco LP		McHenry	IL	Francisco Partners		08/27/2021	2	38,282	38,282	38,282	0	0	0	0	0	0	0	0	0									
000000-00-0	2557 FSS Content Topco LP		McHenry	IL	Francisco Partners		08/27/2021	2	8,707	8,707	8,707	0	0	0	0	0	0	0	0	0									
000000-00-0	2558 JFL-NG Continuation Fund		New York	NY	J F Lehman & Company		10/27/2021	3	11,370,535	11,370,535	11,370,535	3,470,852	0	0	0	0	0	0	0	2,132,654	2.018								
000000-00-0	2569 IVP XII DK Co-Invest LP		New York	NY	Insight Venture Associates IX LP		09/30/2021	2	309,574	309,574	309,574	0	0	0	0	0	0	0	0	0									
000000-00-0	2581 Energy Impact Fund II LP		New York	NY	Energy Impact Fund II GP LLC		11/12/2021	1	1,101,399	1,101,399	1,101,399	153,590	0	0	0	0	0	76,674	2,210,346										
000000-00-0	2584 One Equity Partners VIII LP		New York	NY	One Equity Partners		01/26/2022	3	3,214,313	3,214,313	3,214,313	316,648	0	0	0	0	0	312,700	2,673,550	0.250									
000000-00-0	2589 Hidden Harbor Capital Partners II LP		Boca Raton	FL	Hidden Harbor Capital Partners GP I LP		09/07/2022	3	1,804,483	1,804,483	1,804,483	(11,819)	0	0	0	0	0	0	0	2,883,698	1.253								
000000-00-0	2591 VSC Polara LLC		Los Angeles	CA	VSC III Polara Holdings GP		12/02/2021	2	122,928	122,928	122,928	0	0	0	0	0	0	0	0	0									
000000-00-0	2614 NSH Verisma Holdco LP		Radnor	PA	NewSpring Health Capital		12/16/2021	3	15,155,488	15,155,488	15,155,488	(100,626)	0	0	0	0	0	0	0	4,750,000									
000000-00-0	2619 OSP Hamilton Equity Aggregator LP		Wilmington	DE	OceanSound Partners LP		07/22/2022	2	122,074	122,074	122,074	0	0	0	0	0	0	0	0	0	0.160								
000000-00-0	2620 JFL-NARDA Partners LLC		New York	NY	J F Lehman and Company LLC		12/28/2021	2	36,064	36,064	36,064	0	0	0	0	0	0	0	0	0									

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 1

Showing Other Long-Term Invested Assets OWNED December 31 of Current Year

1 CUSIP Identification	2 Name or Description	3 Code	4 Location		6 Name of Vendor or General Partner	7 NAIC Designation, NAIC Designation Modifier and SVO Admini- strative Symbol	8 Date Originally Acquired	9 Type and Strategy	10 Actual Cost	11 Fair Value	12 Book/ Adjusted Carrying Value Less Encum- brances	Change in Book/Adjusted Carrying Value					18 Invest- ment Income	19 Commit- ment for Additional Invest- ment	20 Percent- age of Owner- ship
			4 City	5 State								13 Unrealized Valuation Increase (Decrease)	14 Current Year's (Depreci- ation)/ or (Amorti- zation)/ Accretion	15 Current Year's Other- Than- Tempo- rary Impair- ment Recogn- ized	16 Capital- ized Deferred Interest and Other	17 Total Foreign Exchange Change in Book/ Adjusted Carrying Value			
US0017-6B-A ..	7139 AMMC CLO XIII Ltd-AMMC 2013-13A		Cayman Islands KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	1,218	197,391	1,218	(196,173)	(1,611,723)			784,068	0		
US0017-6N-A ..	7140 AMMC CLO 22 Ltd-AMMC 2018-22A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	9,648,038	11,394,162	9,648,038	(1,746,124)			2,297,166	0		
US0017-6R-A ..	7141 AMMC CLO 23 Ltd-AMMC 2020-23A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	10,367,939	11,279,017	10,367,939	(911,078)			2,341,727	0		
US0017-9T-A ..	7142 AMMC CLO 21 LTD-AMMC 2017-21A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	1,337,400	1,602,007	1,337,400	(264,606)			472,294	0		
US0017-43-A ..	7143 AMMC CLO 18 Ltd-AMMC 2016-18A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	5,164,598	5,304,291	5,164,598	(139,693)			1,896,387	0		
US0017-6E-A ..	7144 AMMC CLO XII Ltd-AMMC 2013-12A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	851,399	2,025,218	851,399	(1,173,820)			197,044	0		
US0017-6D-A ..	7145 Ammc Clo 19 Ltd-AMMC 2016-19A		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	4,544,719	4,544,719	4,544,719	0			550,682	0		
US2682-9D-A ..	7146 Man GLG US CLO-GLGU 2018-1A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	2,254,907	8,812,071	2,254,907	(6,557,164)			2,105,275	0		
US5595-3P-A ..	7147 Magnetite XVI Ltd-MAGNE 2015-16A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	814,673	814,673	814,673	0			202,479	0		
US6738-9Y-A ..	7159 Oaktree CLO 2015-1 Ltd-OAKCL 2015-1A SUB		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	266,701	332,190	266,701	(65,488)			410,045	0		
	7161 Galaxy XXIII CLO Ltd-GALXY 2017-23A SUBA		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		05/09/2014	3	294,556	747,901	294,556	(453,345)			64,810	0		
US3631-9I-A ..	7164 JCP Direct Lending CLO 2022 LLC		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		03/13/2014	3	5,090,746	5,101,878	5,090,746	(11,132)			0	0		
46655H-AK-9 ..	7165 Loan Asset Issuer LLC SER 2021 M-2		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		03/13/2014	3	7,067,304	7,067,304	7,067,304	0			(977)	0		
XS2506-08-5 ..	7166 Loan Asset Issuer LLC Series 2022 NG-1		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		03/13/2014	3	6,051,242	6,051,242	6,051,242	0			4,454,462	0		
46655H-AK-9 ..	7167 AMMC CLO 16 Ltd		Cayman Islands .....	.. KY	Massachusetts Mutual Life Ins Co		03/13/2014	3	1,840,682	2,297,396	1,840,682	(456,714)			977,509	0		
000000-00-0 ..	4699999. Residual Tranches or Interests with Underlying Assets Having Characteristics of Fixed Income Instruments - Unaffiliated								73,577,244	89,227,009	73,577,244	(15,649,764)	0	(13,713,847)	0	0	21,159,074	0	XXX
000000-00-0 ..	7155 Barings Loan Partners CLO Ltd 3		Cayman Islands KY	Massachusetts Mutual Life Ins Co		05/09/2014		11,783,839	0	11,783,839	0	0	0	0	0	0	0	XXX
000000-00-0 ..	6147 Monza Energy LLC		Houston TX	Monza Energy LLC		04/17/2018		145,132	145,132	145,132	0	0	0	0	0	172,403	1,729,171	2,049
5899999. Any Other Class of Assets - Unaffiliated									145,132	145,132	145,132	0	0	0	0	0	172,403	1,729,171	XXX
6099999. Total - Unaffiliated									1,210,891,202	1,155,110,563	1,210,891,202	119,379,630	(1,983,146)	(13,713,847)	0	7,800	87,273,739	211,998,522	XXX
6199999. Total - Affiliated									167,872,362	141,194,703	152,544,036	11,621,691	0	0	0	0	4,090,537	31,170,441	XXX
6299999 - Totals									1,378,763,564	1,296,305,265	1,363,435,238	131,001,321	(1,983,146)	(13,713,847)	0	7,800	91,364,276	243,168,963	XXX

1. Line Book/Adjusted Carrying Value by NAIC Designation Category Footnote:
 Number
 1A 1A ..\$ 0 1B ..\$ 0 1C ..\$ 14,943,736 1D ..\$23,120,788 1E ..\$ 0 1F ..\$35,498,564 1G ..\$74,645,232
 1B 2A ..\$40,527,250 2B ..\$ 5,500,928 2C ..\$ 5,500,000
 1C 3A ..\$ 0 3B ..\$ 0 3C ..\$ 0
 1D 4A ..\$ 0 4B ..\$ 0 4C ..\$ 0
 1E 5A ..\$ 0 5B ..\$ 16,590 5C ..\$ 0
 1F 6 ..\$ 0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 2

Showing Other Long-Term Invested Assets ACQUIRED AND ADDITIONS MADE December 31 of Current Year

1 CUSIP Identification	2 Name or Description	3 Location		5 Name of Vendor or General Partner	6 Date Originally Acquired	7 Type and Strategy	8 Actual Cost at Time of Acquisition	9 Additional Investment Made After Acquisition	10 Amount of Encumbrances	11 Percentage of Ownership	
		City	State								
000000-00-0	6049 A&M Capital Opportunities Fund LP	Greenwich	CT	A&M Capital Opportunities-GP LP	10/01/2021	3		810,987		1.496	
000000-00-0	6050 ManchesterStory Venture Fund LP	West Des Moines	IA	ManchesterStory GP1 LLC	03/23/2017	3		280,839		2.132	
000000-00-0	6053 Energy Impact Fund LP	New York	NY	Energy Impact Partners LLC	05/11/2017	3		1,547,549		1.621	
000000-00-0	6057 LLR Equity Partners V LP	Philadelphia	PA	LLR Capital V LP	03/31/2017	3		352,156		0.733	
000000-00-0	6058 Cintrifuse Syndicate Fund II, LLC	Cincinnati	OH	Cintrifuse Fund Management II LLC	09/18/2017	1		512,600		4.483	
000000-00-0	6061 Refinery Venture Fund I LP	Fort Worth	TX	Refinery Management LLC	11/20/2017	3		100,496		4.561	
000000-00-0	6063 Rivercrest Capital Partners LP	Fort Worth	TX	Rivercrest Capital GP LLC	04/02/2018	3		649,739		4.561	
000000-00-0	6064 Corsair Assist Investors LP	New York	NY	Rivercrest Capital GP LLC	05/25/2018	3		33,582		13.505	
000000-00-0	6065 Corsair Boomer Investors LP	New York	NY	Corsair Boomer Management LP	06/25/2018	3		9,767		9.845	
000000-00-0	6066 Corsair V Financial Services Capital Partners LP	New York	NY	Rivercrest Capital GP LLC	06/25/2018	3		289,380		1.517	
000000-00-0	6067 NB Dyal IV US Investors LP	New York	NY	NB Dyal Associates IV LP	06/11/2018	3		1,015,955		0.273	
000000-00-0	6068 Trilantic Capital Partners VI LP	New York	NY	Trilantic Capital Partners Assoc VI LP	07/25/2018	3		1,160,167		0.490	
000000-00-0	6072 Solamere Capital Fund III LP	Boston	MA	Solamere Capital Fund III GP LP	11/20/2018	3		2,055,127		1.571	
000000-00-0	6073 Roark Capital Partners Fund V LP	New York	NY	Roark Capital GenPar V LP	11/01/2018	3		207,074		0.143	
000000-00-0	6075 Greenspring Global Partners IX-B LP	Owning Mills	MD	Greenspring General Partner IX LP	02/08/2019	3		247,580		0.278	
000000-00-0	6076 Blackstone Tactical Opportunities Fund III LP	New York	NY	Blackstone Tac Opportunities Assoc 3 LLC	02/08/2019	3		1,082,871		0.243	
000000-00-0	6079 Goldner Hawn Fund VII LP	Minneapolis	MN	Goldner Hawn GP LLC	04/29/2019	3		744,643		1.732	
000000-00-0	6082 Nutraceutical Investco LP	River Side	CT	M&S GP LLC	10/18/2019	3		26,795		2.273	
000000-00-0	6083 Tritium Partners II LLC	Austin	TX	Tritium II GP LLC	11/13/2019	3		1,489,130		2.050	
000000-00-0	6084 Cincy Tech Fund V LLC	Cincinnati	OH	CincyTech LLC	11/20/2019	1		525,000		8.450	
000000-00-0	6085 Corsair Blade Investors LP	New York	NY	Corsair Blade Management LP	12/16/2019	3		15,576		15.576	
000000-00-0	6086 Gallant Capital Partners I LP	Los Angeles	CA	CincyTech LLC	05/29/2020	3		2,640,972		3.145	
000000-00-0	6087 Refinery Venture Fund II LP	Cincinnati	OH	Refinery Management LLC	11/19/2019	3		200,016		1.360	
000000-00-0	6088 Cross Creek Capital III LP	Salt Lake City	UT	Cross Creek Capital III GP LP	03/09/2021	3		300,000		1.696	
000000-00-0	6089 Bridge Growth Partners II LP	New York	NY	Bridge Growth Partners LP	10/01/2021	3		3,344,892		7.335	
000000-00-0	6092 Corsair Indigo Investors LP	New York	NY	Corsair Indigo Management LP	12/07/2020	3		16,295		5.993	
000000-00-0	6093 Foresite Capital Fund V LP	San Francisco	CA	Foresite Capital Management V LLC	06/08/2020	3		380,000		0.484	
000000-00-0	6095 Greenspring Opportunities VI LP	Owning Mills	MD	Greenspring Opportunities VI LP	01/21/2020	3		400,000		0.410	
000000-00-0	6096 LLR Equity Partners VI LP	Philadelphia	PA	LLR Capital VI LP	05/13/2021	3		600,000		0.212	
000000-00-0	6098 Dyal V US Investors LP	New York	NY	NB Dyal Associates V LP	10/01/2021	3		2,200,270		0.415	
000000-00-0	6099 NB Strategic Capital LP	New York	NY	NB Strategic Capital Associates LP	03/05/2020	3		1,437,191		1.013	
000000-00-0	6100 NB Strategic Co-Investment Partners IV LP	New York	NY	NB Alternatives Advisors LLC	01/29/2020	3		1,724,586		0.494	
000000-00-0	6101 Revelstoke EPIC Fund I LP	Denver	CA	RCP Single Asset Fund I GP LLC	10/01/2021	3		135,189		0.412	
000000-00-0	6102 Riverwood Capital Partners III LP	Menlo Park	CA	Riverwood Capital III LP	03/27/2020	3		1,397,805		0.693	
000000-00-0	6103 Cranemere Group Limited	Palo Alto	CA	The Cranemere Group Limited	05/21/2014	3		28,851,593		7.360	
000000-00-0	6104 Vivo Capital Fund IX LP	Palo Alto	CA	Vivo Capital IX LLC	09/09/2019	3		642,377		0.350	
000000-00-0	6138 A&M Capital Europe SCSP	Greenwich	CT	A&M Capital Europe-GP LP	06/30/2019	3		2,214,930		1.437	
000000-00-0	6139 GreyLion Capital LP	New York	NY	GreyLion Capital GP LP	08/20/2014	3		82,896		2.057	
000000-00-0	6140 GreyLion Capital II LP	New York	NY	GreyLion Capital II GP LP	02/28/2018	3		681,087		1.201	
000000-00-0	6141 Vida Insurance Credit Opportunity Fund II LP	Austin	TX	Vida Management I LLC	10/01/2021	3		5,677,203		3.618	
000000-00-0	6143 Private Equity Solutions SCSP	Luxembourg	LUX	DWS Investment SA	12/16/2019	3		1,476,247		1.585	
000000-00-0	6146 Desri VI LLC	New York	NY	DE Shaw Renewable Investments LLC	12/17/2014	3		3,464		4.110	
000000-00-0	6149 GreyLion Capital Fund III LP	New York	NY	GreyLion Capital Fund III GP	12/14/2021	3		529,578		0.819	
000000-00-0	2554 PDQ Topco LP	Menlo Park	CA	PDQ Topco LP	08/27/2021	3		43,192			
1999999. Joint Venture Interests - Common Stock - Unaffiliated								26,297,728	85,539,598	0	XXX
000000-00-0	6108 NB Real Estate Secondary Opportunities Fund LP	Philadelphia	PA	NB Real Estate Secondary Opp Assoc LP	12/05/2018	3		1,642,707		1.688	
000000-00-0	6109 LON NA Fund III-D LP	Philadelphia	PA	LON North American GP III LP	08/23/2019	3		413,046		4.324	
000000-00-0	6110 Lubert-Adler Workforce Housing Fund LP	Philadelphia	PA	Lubert-Adler Group WH LP	10/01/2021	3		5,250,000		5.411	
000000-00-0	6112 Hillpointe Workforce Housing Partnership II LP	Winter Park	FL	Hillpointe Fund II GP LLC	11/03/2020	3		75,000		2.727	
2199999. Joint Venture Interests - Real Estate - Unaffiliated								0	7,380,753	0	XXX
000000-00-0	2458 Barings Innovations & Growth Real Estate Fund	Springfield	MA	Massachusetts Mutual Life Ins Co	10/06/2021	3		3,928,171	11,261,511	13.000	
000000-00-0	2525 MM BIG Peninsula Co-Invest Member LLC	Hartford	CT	Massachusetts Mutual Life Ins Co	06/30/2021	3		287,970	1,560,530	5.710	
000000-00-0	2530 MM Horizon Savannah Member LLC	Springfield	MA	Massachusetts Mutual Life Ins Co	10/25/2021	3		1,398,984	2,506,285	7.600	
000000-00-0	2676 Trailside MM Member II LLC	Hartford	CT	Massachusetts Mutual Life Ins Co	07/26/2022	3	562,793	33,566		19.800	
2299999. Joint Venture Interests - Real Estate - Affiliated								562,793	5,648,691	15,328,326	XXX
000000-00-0	2461 Barings Real Estate Debt Income Fund LP	Charlotte	CT	BREDIF GP LLC	03/24/2021	3		84,581,940		0.100	
2499999. Joint Venture Interests - Mortgage Loans - Affiliated								0	84,581,940	0	XXX
000000-00-0	2579 Renovation Parent LLC	West Palm Beach	FL	Comvest Partners	11/15/2021	2		197,368			
000000-00-0	2599 ITI Ultimate Holdco LLC	San Francisco	CA	Calera Capital	01/14/2022	2	257,758				
000000-00-0	2601 BSP TS Co-Invest I LLC	New York	NY	Broad Sky Partners LLC	12/10/2021	3		114,641			
000000-00-0	2616 Stork SPV LP	Greenwich	CT	Amulet Capital Fund II GP LP	12/20/2021	3		2,185,517		10.610	
000000-00-0	2636 ZB Parent LLC	Austin	TX	Peak Rock Capital	02/09/2022	2	27,069				

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 2

Showing Other Long-Term Invested Assets ACQUIRED AND ADDITIONS MADE December 31 of Current Year

1 CUSIP Identification	2 Name or Description	3 Location		5 Name of Vendor or General Partner	6 Date Originally Acquired	7 Type and Strategy	8 Actual Cost at Time of Acquisition	9 Additional Investment Made After Acquisition	10 Amount of Encumbrances	11 Percentage of Ownership	
		City	State								
000000-00-0	2652 Accurus Aerospace Holdings LLC	New York	NY	Liberty Hall Capital Partners	04/04/2022	2	81,121			0.033	
000000-00-0	2673 KSL Capital Partners CV I LP	Denver	CO	KSL Capital Partners	05/25/2022	1	1,669,587			0.307	
000000-00-0	2687 ASC Communications Holdings LLC	Charlotte	NC	Pamlico Capital	07/15/2022	2	22,387			1.119	
000000-00-0	2688 Burgess Point Holdings LP	Santa Monica	CA	Burgess Point Holdings LP	07/25/2022	2	204,273			0.019	
000000-00-0	2698 Exos Collateralized SPAC Holdings Fund LP	New York	NY	Exos Collateralized SPAC Holdings Fund	11/14/2022	1	2,000,000			14.290	
000000-00-0	2707 TSS Co-Invest Holdings LP	Beverly Hills	CA	Levine Leichtman Capital Partners	09/09/2022	3	3,000,000			0.587	
000000-00-0	2712 GB King Holdings LP	Rye	NY	Greenbriar Equity Group LP	10/31/2022	2	66,700			0.020	
000000-00-0	2720 AASC Holdings LP	Rye	NY	Greenbriar Equity Group LP	12/01/2022	2	86,000			0.059	
000000-00-0	2724 Solo Topco L.P.	San Francisco	CA	OA Topco GP LLC	12/01/2022	2	51,640			0.027	
000000-00-0	2729 TSYL TA Aggregator LP	Boston	MA	Pacific Equity Partners Fund V GP Ltd	12/19/2022	2	4,673			0.003	
2599999. Joint Venture Interests - Other - Unaffiliated								7,471,208	2,497,526	0	XXX
649526-AF-5	8003 New York Life Insurance Co	Ireland		New York Life Insurance Co	03/25/2010			15,066,573			
878091-BC-0	8005 Teachers Insurance & Annuity	Ireland		Teachers Insurance & Annuity	03/31/2010			6,086,044			
677412-AF-5	8007 Ohio National Life Ins	Ireland		Ohio National Life Ins	04/27/2015			5,500,000			
878091-BD-8	8008 Teachers Insurance & Annuity	Ireland		Teachers Insurance & Annuity	04/27/2015						
638671-AK-3	8012 Nationwide Mutual Ins Co	Ireland		Nationwide Mutual Ins Co	08/31/2017			40,672,711			
743917-AH-9	8015 Prudential Ins Co America	Ireland		Prudential Ins Co America	08/03/2016			7,261,949			
401378-AC-8	8017 Guardian Life Insurance Co of America	Ireland		Guardian Life Ins Co Amer	05/31/2017			17,088,638			
023138-AA-8	8020 Ambac Assurance Corp	Ireland		Ambac Assurance Corp	12/31/2018			16,590			
309588-AC-5	8026 Farmers Exchange Capital-Subordinated	Ireland		Farmers exchange CAP III	07/31/2020			9,895,698			
530790-AC-1	8518 Liberty Mutual Insurance Company Surplus Note 7.875	Cincinnati	OH	Stifel	08/31/2017			(18,372,284)			
2799999. Surplus Debentures, etc - Unaffiliated								0	83,215,919	0	XXX
000000-00-0	8501 Nationwide Mutual Insurance Company Surplus Note	Wilmington	DE	Nationwide Mutual Insurance Company Surplus Note	07/26/2016	3		(40,672,711)			
000000-00-0	8503 Teachers Ins & ANN 6.85 12/16/2039	New York	NY	Teachers Ins & ANN 6.85 12/16/2039	08/31/2017	3		(631,068)			
000000-00-0	8504 Guardian Life Ins 4.85 01/24/2077	New York	NY	Guardian Life Ins 4.85 01/24/2077	08/31/2017	3		(17,088,638)			
000000-00-0	8506 Prudential Ins 8.30 07/01/2025	Newark	NJ	Prudential Ins 8.30 07/01/2025	08/31/2017	3		(7,261,949)			
000000-00-0	8508 New York Life 6.75 11/15/2039	New York	NY	New York Life 6.75 11/15/2039	10/01/2021	3		(15,066,573)			
000000-00-0	8512 TIAA 4.900 09/15/44	New York	NY	TIAA 4.900 09/15/44	07/05/2021	3		(6,082,795)			
000000-00-0	8513 Farmers Surplus Note 7.05	Cincinnati	OH	Farmers Surplus Note 7.05	09/27/2016	3		(9,895,698)			
000000-00-0	8519 Ohio National Life Insurance Company Surplus Note	Cincinnati	OH	Ohio National Life Insurance Company Surplus Note	07/31/2016	3		(5,500,000)			
000000-00-0	8520 AMBAC Assurance	New York	NY	AMBAC Assurance	02/28/2018	3		(16,590)			
2899999. Surplus Debentures, etc - Affiliated								0	(102,216,022)	0	XXX
000000-00-0	7111 BABSON CLO LTD 2015-II SUB NT	Cayman Islands		BABSON CLO LTD 2015-II SUB NT	05/09/2014	3		8,543,834			
000000-00-0	7135 AMMC CLO XI Ltd-AMMC 2012-11A	Cayman Islands		AMMC CLO XI Ltd-AMMC 2012-11A	05/09/2014	3		7,313,067			
000000-00-0	7136 Ammc Clo 20 Ltd-AMMC 2017-20A	Cayman Islands		Ammc Clo 20 Ltd-AMMC 2017-20A	05/09/2014	3		12,119,493			
000000-00-0	7137 AMMC CLO XIV Ltd-AMMC 2014-14A	Cayman Islands		AMMC CLO XIV Ltd-AMMC 2014-14A	05/09/2014	3		3,276,015			
000000-00-0	7138 AMMC CLO 15 Ltd-AMMC 2014-15A	Cayman Islands		AMMC CLO 15 Ltd-AMMC 2014-15A	05/09/2014	3		13,865,706			
000000-00-0	7139 AMMC CLO XIII Ltd-AMMC 2013-13A	Cayman Islands		AMMC CLO XIII Ltd-AMMC 2013-13A	05/09/2014	3		2,028,925			
000000-00-0	7140 AMMC CLO 22 Ltd-AMMC 2018-22A SUB	Cayman Islands		AMMC CLO 22 Ltd-AMMC 2018-22A SUB	05/09/2014	3		22,257,439			
000000-00-0	7141 AMMC CLO 23 Ltd-AMMC 2020-23A SUB	Cayman Islands		AMMC CLO 23 Ltd-AMMC 2020-23A SUB	05/09/2014	3		22,558,040			
000000-00-0	7142 AMMC CLO 21 LTD	Cayman Islands		AMMC CLO 21 LTD	05/09/2014	3		3,240,462			
000000-00-0	7143 AMMC CLO 18 Ltd-AMMC 2016-18A SUB	Cayman Islands		AMMC CLO 18 Ltd-AMMC 2016-18A SUB	05/09/2014	3		9,760,259			
000000-00-0	7144 AMMC CLO XII Ltd-AMMC 2013-12A SUB	Cayman Islands		AMMC CLO XII Ltd-AMMC 2013-12A SUB	05/09/2014	3		4,487,341			
000000-00-0	7145 Ammc Clo 19 Ltd-AMMC 2016-19A	Cayman Islands		Ammc Clo 19 Ltd-AMMC 2016-19A	05/09/2014	3		10,122,035			
000000-00-0	7146 Man GLG US CLO-GLGU 2018-1A SUB	Cayman Islands		Man GLG US CLO-GLGU 2018-1A SUB	05/09/2014	3		16,212,413			
000000-00-0	7147 Magnetite XVI Ltd-MAGNE 2015-16A SUB	Cayman Islands		Magnetite XVI Ltd-MAGNE 2015-16A SUB	05/09/2014	3		1,651,518			
000000-00-0	7155 Babson CLO Ltd/Cayman Is-BABSN LP-2A SUB	Cayman Islands		Babson CLO Ltd/Cayman Is-BABSN LP-2A SUB	05/09/2014	3		23,809,374			
000000-00-0	7159 Oaktree CLO 2015-1 Ltd-OKCL 2015-1A SUB	Cayman Islands		Oaktree CLO 2015-1 Ltd-OKCL 2015-1A SUB	05/09/2014	3		4,375,681			
000000-00-0	7161 Galaxy XXII CLO Ltd-GALXY 2017-23A SUBA	Cayman Islands		Galaxy XXII CLO Ltd-GALXY 2017-23A SUBA	05/09/2014	3		3,061,010			
000000-00-0	7164 JCP Direct Lending CLO 2022 LLC	United States	US	JCP Direct Lending CLO 2022 LLC	03/13/2014	3		10,305,384			
000000-00-0	7165 Loan Asset Issuer LLC SER 2021 N-2	United States	US	Loan Asset Issuer LLC SER 2021 N-2	03/13/2014	3		14,273,820			
000000-00-0	7166 Loan Asset Issuer LLC Series 2022 NG-1	United States	US	Loan Asset Issuer LLC Series 2022 NG-1	03/13/2014	3		12,223,023			
000000-00-0	7167 AMMC CLO 16 Ltd	United States	US	AMMC CLO 16 Ltd	03/13/2014	3		4,074,448			
4699999. Residual Tranches or Interests with Underlying Assets Having Characteristics of Fixed Income Instruments - Unaffiliated								0	209,559,288	0	XXX
6099999. Total - Unaffiliated								33,991,331	397,992,022	0	XXX
6199999. Total - Affiliated								562,793	(11,985,390)	15,328,326	XXX
6299999 - Totals								34,554,124	386,006,631	15,328,326	XXX

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 3

Showing Other Long-Term Invested Assets **DISPOSED**, Transferred or Repaid During the Current Year

1 CUSIP Identification	2 Name or Description	3 Location		5 Name of Purchaser or Nature of Disposal	6 Date Originally Acquired	7 Disposal Date	8 Book/ Adjusted Carrying Value Less Encum- brances, Prior Year	Change in Book/Adjusted Carrying Value						15 Book/ Adjusted Carrying Value Less Encum- brances on Disposal	16 Consid- eration	17 Foreign Exchange Gain (Loss) on Disposal	18 Realized Gain (Loss) on Disposal	19 Total Gain (Loss) on Disposal	20 Invest- ment Income
		City	State					9 Unrealized Valuation Increase (De- crease)	10 Current Year's (Depre- ciation) or (Amorti- zation)/ Accretion	11 Current Year's Other- Than- Tempo- rary Impair- ment Recog- nized	12 Capital- ized Deferred Interest and Other	13 Total Change in Book/ Adjusted Carrying Value (9+10- 11+12)	14 Total Foreign Exchange Change in Book/ Adjusted Carrying Value						
000000-00-0	2725 Sprott Private Resource Lending Fund III LP	Toronto	CA	Distribution	11/29/2022	12/19/2022													
1399999. Non-Registered Private Funds - Other Fixed Income Instruments - Unaffiliated								0	0	0	0	0	0	0	0	0	0	0	0
000000-00-0	6116 Sierra Senior Loan Strategy JV I LLC	New York	NY	Distribution	07/16/2015	01/01/2022													
000000-00-0	6117 Monarch Capital Partners III LP	New York	NY	Distribution	01/12/2015	11/16/2022													
000000-00-0	6118 Yukon Capital Partners II LP	Minneapolis	MN	Distribution	07/17/2014	11/30/2022													
000000-00-0	6119 Northcreek Mezzanine Fund II LP	Cincinnati	OH	Distribution	01/31/2014	10/07/2022													
000000-00-0	6120 Northcreek Mezzanine Fund III LP	Cincinnati	OH	Distribution	09/10/2019	10/07/2022													
000000-00-0	6121 ExWorks Capital Fund I LP	Chicago	IL	Liquidation of Investment	04/17/2017	12/01/2022		(1)				(1)							
000000-00-0	6122 ExWorks Capital Fund II Parallel Vehicle LP	Chicago	IL	Liquidation of Investment	06/22/2017	12/01/2022		(1)				(1)							
000000-00-0	6123 NB Private Equity Credit Opportunities Fund LP	New York	NY	Distribution	06/07/2017	12/31/2022													
000000-00-0	6124 Yukon Capital Partners III LP	Minneapolis	MN	Distribution	07/18/2017	10/26/2022													
000000-00-0	6125 Monarch Capital Partners IV LP	New York	NY	Distribution	10/30/2017	11/30/2022													
000000-00-0	6126 Gryphon Mezzanine Partners LP	San Francisco	CA	Distribution	11/30/2017	11/30/2022													
000000-00-0	6128 World Trade Finance LLC	Oak Brook	IL	Distribution	04/20/2020	09/14/2022													
000000-00-0	6129 SAAS Capital Fund III	Cincinnati	OH	Distribution	08/09/2018	10/07/2022													
000000-00-0	6130 SAAS Capital Fund III (B) LP	Cincinnati	OH	Distribution	08/26/2020	11/07/2022													
000000-00-0	6131 Great American Capital Partners Fund II LP	Los Angeles	CA	Distribution	01/12/2018	01/01/2022													
000000-00-0	6132 Sagard Credit Partners LP	Toronto	CA	Distribution	10/09/2018	11/15/2022													
000000-00-0	6133 PineBridge Private Credit Feeder LP	New York	NY	Distribution	11/28/2018	12/23/2022													
000000-00-0	6134 Gryphon Mezzanine Partners II Feeder Fund LP	San Francisco	CA	Distribution	12/20/2019	11/01/2022													
000000-00-0	6135 NB Direct Access Insurance SPV LLC	Wilmington	DE	Distribution	08/21/2020	11/01/2022													
000000-00-0	6136 Callius Partners III LP	Los Angeles	CA	Distribution	06/25/2004	03/02/2022													
000000-00-0	6137 Cyprium Parallel Investors V LP	Cleveland	OH	Distribution	08/15/2019	11/01/2022													
000000-00-0	6148 TTGA SBIC Pioneer Feeder Fund LP	Purchase	NY	Distribution	05/25/2021	12/01/2022													
1799999. Joint Venture Interests - Fixed Income - NAIC Designation Not Assigned by the SVO - Unaffiliated								0	(2)	0	0	0	(2)	0	0	16,122,830	0	0	0
000000-00-0	1901 High Road Capital Partners Fund II P	Greenwich	CT	Distribution	05/03/2013	05/31/2022													
000000-00-0	2182 River Cities Capital Fund VI LP	Cincinnati	OH	Distribution	02/15/2018	10/07/2022													
000000-00-0	2416 Gryphon Partners VI LP	San Francisco	CA	Distribution	11/26/2021	12/31/2022													
000000-00-0	2518 MidOcean Partners VI LP	New York	NY	Distribution	11/09/2021	05/31/2022													
000000-00-0	2581 Energy Impact Fund II LP	New York	NY	Distribution	11/12/2021	10/31/2022													
000000-00-0	2584 One Equity Partners VIII LP	New York	CA	Distribution	01/26/2022	12/13/2022													
000000-00-0	2622 OceanSound Partners Fund LP	New York	NY	Distribution	12/27/2021	11/30/2022													
000000-00-0	2624 KLOP Domestic Fund III LP	New York	NY	Distribution	12/27/2021	12/05/2022													
000000-00-0	2633 Weatherby Parent Holdings LLC	Boston	MA	Distribution	02/07/2022	09/14/2022													
000000-00-0	2635 Karakoram Fund I LP	Manhattan Beach	CA	Distribution	01/28/2022	11/24/2022													
000000-00-0	2686 SER Capital Partners I LP	Houston	TX	Distribution	07/31/2021	09/30/2022													
000000-00-0	2691 PEP Secure Assets Fund II LP	Sydney NSW 2000		Distribution	12/19/2022	12/19/2022													
000000-00-0	2692 NexPhase Capital Fund V LP	New York	NY	Distribution	12/16/2022	12/19/2022													
000000-00-0	2710 Asper DHJK LP	London SE1 9SG		Distribution	10/21/2022	12/01/2022													
000000-00-0	2713 Rockland Power Partners IV LP	The Woodlands	TX	Distribution	10/20/2022	12/19/2022													
000000-00-0	2717 Ampersand 2022 LP	Wellesley	MA	Distribution	11/02/2022	11/02/2022													
000000-00-0	2733 Capital Z Partners (MGA) L.P.	New York	NY	Distribution	12/14/2022	12/19/2022													
000000-00-0	6001 A&M Capital Partners LP	GREENWICH	CT	Distribution	12/06/2013	01/01/2022													
000000-00-0	6002 A&M Capital Partners II LP	GREENWICH	CT	Distribution	05/25/2018	01/01/2022													
000000-00-0	6003 Allos III-Q LP	Rowayton	CT	Distribution	12/19/2018	01/01/2022													
000000-00-0	6004 AltEnergy Storage LLC	Rowayton	CT	Liquidation of Investment	09/28/2015	12/01/2022													
000000-00-0	6005 ArLight Energy Partners Fund VI LP	Boston	MA	Distribution	08/04/2015	12/31/2022													
000000-00-0	6006 Cincy Tech Fund IV LLC	Cincinnati	OH	Distribution	03/18/2016	11/01/2022													
000000-00-0	6007 Electric Gaurd Dog LLC	New York	NY	Liquidation of Investment	06/08/2016	12/01/2022		67,068											113,870
000000-00-0	6008 Harvest Intrexon Enterprise Fund I LP	San Francisco	CA	Distribution	09/04/2015	12/13/2022													

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 3

Showing Other Long-Term Invested Assets DISPOSED, Transferred or Repaid During the Current Year

1 CUSIP Identification	2 Name or Description	Location		5 Name of Purchaser or Nature of Disposal	6 Date Originally Acquired	7 Disposal Date	8 Book/ Adjusted Carrying Value Less Encum- brances, Prior Year	Change in Book/Adjusted Carrying Value						15 Book/ Adjusted Carrying Value Less Encum- brances on Disposal	16 Consid- eration	17 Foreign Exchange Gain (Loss) on Disposal	18 Realized Gain (Loss) on Disposal	19 Total Gain (Loss) on Disposal	20 Invest- ment Income	
		3 City	4 State					9 Unrealized Valuation Increase (De- crease)	10 Current Year's (Depre- ciation) or (Amorti- zation)/ Accretion	11 Current Year's Other- Than- Tempo- rary Impair- ment Recog- nized	12 Capital- ized Deferred Interest and Other	13 Total Change in Book/ Adjusted Carrying Value (9+10- 11+12)	14 Total Foreign Exchange Change in Book/ Adjusted Carrying Value							
000000-00-0	6009 LLR Equity Partners IV LP	PHILADELPHIA	PA	Distribution	03/14/2014	11/07/2022														
000000-00-0	6010 NB Secondary Opportunities Fund III LP	New York	NY	Distribution	05/23/2013	11/23/2022														
000000-00-0	6011 NB Strategic Co-Investment Partners II LP	New York	NY	Distribution	10/01/2012	01/01/2022														
000000-00-0	6012 NB Strategic Co-Investment Partners III LP	New York	NY	Distribution	01/28/2016	10/14/2022														
000000-00-0	6013 NB Secondary Opportunities Fund IV LP	New York	NY	Distribution	04/19/2017	09/23/2022														
000000-00-0	6014 OLG Investment Partners LP	Cincinnati	OH	Distribution	09/27/2013	07/31/2022														
000000-00-0	6015 Bridge Growth Partners LP	New York	NY	Distribution	07/15/2014	06/30/2022														
000000-00-0	6016 Channel 51 LLC	Miami	FL	Distribution	04/29/2016	06/30/2022														
000000-00-0	6017 Financial Edge Fund LP	Naples	FL	Distribution	11/29/2007	01/01/2022														
000000-00-0	6018 Greenspring Opportunities IV LP	Owing Mills	MD	Distribution	04/25/2016	01/01/2022														
000000-00-0	6019 Narya Capital Fund I LP	Cincinnati	OH	Distribution	03/20/2020	01/01/2022														
000000-00-0	6021 Orchard Tosca Investment Partners LP	CINCINNATI	OH	Distribution	08/19/2011	01/01/2022														
000000-00-0	6022 Patriot Financial Partners II LP	Radnor	PA	Distribution	04/30/2014	10/14/2022														
000000-00-0	6023 Patriot Financial Partners III, L.P.	Radnor	PA	Distribution	07/21/2017	01/01/2022														
000000-00-0	6024 Project Senator Holdings LP	New York	NY	Distribution	05/11/2016	01/01/2022														
000000-00-0	6025 RCOF IFBYPHONE LLC	Cincinnati	OH	Distribution	09/09/2014	01/01/2022														
000000-00-0	6026 River Cities Capital Fund IV LP	Davenport	IA	Distribution	09/30/2012	01/01/2022														
000000-00-0	6027 River Cities Capital Fund V, LP	Davenport	IA	Distribution	12/31/2012	11/18/2022														
000000-00-0	6030 Snow Phipps II LP	New York	NY	Distribution	01/08/2010	01/01/2022														
000000-00-0	6031 Snow Phipps III LP	New York	NY	Distribution	06/08/2016	06/30/2022														
000000-00-0	6032 Snow Phipps LP	New York	NY	Distribution	02/06/2007	07/31/2022														
000000-00-0	6033 Solamere Capital Fund II LP	Boston	MA	Distribution	08/19/2013	10/04/2022														
000000-00-0	6034 Solamere Capital Fund II-A LP	Boston	MA	Distribution	08/19/2013	06/30/2022														
000000-00-0	6035 Solamere Portfolio Company Investments II LLC Vivint	Boston	MA	Distribution	01/18/2019	01/01/2022														
000000-00-0	6036 Solamere Portfolio Company Investments II LLC	Boston	MA	Distribution	04/18/2016	01/01/2022														
000000-00-0	6037 Thorley Industries LLC	Pittsburgh	PA	Distribution	09/23/2015	01/01/2022														
000000-00-0	6038 Three Ocean Partners LLC	New York	NY	Distribution	06/01/2011	01/01/2022														
000000-00-0	6039 Tritium Partners LLC	Austin	TX	Distribution	06/26/2015	06/30/2022														
000000-00-0	6041 L-A Saturn Acquisition LP	Philadelphia	PA	Distribution	01/16/2015	11/22/2022														
000000-00-0	6042 Cincinnati Cornerstone Investors El III LLC	Cincinnati	OH	Distribution	09/13/2016	01/01/2022														
000000-00-0	6043 BGP FS Holdco LLC	New York	NY	Liquidation of Investment	11/08/2016	09/01/2022		(678,463)				(678,463)		(1)				399	399	188,562
000000-00-0	6044 MCOF GP LLC	New York	NY	Liquidation of Investment	07/15/2016	12/01/2022		(1,157)				(1,157)								0
000000-00-0	6045 MCOF Management LLC	New York	NY	Liquidation of Investment	07/15/2016	12/01/2022		(2,784)				(2,784)								0
000000-00-0	6046 Medley Credit Opportunity Delaware Fund LP	New York	NY	Liquidation of Investment	10/01/2021	12/01/2022		(41,587)				(41,587)								4,398,429
000000-00-0	6047 Gryphon Partners IV LP	San Francisco	CA	Distribution	12/06/2016	10/26/2022														
000000-00-0	6048 Gryphon Partners V LP	San Francisco	CA	Distribution	08/29/2018	10/26/2022														
000000-00-0	6049 A&M Capital Opportunities Fund LP	Greenwich	CT	Distribution	10/01/2021	11/30/2022														
000000-00-0	6050 ManchesterStory Venture Fund LP	West Des Moines	IA	Distribution	03/23/2017	01/01/2022														
000000-00-0	6051 Medley Real D Annuity LLC	New York	NY	Liquidation of Investment	03/21/2016	12/01/2022		(40,000)				(40,000)								
000000-00-0	6052 Bridge Growth Partners LP Accedian Holdings	New York	NY	Distribution	05/19/2017	01/01/2022														
000000-00-0	6053 Energy Impact Fund LP	NEW YORK	NY	Distribution	05/11/2017	12/23/2022														
000000-00-0	6054 Greenspring Global Partners VIII LP	Owing Mills	MD	Distribution	07/14/2017	03/31/2022														
000000-00-0	6055 Greenspring Opportunities V LP	Owing Mills	MD	Distribution	01/22/2018	08/04/2022														
000000-00-0	6056 OVIP LP	CINCINNATI	OH	Distribution	07/27/2017	01/01/2022														
000000-00-0	6057 LLR Equity Partners V LP	Philadelphia	PA	Distribution	03/31/2017	11/07/2022														
000000-00-0	6058 Cintrifuse Syndicate Fund II, LLC	Cincinnati	OH	Distribution	09/18/2017	08/01/2022														
000000-00-0	6059 Cintrifuse Syndicate Fund I LLC	Cincinnati	OH	Distribution	04/29/2013	06/30/2022														
000000-00-0	6060 Bridge Growth Partners Aggregator LLC	New York	NY	Distribution	09/29/2017	01/01/2022														

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

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Showing Other Long-Term Invested Assets DISPOSED, Transferred or Repaid During the Current Year

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		3 City	4 State					9 Unrealized Valuation Increase (De- crease)	10 Current Year's (Depre- ciation) or (Amorti- zation)/ Accretion	11 Current Year's Other- Than- Tempo- rary Impair- ment Recog- nized	12 Capital- ized Deferred Interest and Other	13 Total Change in Book/ Adjusted Carrying Value (9+10- 11+12)	14 Total Foreign Exchange Change in Book/ Adjusted Carrying Value						
000000-00-0	6061 Refinery Venture Fund I LP	FORT WORTH	TX	Distribution	11/20/2017	01/01/2022													
000000-00-0	6062 Foresite Capital Fund IV LP	San Francisco	CA	Distribution	04/16/2018	06/30/2022									219,221				
000000-00-0	6063 Rivercrest Capital Partners LP	Fort Worth	TX	Distribution	04/02/2018	09/30/2022									1,477,767				
000000-00-0	6064 Corsair Assist Investors LP	New York	NY	Distribution	05/25/2018	01/01/2022													
000000-00-0	6065 Corsair Boomer Investors LP	New York	NY	Distribution	06/25/2018	01/01/2022													
000000-00-0	6066 Corsair V Financial Services Capital Partners LP	New York	NY	Distribution	06/25/2018	12/13/2022									2,993,691				
000000-00-0	6067 NB Dyal IV US Investors LP	New York	NY	Distribution	06/11/2018	08/25/2022									714,854				
000000-00-0	6068 Trilantic Capital Partners VI LP	New York	NY	Distribution	07/25/2018	07/01/2022									660,735				
000000-00-0	6069 Cincinnati Cornerstone Investors EI IV LLC	Cincinnati	OH	Distribution	09/28/2018	01/01/2022													
000000-00-0	6070 Medley Aspect Management LLC	Wilmington	DE	Liquidation of Investment	07/15/2016	12/01/2022		(1,152)				(1,152)							0
000000-00-0	6071 Cowboy Parent LLC	New York	NY	Distribution	10/29/2018	01/01/2022													
000000-00-0	6072 Solamere Capital Fund III LP	Boston	MA	Distribution	11/20/2018	12/21/2022									449,724				
000000-00-0	6073 Roark Capital Partners Fund V LP	New York	NY	Distribution	11/01/2018	12/23/2022									9,824				
000000-00-0	6074 OTAIP LP	Chicago	IL	Distribution	02/01/2019	01/01/2022													
000000-00-0	6075 Greenspring Global Partners IX-B LP	Owing Mills	MD	Distribution	02/08/2019	08/04/2022									80,464				
000000-00-0	6076 Blackstone Tactical Opportunities Fund III LP	New York	NY	Distribution	02/08/2019	12/02/2022									858,014				
000000-00-0	6077 Bridge Growth Partners LP Accedian Holdings II	New York	NY	Distribution	03/08/2019	01/01/2022													
000000-00-0	6078 TriArtisan PFC Partners LLC	Wilmington	DE	Distribution	02/27/2019	01/01/2022													
000000-00-0	6079 Goldner Hawn Fund VII LP	Minneapolis	MN	Distribution	04/29/2019	12/31/2022									2,268,196				
000000-00-0	6080 Cincinnati Cornerstone Investors BWI I LLC	Cincinnati	OH	Distribution	06/28/2019	01/01/2022													
000000-00-0	6081 OBIP LP	Cincinnati	OH	Distribution	06/27/2019	01/01/2022													
000000-00-0	6082 Nutraceutical Investco LP	River Side	CT	Distribution	10/18/2019	01/01/2022													
000000-00-0	6083 Tritium Partners II LLC	Austin	TX	Distribution	11/13/2019	10/28/2022									265,572				
000000-00-0	6084 Cincy Tech Fund V LLC	Cincinnati	OH	Distribution	11/20/2019	01/01/2022													
000000-00-0	6085 Corsair Blade Investors LP	New York	NY	Distribution	12/16/2019	01/01/2022													
000000-00-0	6086 Gallant Capital Partners I LP	Los Angeles	CA	Distribution	05/29/2020	12/28/2022									202,074				
000000-00-0	6087 Refinery Venture Fund II LP	Cincinnati	OH	Distribution	11/19/2019	01/01/2022													
000000-00-0	6088 Cross Creek Capital III LP	Salt Lake City	UT	Distribution	03/09/2021	01/01/2022													
000000-00-0	6089 Bridge Growth Partners II LP	New York	NY	Distribution	10/01/2021	06/30/2022									41,529				
000000-00-0	6090 Blue Chip VI Extension Fund II LLC	Cincinnati	OH	Liquidation of Investment	09/15/2015	12/01/2022													0
000000-00-0	6091 CCA Life Settlements Fund II LP	Dublin	NY	Distribution	12/16/2019	11/14/2022									1,066,891				
000000-00-0	6092 Corsair Indigo Investors LP	New York	NY	Distribution	12/07/2020	12/13/2022									200,824				
000000-00-0	6093 Foresite Capital Fund V LP	San Francisco	CA	Distribution	06/08/2020	06/30/2022									69,768				
000000-00-0	6094 Foresite Capital Opportunity Fund V LP	San Francisco	CA	Distribution	06/29/2020	06/30/2022									20,231				
000000-00-0	6095 Greenspring Opportunities VI LP	Owing Mills	MD	Distribution	01/21/2020	01/01/2022													
000000-00-0	6096 LLR Equity Partners VI LP	Philadelphia	PA	Distribution	05/13/2021	01/01/2022													
000000-00-0	6098 Dyal V US Investors LP	New York	NY	Distribution	10/01/2021	11/07/2022									260,098				
000000-00-0	6099 NB Strategic Capital LP	New York	NY	Distribution	03/05/2020	11/18/2022									1,061,926				
000000-00-0	6100 NB Strategic Co-Investment Partners IV LP	New York	NY	Distribution	01/29/2020	07/28/2022									306,740				
000000-00-0	6101 Revelstoke EPIC Fund I LP	DENVER	CA	Distribution	10/01/2021	07/01/2022									4,033				
000000-00-0	6102 Riverwood Capital Partners III LP	Menlo Park	CA	Distribution	03/27/2020	12/08/2022									440,130				
000000-00-0	6103 Cranemere Group Limited	Palo Alto	CA	Distribution	05/21/2014	04/01/2022									54,256,095				
000000-00-0	6104 Vivo Capital Fund IX LP	Palo Alto	CA	Distribution	09/09/2019	07/07/2022									326,336				
000000-00-0	6138 A&M Capital Europe SCSp	Greenwich	CT	Distribution	06/30/2019	09/22/2022									216,567				
000000-00-0	6139 GreyLion Capital LP	New York	NY	Distribution	08/20/2014	10/11/2022									160,137				
000000-00-0	6140 GreyLion Capital II LP	New York	NY	Distribution	02/28/2018	09/21/2022									1,400,060				
000000-00-0	6141 Vida Insurance Credit Opportunity Fund II LP	Austin	TX	Distribution	10/01/2021	12/31/2022									10,860,315				
000000-00-0	6142 TriArtisan Orlando Partners LLC	New York	NY	Distribution	03/12/2018	01/01/2022													

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 3

Showing Other Long-Term Invested Assets DISPOSED, Transferred or Repaid During the Current Year

1 CUSIP Identification	2 Name or Description	Location		5 Name of Purchaser or Nature of Disposal	6 Date Originally Acquired	7 Disposal Date	8 Book/ Adjusted Carrying Value Less Encum- brances, Prior Year	Change in Book/Adjusted Carrying Value						15 Book/ Adjusted Carrying Value Less Encum- brances on Disposal	16 Consid- eration	17 Foreign Exchange Gain (Loss) on Disposal	18 Realized Gain (Loss) on Disposal	19 Total Gain (Loss) on Disposal	20 Invest- ment Income	
		3 City	4 State					9 Unrealized Valuation Increase (De- crease)	10 Current Year's (Depre- ciation) or (Amorti- zation)/ Accretion	11 Current Year's Other- Than- Tempo- rary Impair- ment Recog- nized	12 Capital- ized Deferred Interest and Other	13 Total Change in Book/ Adjusted Carrying Value (9+10- 11+12)	14 Total Foreign Exchange Change in Book/ Adjusted Carrying Value							
000000-00-0	6143 Private Equity Solutions SCSF	Luxembourg	LUX	Distribution	12/16/2019	01/01/2022														
000000-00-0	6144 Blackstone Diversified Alternatives Issuer LLC	New York	NY	Distribution	05/21/2019	11/30/2022														
000000-00-0	6145 AllEnergy Storage Bridge LLC	Rowayton	CT	Liquidation of Investment	03/20/2019	12/01/2022									171,742					
000000-00-0	6146 Desri VI LLC	New York	NY	Distribution	12/17/2014	11/01/2022									34,642					
000000-00-0	6149 Greyllon Capital Fund III LP	New York	NY	Distribution	12/14/2021	12/31/2022									117,338					
000000-00-0	6150 DataLink Holdings, LLC	West Palm Beach	FL	Distribution	11/23/2020	01/01/2022	2,813,063								2,813,063					
000000-00-0	6151 Quibi Holdings, LLC (Class A)	Beverly Hills	CA	Distribution	08/24/2018	01/01/2022	944								944					
000000-00-0	6152 Quick Med Holdings LLC	Pittsburgh	PA	Distribution	11/06/2018	01/01/2022	4,014,150								4,014,150					
000000-00-0	6153 TS OpCo Holdings, LLC	Pittsburgh	PA	Distribution	09/28/2018	01/01/2022	8,046,692								8,046,692					
000000-00-0	6154 Convest Investment Partners V, LP	West Palm Beach	FL	Distribution	11/18/2021	01/01/2022	197,368								197,368					
000000-00-0	6147 Monza Energy LLC	Houston	TX	Distribution	04/17/2018	11/04/2022									1,538,781					
1999999. Joint Venture Interests - Common Stock - Unaffiliated							15,072,217	(698,075)	0	0	0	(698,075)	0	(1)	128,344,127	1,421	399	1,820	4,661,778	
000000-00-0	6040 Vida Longevity Fund LP	Austin	TX	Distribution	04/01/2015	12/31/2022									509,078					
2099999. Joint Venture Interests - Common Stock - Affiliated							0	0	0	0	0	0	0	0	0	509,078	0	0	0	0
000000-00-0	6105 L-A Laramar Urban Neighborhood Fund LP	Philadelphia	PA	Distribution	10/15/2015	01/01/2022														
000000-00-0	6106 Lubert-Adler Real Estate Fund VII LP	Philadelphia	PA	Distribution	10/15/2013	08/05/2022									1,956,523					
000000-00-0	6107 Lubert-Adler Real Estate Fund VII-B LP	Philadelphia	PA	Distribution	04/07/2017	12/31/2022									4,128,860					
000000-00-0	6108 NB Real Estate Secondary Opportunities Fund LP	Philadelphia	PA	Distribution	12/05/2018	12/21/2022									2,201,890					
000000-00-0	6109 LCN NA Fund III-D LP	Philadelphia	PA	Distribution	08/23/2019	11/01/2022									534,705					
000000-00-0	6110 Lubert-Adler Workforce Housing Fund LP	Philadelphia	PA	Distribution	10/01/2021	12/31/2022									6,923,109					
000000-00-0	6111 Hillpointe Workforce Housing Partnership I LP	Winter Park	FL	Distribution	03/17/2020	11/30/2022									2,021,544					
000000-00-0	6112 Hillpointe Workforce Housing Partnership II LP	Winter Park	FL	Distribution	11/03/2020	01/01/2022														
2199999. Joint Venture Interests - Real Estate - Unaffiliated							0	0	0	0	0	0	0	0	17,766,630	0	0	0	0	
000000-00-0	2458 Barings Innovations & Growth Real Estate Fund	Springfield	MA	Distribution	10/06/2021	12/22/2022									3,624,079					
000000-00-0	2525 MM BIG Peninsula Co-Invest Member LLC	Hartford	CT	Distribution	06/30/2021	06/03/2022									4,119,020					
000000-00-0	2530 MM Horizon Savannah Member LLC	Springfield	MA	Distribution	10/25/2021	09/01/2022									0					
000000-00-0	2676 Trailside MM Member II LLC	Hartford	CT	Distribution	07/26/2022	09/01/2022									0					
2299999. Joint Venture Interests - Real Estate - Affiliated							0	0	0	0	0	0	0	0	7,743,099	0	0	0	0	
000000-00-0	6113 Ellington GA RPL 1 LLC	Old Greenwich	CT	Liquidation of Investment	05/04/2020	12/01/2022									58,776				28,719	
000000-00-0	6114 Pretium Mortgage Credit Partners I LP	New York	NY	Distribution	12/04/2014	01/01/2022									0					
000000-00-0	6115 SHARB Investors LP	New York	NY	Distribution	11/24/2020	01/01/2022									0					
2399999. Joint Venture Interests - Mortgage Loans - Unaffiliated							0	(12,176)	0	0	0	(12,176)	0	0	58,776	0	0	0	28,719	
000000-00-0	2461 Barings Real Estate Debt Income Fund LP	Hartford	CT	Distribution	03/24/2021	12/31/2022									3,609,127					
2499999. Joint Venture Interests - Mortgage Loans - Affiliated							0	0	0	0	0	0	0	0	0	3,609,127	0	0	0	0
000000-00-0	2601 BSP TS Co-Invest I LLC	New York	NY	Distribution	12/10/2021	04/29/2022									0					
000000-00-0	2616 Stork SPV LP	Greenwich	CT	Distribution	12/20/2021	06/24/2022									0					
000000-00-0	2673 KSL Capital Partners CV I LP	Denver	CO	Distribution	05/25/2022	11/02/2022									0					
2599999. Joint Venture Interests - Other - Unaffiliated							0	0	0	0	0	0	0	0	0	0	0	0	0	0
649526-AF-5	8003 New York Life Insurance Co	Ireland		Distribution	03/25/2010	12/31/2022									0					
878091-BC-0	8005 Teachers Insurance & Annuity	Ireland		Distribution	03/31/2010	09/30/2022									46,415	(46,415)	(46,415)	(46,415)		
677412-AF-5	8007 Ohio National Life Ins	Ireland		Distribution	04/27/2015	12/31/2022									0					
878091-BD-8	8008 Teachers Insurance & Annuity	Ireland		Distribution	04/27/2015	12/31/2022									0					
638671-AK-3	8012 Nationwide Mutual Ins Co	Ireland		Distribution	08/31/2017	12/31/2022									0					
743917-AH-9	8015 Prudential Ins Co America	Ireland		Distribution	08/03/2016	12/31/2022									0					

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE BA - PART 3

Showing Other Long-Term Invested Assets DISPOSED, Transferred or Repaid During the Current Year

1	2	Location		5	6	7	8	Change in Book/Adjusted Carrying Value						15	16	17	18	19	20		
		3	4					9	10	11	12	13	14								
CUSIP Identification	Name or Description	City	State	Name of Purchaser or Nature of Disposal	Date Originally Acquired	Disposal Date	Book/Adjusted Carrying Value Less Encumbrances, Prior Year	Unrealized Valuation Increase (Decrease)	Current Year's (Depreciation) or (Amortization)/Accretion	Current Year's Other Than Temporary Impairment Recognized	Capitalized Deferred Interest and Other	Total Change in Book/Adjusted Carrying Value (9+10-11+12)	Total Foreign Exchange Change in Book/Adjusted Carrying Value	Book/Adjusted Carrying Value Less Encumbrances on Disposal	Consideration	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Investment Income		
401378-AC-8	8017 Guardian Life Insurance Co of America	Ireland		Distribution	05/31/2017	12/31/2022						.0			.0				.0		
023138-AA-8	8020 Ambac Assurance Corp	Ireland		Distribution	12/31/2018	12/31/2022						.0			.0				.0		
309588-AC-5	8026 Farmers Exchange Capital-Subordinated	Ireland		Distribution	07/31/2020	12/31/2022						.0			.0				.0		
628312-AA-8	8502 MUTUAL OF OMAHA SURPLUS NOTE	Wilmington	DE	Distribution	12/06/2016	12/31/2022						.0			.0				.0		
592173-AE-8	8505 MET LIFE 7.80 11/01/2025	New York	NY	Liquidation of Investment	08/31/2017	04/01/2022						.0		5,070,204	5,148,180		38,988	38,988	49,824		
694475-AA-2	8507 PACIFIC LIFE INSURANCE 9.25 06/15/2039	Newport Beach	CA	Distribution	10/01/2021	12/31/2022						.0			.0				.0		
707567-AC-7	8509 PENN MUTUAL LIFE 7.625 06/15/2040	Horsham	PA	Distribution	08/31/2017	12/31/2022						.0			.0				.0		
638671-AE-7	8510 NATIONWIDE MUTL 144A 7.875 04/01/2033	Columbus	OH	Distribution	10/01/2021	12/31/2022						.0			.0				.0		
628312-AB-6	8511 MUTUAL OF OMAHA 6.95 10/15/2040	Omaha	NE	Distribution	12/01/2018	12/31/2022						.0			.0				.0		
309588-AE-1	8514 Farmers Surplus Note 7.20	Cincinnati	OH	Distribution	04/11/2017	12/31/2022						.0			.0				.0		
30958P-AA-1	8515 Farmers Surplus Note 6.151	Cincinnati	OH	Distribution	04/11/2017	12/31/2022						.0			.0				.0		
309601-AE-2	8516 Farmers Ins Exch 4.747 11/01/2057	Ireland		Distribution	12/01/2018	12/31/2022						.0			.0				.0		
	8517 Savings Bank Life Insurance Company											.0			.0				.0		
80529E-AA-1	Surplus Note 6.50	Cincinnati	OH	Distribution	08/31/2017	12/31/2022						.0			.0				.0		
	8518 Liberty Mutual Insurance Company											.0			.0				.0		
530790-AC-1	Surplus Note 7.875	Cincinnati	OH	Distribution	08/31/2017	12/31/2022						.0		9,542,552	8,829,732		(356,410)	(356,410)			
2799999. Surplus Debentures, etc - Unaffiliated								0	0	0	0	0	0	14,659,171	13,931,497	0	(363,837)	(363,837)	49,824		
000000-00-0	7135 AMMC CLO XI Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			3,684,586				.0		
000000-00-0	7136 Amc Clo 20 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			6,553,579				.0		
000000-00-0	7137 AMMC CLO XIV Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			1,804,768				.0		
000000-00-0	7138 AMMC CLO 15 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			7,645,221				.0		
000000-00-0	7139 AMMC CLO XIII Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			201,323				.0		
000000-00-0	7140 AMMC CLO 22 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			11,621,130				.0		
000000-00-0	7141 AMMC CLO 23 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			11,503,691				.0		
000000-00-0	7142 AMMC CLO 21 LTD	Cayman Islands	KY	Distribution	05/09/2014							.0			1,633,918				.0		
000000-00-0	7143 AMMC CLO 18 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			5,409,951				.0		
000000-00-0	7144 AMMC CLO XII Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			2,065,560				.0		
000000-00-0	7145 Amc Clo 19 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			4,635,248				.0		
000000-00-0	7146 Man GLG US CLO	Cayman Islands	KY	Distribution	05/09/2014							.0			8,987,605				.0		
000000-00-0	7147 Magnetite XVI Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			830,901				.0		
000000-00-0	7159 Oaktree CLO 2015-1 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			338,907				.0		
000000-00-0	7161 Galaxy XXIII CLO Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			762,799				.0		
000000-00-0	7164 JCP Direct Lending CLO 2022 LLC	Cayman Islands	KY	Distribution	05/09/2014							.0			5,203,506				.0		
000000-00-0	7165 LOAN ASSET ISSUER LLC SER 2021 M-2	Cayman Islands	KY	Distribution	05/09/2014							.0			7,208,083				.0		
000000-00-0	7166 Loan Asset Issuer LLC Series 2022 NG-1	Cayman Islands	KY	Distribution	05/09/2014							.0			6,171,781				.0		
000000-00-0	7167 AMMC CLO 16 Ltd	Cayman Islands	KY	Distribution	05/09/2014							.0			2,343,160				.0		
4699999. Residual Tranches or Interests with Underlying Assets Having Characteristics of Fixed Income Instruments - Unaffiliated								0	0	0	0	0	0	88,605,616	0	0	0	0	0		
000000-00-0	7111 Barings Clo Ltd 2015-11	Cayman Islands	KY	Distribution	05/09/2014							.0			2,398,765				.0		
000000-00-0	7155 Barings Loan Partners CLO Ltd 3	Cayman Islands	KY	Distribution	05/09/2014							.0			12,018,569				.0		
4799999. Residual Tranches or Interests with Underlying Assets Having Characteristics of Fixed Income Instruments - Affiliated								0	0	0	0	0	0	14,417,334	0	0	0	0	0		
6099999. Total - Unaffiliated								15,072,217	(710,253)	0	0	0	(710,251)	0	14,659,170	264,829,476	1,421	(363,438)	(362,017)	4,740,321	
6199999. Total - Affiliated								0	0	0	0	0	0	0	0	26,278,637	0	0	0	0	0
6299999 - Totals								15,072,217	(710,253)	0	0	0	(710,251)	0	14,659,170	291,108,114	1,421	(363,438)	(362,017)	4,740,321	

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FILED UNDER SEPARATE COVER

SCHEDULE D – PART 1

SCHEDULE D – PART 2 – SECTION 1

SCHEDULE D – PART 2 – SECTION 2

SCHEDULE D – PART 3

SCHEDULE D – PART 4

SCHEDULE D – PART 5

SCHEDULE D – PART 6 – SECTION 1

SCHEDULE D – PART 6 – SECTION 2

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 1

Showing All Long-Term BONDS Owned December 31 of Current Year

1	2	Codes			6	7	Fair Value		10	11	Change in Book/Adjusted Carrying Value				Interest					Dates	
		3	4	5			8	9			12	13	14	15	16	17	18	19	20	21	22
CUSIP Identification	Description	C o d e	F o r e i g n	B o n d C h a r	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol	Actual Cost	Rate Used to Obtain Fair Value	Fair Value	Par Value	Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization) Accretion	Current Year's Other-Than-Temporary Impairment Recognized	Total Foreign Exchange Change in Book/ Adjusted Carrying Value	Rate of	Effective Rate of	When Paid	Admitted Amount Due and Accrued	Amount Received During Year	Acquired	Stated Contractual Maturity Date
0109999999	Total - U.S. Government Bonds					98,902,747	XXX	63,969,575	541,297,800	98,902,747	0	(39)	0	0	XXX	XXX	XXX	627,990	1,635,634	XXX	XXX
0309999999	Total - All Other Government Bonds					19,164,997	XXX	17,782,764	18,715,000	19,164,997	0	(8,476)	0	0	XXX	XXX	XXX	290,505	757,674	XXX	XXX
0509999999	Total - U.S. States, Territories and Possessions Bonds					190,684,775	XXX	183,055,580	182,325,728	190,684,775	0	(1,340,332)	0	0	XXX	XXX	XXX	3,134,065	9,156,544	XXX	XXX
0709999999	Total - U.S. Political Subdivisions Bonds					272,686,233	XXX	268,730,922	266,685,067	272,686,233	0	(788,541)	0	0	XXX	XXX	XXX	4,761,483	13,052,970	XXX	XXX
0909999999	Total - U.S. Special Revenues Bonds					1,691,642,721	XXX	1,536,952,443	1,659,493,518	1,691,650,066	(2,918)	(4,515,357)	0	0	XXX	XXX	XXX	18,345,665	67,711,176	XXX	XXX
1109999999	Total - Industrial and Miscellaneous (Unaffiliated) Bonds					27,668,163,529	XXX	24,635,035,306	27,839,534,928	27,641,259,241	(13,287,008)	46,172,488	17,057,565	5,925,317	XXX	XXX	XXX	285,908,961	1,165,034,264	XXX	XXX
1309999999	Total - Hybrid Securities					634,162,401	XXX	590,636,951	633,547,112	634,223,003	0	(1,765,409)	0	60,601	XXX	XXX	XXX	8,842,359	24,516,176	XXX	XXX
1509999999	Total - Parent, Subsidiaries and Affiliates Bonds					503,849,582	XXX	449,912,380	505,114,616	505,922,314	0	213,321	0	2,072,732	XXX	XXX	XXX	6,851,818	15,787,820	XXX	XXX
1909999999	Subtotal - Bonds - Unaffiliated Bank Loans					2,315,629,132	XXX	2,274,868,966	2,323,242,364	2,277,410,910	(907,239)	0	400,189	791,657	XXX	XXX	XXX	52,475,162	96,599,537	XXX	XXX
2419999999	Total - Issuer Obligations					18,516,524,854	XXX	16,187,559,910	18,047,574,273	18,523,796,504	0	(23,597,449)	4,403,824	5,985,918	XXX	XXX	XXX	222,471,289	881,905,148	XXX	XXX
2429999999	Total - Residential Mortgage-Backed Securities					2,738,552,904	XXX	2,463,076,743	3,483,192,043	2,738,192,113	(371,053)	34,285,909	11,543,317	0	XXX	XXX	XXX	13,728,095	86,433,101	XXX	XXX
2439999999	Total - Commercial Mortgage-Backed Securities					1,518,613,007	XXX	1,339,186,111	1,646,283,399	1,515,350,452	(1,740,071)	8,575,505	0	0	XXX	XXX	XXX	8,975,836	46,187,815	XXX	XXX
2449999999	Total - Other Loan-Backed and Structured Securities					8,305,566,220	XXX	7,756,253,157	8,469,664,054	8,277,154,307	(11,178,802)	18,703,690	1,110,424	2,072,732	XXX	XXX	XXX	83,587,626	283,126,194	XXX	XXX
2459999999	Total - SVO Identified Funds						XXX								XXX	XXX	XXX			XXX	XXX
2469999999	Total - Affiliated Bank Loans						XXX								XXX	XXX	XXX			XXX	XXX
2479999999	Total - Unaffiliated Bank Loans					2,315,629,132	XXX	2,274,868,966	2,323,242,364	2,277,410,910	(907,239)	0	400,189	791,657	XXX	XXX	XXX	52,475,162	96,599,537	XXX	XXX
2489999999	Total - Unaffiliated Certificates of Deposit						XXX								XXX	XXX	XXX			XXX	XXX
2509999999	Total Bonds					33,394,886,117	XXX	30,020,944,887	33,969,956,133	33,331,904,286	(14,197,165)	37,967,655	17,457,754	8,850,307	XXX	XXX	XXX	381,238,008	1,394,251,795	XXX	XXX

1. Line Book/Adjusted Carrying Value by NAIC Designation Category Footnote:

Line Number	1A	2A	3A	4A	5A	6	1B	2B	3B	4B	5B	1C	2C	3C	4C	5C	1D	1E	1F	1G
1A	5,725,912,172	3,329,380,343	316,134,709	116,731,164	73,389,328	31,207,325	1,225,838,546	5,785,784,561	314,908,345	132,250,328	134,926,962	2,413,719,914	4,320,396,554	844,894,163	205,663,082	1,046,841	1,428,314,630	1,000,154,376	3,669,125,401	2,262,125,542

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 2 - SECTION 1

Showing All PREFERRED STOCKS Owned December 31 of Current Year

1 CUSIP Identi- fication	2 Description	3 Codes		5 Number of Shares	6 Par Value Per Share	7 Rate Per Share	8 Book/ Adjusted Carrying Value	9 Fair Value		11 Actual Cost	12 Dividends			13 Change in Book/Adjusted Carrying Value				20 NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol	21 Date Acquired	
		3 Code	4 For- eign					9 Rate Per Share Used to Obtain Fair Value	10 Fair Value		12 Declared but Unpaid	13 Amount Received During Year	14 Nonadmitted Declared But Unpaid	15 Unrealized Valuation Increase/ (Decrease)	16 Current Year's (Amor- tization) Accretion	17 Current Year's Other-Than- Temporary Impairment Recognized	18 Total Change in Book/Adjusted Carrying Value (15 + 16 - 17)			19 Total Foreign Exchange Change in Book/ Adjusted Carrying Value
4109999999. Total - Preferred Stock - Industrial and Miscellaneous (Unaffiliated)							184,968,184	XXX	198,325,422	172,650,366	1,599,502	4,280,504	0	(42,762,430)	0	4,387,814	(47,150,244)	0	XXX	XXX
4409999999. Total - Preferred Stock - Parent, Subsidiaries and Affiliates								XXX											XXX	XXX
4509999999 - Total Preferred Stocks							184,968,184	XXX	198,325,422	172,650,366	1,599,502	4,280,504	0	(42,762,430)	0	4,387,814	(47,150,244)	0	XXX	XXX

1. Line Book/Adjusted Carrying Value by NAIC Designation Category Footnote:

Line Number	1A	1B	1C	1D	1E	1F	1G
1A	0	0	0	0	0	0	4,037,177
1B	19,849,719	44,576,923	28,213,600				
1C	6,998,696	0	0				
1D	1,261,265	0	137,753				
1E	0	59,670,378	19,622,298				
1F	600,375						

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 4

Showing All Long-Term Bonds and Stocks SOLD, REDEEMED or Otherwise DISPOSED OF During Current Year

1 CUSIP Identi- fication	2 Description	3 For- eign	4 Disposal Date	5 Name of Purchaser	6 Number of Shares of Stock	7 Con- sideration	8 Par Value	9 Actual Cost	10 Prior Year Book/ Adjusted Carrying Value	Change In Book/Adjusted Carrying Value					16 Book/ Adjusted Carrying Value at Disposal Date	17 Foreign Exchange Gain (Loss) on Disposal	18 Realized Gain (Loss) on Disposal	19 Total Gain (Loss) on Disposal	20 Bond Interest/ Stock Dividends Received During Year	21 Stated Con- tractual Maturity Date
										11 Unrealized Valuation Increase/ Decrease	12 Current Year's (Amor- tization)/ Accretion	13 Current Year's Other- Than- Temporary Impairment Recognized	14 Total Change in Book/ Adjusted Carrying Value (11+12-13)	15 Total Foreign Exchange Change in Book/ Adjusted Carrying Value						
2509999997. Total - Bonds - Part 4						13,009,834,442	12,714,210,850	12,666,568,665	12,220,385,568	0	65,455,432	4,303,660	61,151,772	0	12,901,673,199	85,619	108,075,635	108,161,254	286,723,357	XXX
2509999998. Total - Bonds - Part 5						1,531,687,203	1,627,868,728	1,620,389,428	0	0	(495,701)	62,720	(558,421)	0	1,590,182,199	13,014	(58,508,018)	(58,495,004)	32,137,166	XXX
2509999999. Total - Bonds						14,541,521,645	14,342,079,578	14,286,958,093	12,220,385,568	0	64,959,731	4,366,380	60,593,351	0	14,491,855,398	98,633	49,567,617	49,666,250	318,860,523	XXX
4509999997. Total - Preferred Stocks - Part 4						6,561,779	XXX	5,082,627	6,967,968	0	0	0	0	0	5,082,627	0	1,479,152	1,479,152	124,365	XXX
4509999998. Total - Preferred Stocks - Part 5							XXX													XXX
4509999999. Total - Preferred Stocks						6,561,779	XXX	5,082,627	6,967,968	0	0	0	0	0	5,082,627	0	1,479,152	1,479,152	124,365	XXX
5989999997. Total - Common Stocks - Part 4						5,084,520	XXX	5,134,063	4,417,846	0	0	0	0	0	5,134,064	0	(49,544)	(49,544)	54,675	XXX
5989999998. Total - Common Stocks - Part 5						6,571,713	XXX	6,277,759	0	0	0	0	0	0	6,277,759	(33)	293,984	293,951	59,777	XXX
5989999999. Total - Common Stocks						11,656,233	XXX	11,411,822	4,417,846	0	0	0	0	0	11,411,823	(33)	244,440	244,407	114,452	XXX
5999999999. Total - Preferred and Common Stocks						18,218,012	XXX	16,494,449	11,385,814	0	0	0	0	0	16,494,450	(33)	1,723,592	1,723,559	238,817	XXX
6009999999 - Totals						14,559,739,657	XXX	14,303,452,542	12,231,771,382	0	64,959,731	4,366,380	60,593,351	0	14,508,349,848	98,600	51,291,209	51,389,809	319,099,340	XXX

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE D - PART 5

Showing All Long-Term Bonds and Stocks ACQUIRED During Year and Fully DISPOSED OF During Current Year

1 CUSIP Identi- fication	2 Description	3 For- eign	4 Date Acquired	5 Name of Vendor	6 Disposal Date	7 Name of Purchaser	8 Par Value (Bonds) or Number of Shares (Stock)	9 Actual Cost	10 Consid- eration	11 Book/ Adjusted Carrying Value at Disposal	Change in Book/Adjusted Carrying Value					17 Foreign Exchange Gain (Loss) on Disposal	18 Realized Gain (Loss) on Disposal	19 Total Gain (Loss) on Disposal	20 Interest and Dividends Received During Year	21 Paid for Accrued Interest and Dividends
											12 Unrealized Valuation Increase/ (Decrease)	13 Current Year's (Amort- ization)/ Accretion	14 Current Year's Other- Than- Temporary Impairment Recognized	15 Total Change in Book/ Adjusted Carrying Valu (12 + 13 - 14)	16 Total Foreign Exchange Change in Book/ Adjusted Carrying Value					
2509999998. Total - Bonds							1,627,868,728	1,620,389,428	1,531,687,203	1,590,182,199	0	(495,701)	62,720	(558,421)	0	13,014	(58,508,018)	(58,495,004)	32,137,166	7,355,775
4509999998. Total - Preferred Stocks																				
5989999998. Total - Common Stocks							6,277,759	6,571,713	6,277,759	0	0	0	0	0	(33)	293,984	293,951	59,777	0	
5999999999. Total - Preferred and Common Stocks							6,277,759	6,571,713	6,277,759	0	0	0	0	0	(33)	293,984	293,951	59,777	0	
6009999999 - Totals							1,626,667,187	1,538,258,916	1,596,459,958	0	(495,701)	62,720	(558,421)	0	12,981	(58,214,034)	(58,201,053)	32,196,943	7,355,775	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DA - PART 1

Showing All SHORT-TERM INVESTMENTS Owned December 31 of Current Year

1	Codes		4	5	6	7	Change in Book/Adjusted Carrying Value				12	13	Interest					20	
	2	3					8	9	10	11			14	15	16	17	18		19
Description	Code	For- eign	Date Acquired	Name of Vendor	Maturity Date	Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other- Than- Temporary Impairment Recognized	Total Foreign Exchange Change in Book/ Adjusted Carrying Value	Par Value	Actual Cost	Amount Due and Accrued Dec. 31 of Current Year on Bond Not in Default	Non- Admitted Due and Accrued	Rate of	Effective Rate of	When Paid	Amount Received During Year	Paid for Accrued Interest
0109999999. Total - U.S. Government Bonds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
0309999999. Total - All Other Government Bonds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
0509999999. Total - U.S. States, Territories and Possessions Bonds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
0709999999. Total - U.S. Political Subdivisions Bonds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
0909999999. Total - U.S. Special Revenues Bonds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
Marlin Capital Conduit LLC - Term Loan			12/30/2022	BANK LOANS BABSON CA	01/26/2023	12,558,527	0	0	0	0	12,558,527	12,558,527	267,755	0	0.000	0.000	MAT	50,552	0
Amherst Libor Amherst Master Repo Facili			10/22/2021	DIRECT	04/19/2023	50,000,000	0	0	0	0	50,000,000	50,000,000	727,942	0	7.490	7.490	MON	0	0
PARKER-HANNIFIN CORP COMMERCIAL PAPER	@		12/20/2022	VARIOUS	03/31/2023	29,921,204	0	49,171	0	0	30,291,000	29,872,033	0	0	0.000	4.999	N/A	0	0
PARKER-HANNIFIN CORP COMMERCIAL PAPER	@		12/29/2022	CASTLEOAK	04/03/2023	24,684,898	0	10,141	0	0	25,000,000	24,674,757	0	0	0.000	4.995	N/A	0	0
PARKER-HANNIFIN CORP COMMERCIAL PAPER	@		12/23/2022	BNY CAPITAL	04/06/2023	20,922,171	0	25,943	0	0	21,200,000	20,896,228	0	0	0.000	5.032	N/A	0	0
TELUS CORP COMMERCIAL PAPER	@	A	12/15/2022	JP MORGAN SECURITIES	06/12/2023	13,173,867	0	30,980	0	0	13,500,000	13,142,888	0	0	0.000	5.495	N/A	0	0
Bank of Montreal/Chicago-COMMERCIAL PAPE	A		10/05/2022	WELLS	07/07/2023	8,897,928	0	0	0	0	8,800,000	8,897,928	(25,584)	0	3.710	3.710	JAJU	25,584	0
TORONTO-DOMINION BANK/THE COMMERCIAL PAP	@	A	12/23/2022	SEELAU	05/22/2023	49,076,538	0	57,788	0	0	50,000,000	49,018,750	0	0	0.000	4.804	N/A	0	0
Toronto-Dominion Bank/Th-COMMERCIAL PAPE	A		11/16/2022	JP MORGAN SECURITIES	06/21/2023	5,000,000	0	0	0	0	5,000,000	5,000,000	0	0	4.430	4.430	MUSD	0	0
Skandinaviska Enskilda B-COMMERCIAL PAPE	D		11/02/2022	JP MORGAN SECURITIES	06/01/2023	6,000,501	0	(195)	0	0	6,000,000	6,000,696	24,462	0	5.020	4.510	MON	21,828	628
SWEDBANK AB COMMERCIAL PAPER	@		12/22/2022	WELLS FARGO	04/21/2023	49,291,728	0	63,395	0	0	50,000,000	49,228,333	0	0	0.000	4.703	N/A	0	0
MUFG BANK LTD/NEW YORK NY COMMERCIAL PAP	@	C	12/22/2022	SEELAU	05/10/2023	49,156,816	0	64,176	0	0	50,000,000	49,092,639	0	0	0.000	4.787	N/A	0	0
Standard Chartered Bank/-COMMERCIAL PAPE	D		12/09/2022	BANK OF AMERICA SECU	07/07/2023	20,000,000	0	0	0	0	20,000,000	20,000,000	59,561	0	4.810	4.794	MON	0	0
Svenska Handelsbanken/Ne-COMMERCIAL PAPE	D		10/28/2022	WELLS FARGO SECURITI	05/26/2023	21,000,000	0	0	0	0	21,000,000	21,000,000	14,583	0	5.000	5.000	MON	155,429	0
Australia & New Zealand -COMMERCIAL PAPE	D		12/15/2022	BOFAMLSEC	09/18/2023	10,000,000	0	0	0	0	10,000,000	10,000,000	21,622	0	4.860	4.860	MON	0	0
National Australia Bank -COMMERCIAL PAPE	D		05/10/2022	BOFAMLSEC	02/10/2023	10,000,000	0	0	0	0	10,000,000	10,000,000	25,800	0	4.740	4.708	MON	162,661	0
National Australia Bank -COMMERCIAL PAPE	D		12/09/2022	BOFAMLSEC	07/12/2023	10,000,000	0	0	0	0	10,000,000	10,000,000	25,967	0	4.770	4.761	MON	0	0
1019999999. Subtotal - Bonds - Industrial and Miscellaneous (Unaffiliated) - Issuer Obligations						389,684,178	0	301,399	0	0	393,349,527	389,382,779	1,142,108	0	XXX	XXX	XXX	416,054	628
1109999999. Total - Industrial and Miscellaneous (Unaffiliated) Bonds						389,684,178	0	301,399	0	0	393,349,527	389,382,779	1,142,108	0	XXX	XXX	XXX	416,054	628
1309999999. Total - Hybrid Securities						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
1509999999. Total - Parent, Subsidiaries and Affiliates Bonds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
1909999999. Subtotal - Unaffiliated Bank Loans						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2419999999. Total - Issuer Obligations						389,684,178	0	301,399	0	0	393,349,527	389,382,779	1,142,108	0	XXX	XXX	XXX	416,054	628
2429999999. Total - Residential Mortgage-Backed Securities						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2439999999. Total - Commercial Mortgage-Backed Securities						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2449999999. Total - Other Loan-Backed and Structured Securities						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2459999999. Total - SVO Identified Funds						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2469999999. Total - Affiliated Bank Loans						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2479999999. Total - Unaffiliated Bank Loans						0	0	0	0	0	0	0	0	0	XXX	XXX	XXX	0	0
2509999999. Total Bonds						389,684,178	0	301,399	0	0	393,349,527	389,382,779	1,142,108	0	XXX	XXX	XXX	416,054	628
7109999999. Total - Parent, Subsidiaries and Affiliates						0	0	0	0	0	XXX	0	0	0	XXX	XXX	XXX	0	0
7709999999 - Totals						389,684,178	0	301,399	0	0	XXX	389,382,779	1,142,108	0	XXX	XXX	XXX	416,054	628

1. Line Book/Adjusted Carrying Value by NAIC Designation Category Footnote:
 Number
 1A 1A ..\$0 1B ..\$21,000,000 1C ..\$0 1D ..\$211,423,010 1E ..\$6,000,501 1F ..\$62,558,527 1G ..\$0
 1B 2A ..\$88,702,140 2B ..\$0 2C ..\$0
 1C 3A ..\$0 3B ..\$0 3C ..\$0
 1D 4A ..\$0 4B ..\$0 4C ..\$0
 1E 5A ..\$0 5B ..\$0 5C ..\$0
 1F 6\$0

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)			
007999999. Subtotal - Purchased Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	XXX	XXX				
014999999. Subtotal - Purchased Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	XXX	XXX
141932 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	04/06/2021	04/06/2028	2,560,103	4073.94000000	61,186	(8,710)	46,039			(44,232)	0	0	(8,710)	0	0		0003			
141936 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	04/06/2021	04/06/2026	643,934	4073.94000000	14,875	(2,965)	9,718			(5,221)	0	0	(2,965)	0	0		0003			
141931 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	04/20/2021	04/20/2028	2,131,255	4134.94000000	55,626	(7,919)	42,160			(2,512)	0	0	(7,919)	0	0		0003			
141935 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	04/20/2021	04/20/2026	1,033,297	4134.94000000	25,316	(5,047)	16,734			(2,043)	0	0	(5,047)	0	0		0003			
141929 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	05/06/2021	05/06/2026	2,934,227	4201.62000000	71,302	(14,213)	47,756			(1,087)	0	0	(14,213)	0	0		0003			
141934 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	05/06/2021	05/06/2028	3,525,201	4201.62000000	93,418	(13,298)	71,388			(38,491)	0	0	(13,298)	0	0		0003			
139414 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	05/20/2021	05/20/2026	3,238,121	4159.12000000	79,334	(15,815)	53,744			25,552	0	0	(15,815)	0	0		0003			
141933 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	05/20/2021	05/19/2028	4,387,198	4159.12000000	117,577	(16,744)	90,483			(6,063)	0	0	(16,744)	0	0		0003			
142030 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	06/04/2021	06/05/2026	3,793,322	4229.89000000	92,936	(18,516)	63,738			5,127	0	0	(18,516)	0	0		0003			
142031 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	06/04/2021	06/06/2028	3,756,297	4229.89000000	99,542	(14,159)	77,214			(34,900)	0	0	(14,159)	0	0		0003			
142042 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	06/18/2021	06/19/2026	4,246,800	4166.45000000	104,896	(20,899)	72,744			98,714	0	0	(20,899)	0	0		0003			
142043 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	06/18/2021	06/20/2028	5,895,992	4166.45000000	159,192	(22,644)	124,355			141,245	0	0	(22,644)	0	0		0003			
141126 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	07/06/2021	01/06/2023	6,515,310	4343.54000000	519,915	(344,716)	6,629			0	0	0	(344,716)	0	0		0003			
142044 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	07/06/2021	07/06/2026	4,766,527	4343.54000000	116,303	(23,184)	81,782			97,928	0	0	(23,184)	0	0		0003			
142045 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	07/06/2021	07/06/2028	3,597,757	4343.54000000	92,822	(13,214)	73,147			70,395	0	0	(13,214)	0	0		0003			
141139 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	07/20/2021	01/20/2023	4,755,366	4323.06000000	391,369	(259,487)	14,970			369	0	0	(259,487)	0	0		0003			
142024 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32TWEFA76	07/20/2021	07/20/2026	4,182,637	4323.06000000	98,710	(19,677)	70,168			76,985	0	0	(19,677)	0	0		0003			
142025 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32TWEFA76	07/20/2021	07/20/2028	2,039,052	4323.06000000	50,365	(7,170)	39,965			31,271	0	0	(7,170)	0	0		0003			
141171 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	08/06/2021	02/06/2023	11,534,952	4436.52000000	918,190	(608,782)	63,554			1,529	0	0	(608,782)	0	0		0003			
142046 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	08/06/2021	08/06/2026	4,064,101	4436.52000000	95,100	(18,957)	68,487			48,836	0	0	(18,957)	0	0		0003			
142047 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMIUSFPUBMPRO8K5P83	08/06/2021	08/04/2028	3,826,358	4436.52000000	97,189	(13,846)	77,752			41,173	0	0	(13,846)	0	0		0003			
141378 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	08/20/2021	02/17/2023	10,215,841	4441.67000000	845,871	(563,914)	75,912			3,050	0	0	(563,914)	0	0		0003			

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
142048 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WFEA76	08/20/2021	08/20/2026	1,809,340	4441.67000000	41,977		(8,368)	30,552			11,679	0	0	(8,368)				0003	
142049 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WFEA76	08/20/2021	08/18/2028	2,137,781	4441.67000000	56,010		(7,980)	45,115			10,704	0	0	(7,980)				0003	
141411 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	03/06/2023	7,710,231	4535.43000000	636,871		(422,261)	76,564			2,262	0	0	(422,261)				0003	
142050 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/03/2021	09/04/2026	1,540,167	4535.43000000	43,125		(8,592)	31,724			3,821	0	0	(8,592)				0003	
142051 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/03/2021	09/06/2028	2,111,925	4535.43000000	61,246		(8,708)	49,690			(168,656)	0	0	(8,708)				0003	
141557 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	03/20/2023	7,408,141	4357.73000000	702,287		(468,191)	102,899			13,079	0	0	(468,191)				0003	
142217 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	09/20/2021	09/18/2026	1,174,913	4357.73000000	27,141		(5,416)	20,207			20,870	0	0	(5,416)				0003	
142219 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	09/20/2021	09/20/2028	1,873,140	4357.73000000	46,454		(6,613)	37,988			30,594	0	0	(6,613)				0003	
141613 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/06/2021	04/06/2023	6,545,325	4363.55000000	596,280		(396,793)	105,739			16,614	0	0	(396,793)				0003	
142231 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	10/06/2021	10/06/2026	1,802,801	4363.55000000	42,366		(8,445)	31,925			35,248	0	0	(8,445)				0003	
142232 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	10/06/2021	10/06/2028	2,272,930	4363.55000000	59,551		(8,477)	49,071			44,579	0	0	(8,477)				0003	
142242 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WFEA76	10/20/2021	10/20/2026	2,142,624	4536.19000000	51,423		(10,251)	39,145			33,705	0	0	(10,251)				0003	
142243 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WFEA76	10/20/2021	10/20/2028	2,133,416	4536.19000000	55,255		(7,866)	45,833			28,467	0	0	(7,866)				0003	
142680 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/20/2021	04/20/2023	7,145,543	4536.19000000	632,375		(420,813)	128,325			7,437	0	0	(420,813)				0003	
143685 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	05/05/2023	8,455,554	4697.53000000	726,336		(484,224)	167,616			4,198	0	0	(484,224)				0003	
143735 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	11/05/2021	11/06/2028	3,225,894	4697.53000000	80,325		(11,430)	67,136			60,510	0	0	(11,430)				0003	
143737 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	11/05/2021	11/06/2026	1,317,530	4697.53000000	30,567		(6,090)	23,540			25,694	0	0	(6,090)				0003	
143709 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/19/2021	05/19/2023	7,516,736	4697.96000000	682,512		(455,008)	175,003			5,224	0	0	(455,008)				0003	
143909 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	11/19/2021	11/20/2026	1,146,967	4697.96000000	26,495		(5,279)	20,607			18,692	0	0	(5,279)				0003	
143911 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	11/19/2021	11/20/2028	2,303,354	4697.96000000	60,118		(8,555)	50,576			39,919	0	0	(8,555)				0003	
144155 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/06/2021	06/06/2023	9,183,340	4591.67000000	915,580		(609,271)	264,464			13,885	0	0	(609,271)				0003	
144235 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WFEA76	12/06/2021	12/04/2026	729,148	4591.67000000	16,916		(3,376)	13,309			9,170	0	0	(3,376)				0003	

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144237 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2021	12/06/2028		752,619	4591.67000000	18,966		(2,700)	16,081		9,781	0	0	(2,700)				0003	
144700 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2021	06/20/2023		9,136,040	4568.02000000	911,780		(606,742)	286,702		19,582	0	0	(606,742)				0003	
144701 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2021	12/18/2026		1,060,073	4568.02000000	24,594		(4,908)	19,537		18,129	0	0	(4,908)				0003	
144703 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2021	12/20/2028		1,687,120	4568.02000000	44,371		(6,316)	37,864		27,452	0	0	(6,316)				0003	
145247 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		35,063,918	166.99000000	2,297,139		(2,259,378)	37,761		645,005	0	0	(2,259,378)				0003	
145252 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		812,582	78.54000000	46,040		(45,283)	757		0	0	0	(45,283)				0003	
145260 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023		47,456,954	4696.05000000	3,711,325		(3,650,317)	61,008		0	0	0	(3,650,317)				0003	
145262 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023		43,936,203	4696.05000000	3,435,988		(3,379,506)	56,482		0	0	0	(3,379,506)				0003	
145265 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	07/06/2023		6,104,865	4696.05000000	583,622		(383,737)	199,885		10,540	0	0	(383,737)				0003	
145270 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		31,933,140	4696.05000000	2,430,116		(2,390,169)	39,947		0	0	0	(2,390,169)				0003	
145272 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023		49,413,313	4696.05000000	3,864,320		(3,800,797)	63,523		0	0	0	(3,800,797)				0003	
145273 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		46,475,600	4696.05000000	3,536,799		(3,478,660)	58,139		0	0	0	(3,478,660)				0003	
145274 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023		57,471,067	4696.05000000	4,494,469		(4,420,587)	73,882		0	0	0	(4,420,587)				0003	
145277 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023		59,716,288	4696.05000000	4,670,054		(4,593,286)	76,768		0	0	0	(4,593,286)				0003	
145278 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		63,207,661	4696.05000000	4,810,111		(4,731,041)	79,070		0	0	0	(4,731,041)				0003	
145280 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2027		840,780	4696.05000000	20,431		(4,017)	16,414		(8,754)	0	0	(4,017)				0003	
145282 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		43,586,901	4696.05000000	3,316,969		(3,262,443)	54,526		0	0	0	(3,262,443)				0003	
145284 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		42,264,450	4696.05000000	3,216,330		(3,163,459)	52,871		0	0	0	(3,163,459)				0003	

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145288 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023	39,916,425	4696.05000000			3,037,645	(2,987,711)	49,934		0	0	0	(2,987,711)				0003	
145291 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/05/2029	2,075,217	4696.05000000			55,408	(7,782)	47,626		(38,331)	0	0	(7,782)				0003	
145293 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	01/06/2022	01/06/2023	21,947,708	4696.05000000			487,239	(479,230)	8,009		0	0	0	(479,230)				0003	
145295 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	01/06/2022	01/06/2023	35,592,949	4696.05000000			2,776,250	(2,730,613)	45,637		0	0	0	(2,730,613)				0003	
145318 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	01/06/2022	01/06/2023	42,616,988	1237.24000000			1,939,073	(1,907,198)	31,875		0	0	0	(1,907,198)				0003	
145319 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	01/06/2022	01/06/2023	10,625,025	534.80000000			336,813	(331,277)	5,537		0	0	0	(331,277)				0003	
145320 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/06/2022	01/06/2023	18,824,223	111.61000000			1,239,725	(1,219,346)	20,379		12	0	0	(1,219,346)				0003	
145486 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/14/2022	01/13/2023	1,018,337	4726.34000000			32,735	(31,566)	1,169		0	0	0	(31,566)				0003	
145760 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2022	01/20/2023	28,635,527	4482.73000000			1,337,279	(1,264,004)	73,276		0	0	0	(1,264,004)				0003	
145766 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	01/20/2022	01/20/2023	18,313,859	4482.73000000			391,917	(370,442)	21,475		0	0	0	(370,442)				0003	
145768 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/20/2027	1,067,105	4482.73000000			26,998	(5,101)	21,897		(7,910)	0	0	(5,101)				0003	
145772 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/19/2029	2,284,303	4482.73000000			66,016	(8,911)	57,106		(25,989)	0	0	(8,911)				0003	
145776 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/20/2022	01/20/2023	17,291,678	105.62000000			1,232,897	(1,165,341)	67,556		265	0	0	(1,165,341)				0003	
145777 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	694,449	77.39000000			44,306	(41,878)	2,428		5	0	0	(41,878)				0003	
145780 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2022	01/20/2023	34,532,910	4482.73000000			2,776,446	(2,624,312)	152,134		63	0	0	(2,624,312)				0003	
145781 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	54,010,399	4482.73000000			4,202,053	(3,971,803)	230,249		893	0	0	(3,971,803)				0003	
145789 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	42,137,662	4482.73000000			3,278,344	(3,098,709)	179,635		702	0	0	(3,098,709)				0003	
145792 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	54,241,033	4482.73000000			4,219,996	(3,988,763)	231,233		912	0	0	(3,988,763)				0003	
145795 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	39,448,024	4482.73000000			3,069,088	(2,900,919)	168,169		666	0	0	(2,900,919)				0003	
145811 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	01/20/2022	01/20/2023	32,429,604	1202.57000000			1,485,276	(1,403,891)	81,385		359	0	0	(1,403,891)				0003	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
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145829 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	7,227,198	523.80000000		233,439	(220,647)		12,791		0	0	0	(220,647)				0003	
145839 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	28,655,092	171.65000000		1,844,677	(1,743,599)		101,078		249,407	0	0	(1,743,599)				0003	
145875 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	07/20/2023	4,034,457	4482.73000000		394,164	(249,060)		145,104		21,545	0	0	(249,060)				0003	
145877 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	58,275,490	4482.73000000		4,533,880	(4,285,448)		248,432		798	0	0	(4,285,448)				0003	
145879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	47,701,891	4482.73000000		3,711,245	(3,507,890)		203,356		723	0	0	(3,507,890)				0003	
145881 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	54,887,486	4482.73000000		4,270,291	(4,036,302)		233,989		864	0	0	(4,036,302)				0003	
145883 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	50,309,108	4482.73000000		3,914,089	(3,699,618)		214,471		817	0	0	(3,699,618)				0003	
145886 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	35,994,330	4482.73000000		2,800,388	(2,646,942)		153,446		592	0	0	(2,646,942)				0003	
146372 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	43,846,900	168.86000000		2,923,819	(2,629,047)		294,772		812,074	0	0	(2,629,047)				0003	
146406 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/04/2022	02/06/2023	51,356,681	1206.97000000		2,393,221	(2,151,943)		241,278		6,819	0	0	(2,151,943)				0003	
146408 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	12,774,247	521.11000000		433,047	(389,388)		43,659		1,786	0	0	(389,388)				0003	
146411 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	02/04/2022	02/06/2023	36,376,971	4500.53000000		1,800,660	(1,619,122)		181,538		0	0	0	(1,619,122)				0003	
146413 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	02/04/2022	02/06/2023	27,341,755	105.13000000		1,947,525	(1,751,180)		196,344		1,063	0	0	(1,751,180)				0003	
146418 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	02/04/2022	02/06/2023	1,455,510	76.07000000		98,101	(88,211)		9,890		300	0	0	(88,211)				0003	
146420 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2023	24,296,932	4500.53000000		529,673	(476,273)		53,400		0	0	0	(476,273)				0003	
146423 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	08/04/2023	8,790,818	4500.53000000		906,773	(548,050)		358,723		46,357	0	0	(548,050)				0003	

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146425 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	51,306,042	4500.53000000	4,171,146	(3,750,622)	420,524	2,459	0	0	(3,750,622)	0003						
146428 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	82,938,433	4500.53000000	6,742,838	(6,063,042)	679,796	5,560	0	0	(6,063,042)	0003						
146431 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/04/2022	02/06/2023	41,562,263	4500.53000000	3,629,343	(3,263,442)	365,901	2,017	0	0	(3,263,442)	0003						
146432 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	62,503,979	4500.53000000	5,081,531	(4,569,224)	512,307	4,815	0	0	(4,569,224)	0003						
146434 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/04/2022	02/06/2023	53,064,309	4500.53000000	4,420,257	(3,974,618)	445,639	734	0	0	(3,974,618)	0003						
146436 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	41,702,009	4500.53000000	3,390,345	(3,048,539)	341,806	3,484	0	0	(3,048,539)	0003						
146438 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/04/2022	02/06/2023	59,520,661	4500.53000000	5,197,526	(4,673,524)	524,001	4,885	0	0	(4,673,524)	0003						
146440 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	63,007,420	4500.53000000	5,122,460	(4,606,027)	516,433	5,662	0	0	(4,606,027)	0003						
146442 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/04/2022	02/06/2023	58,882,603	4500.53000000	4,910,809	(4,415,714)	495,095	829	0	0	(4,415,714)	0003						
146445 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	50,832,471	4500.53000000	4,132,645	(3,716,002)	416,643	4,678	0	0	(3,716,002)	0003						
146447 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	48,605,724	4500.53000000	3,951,612	(3,553,221)	398,391	4,606	0	0	(3,553,221)	0003						
146459 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	02/04/2022	02/05/2027	875,187	4500.53000000	23,367	(4,221)	19,147	(8,588)	0	0	(4,221)	0003						
146461 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2029	2,205,498	4500.53000000	62,195	(8,020)	54,175	(28,942)	0	0	(8,020)	0003						
146670 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/11/2022	02/11/2023	1,272,979	4585.99000000	50,728	(44,891)	5,837	0	0	0	(44,891)	0003						
147061 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023	38,992,793	177.12000000	2,710,034	(2,352,667)	357,367	251,718	0	0	(2,352,667)	0003						
147075 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/18/2022	02/17/2023	23,451,557	101.51000000	2,059,047	(1,787,524)	271,523	1,885	0	0	(1,787,524)	0003						
147084 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN CHASE BANK, N.A.	02/18/2022	02/17/2023	1,058,691	75.30000000	74,532	(64,703)	9,828	535	0	0	(64,703)	0003						
147090 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	08/18/2023	7,524,511	4348.87000000	802,823	(464,638)	338,186	74,479	0	0	(464,638)	0003						

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147092 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	02/18/2022	02/17/2023	43,256,069	1187.57000000	2,011,407	(1,746,167)	265,241	43,569	0	0	(1,746,167)	0003						
147093 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/18/2022	02/17/2023	59,144,632	4348.87000000	5,039,072	(4,374,579)	664,493	36,069	0	0	(4,374,579)	0003						
147096 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	02/18/2022	02/17/2023	10,301,077	519.06000000	358,478	(311,206)	47,272	11,073	0	0	(311,206)	0003						
147099 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	37,620,749	4348.87000000	3,261,312	(2,831,249)	430,063	15,588	0	0	(2,831,249)	0003						
147101 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	02/18/2022	02/17/2023	28,604,054	4348.87000000	1,538,898	(1,335,967)	202,932	0	0	0	(1,335,967)	0003						
147105 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	62,584,597	4348.87000000	5,425,408	(4,709,969)	715,438	28,805	0	0	(4,709,969)	0003						
147106 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/18/2022	02/17/2023	42,103,239	4348.87000000	3,587,160	(3,114,128)	473,032	26,780	0	0	(3,114,128)	0003						
147107 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	02/18/2022	02/17/2023	20,721,465	4348.87000000	408,213	(354,383)	53,830	0	0	0	(354,383)	0003						
147123 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	56,724,938	4348.87000000	4,917,439	(4,268,985)	648,453	31,168	0	0	(4,268,985)	0003						
147133 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	51,840,912	4348.87000000	4,494,046	(3,901,425)	592,622	31,069	0	0	(3,901,425)	0003						
147135 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	46,003,436	4348.87000000	3,988,000	(3,462,110)	525,890	29,680	0	0	(3,462,110)	0003						
147137 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	51,160,088	4348.87000000	4,435,026	(3,850,188)	584,839	34,860	0	0	(3,850,188)	0003						
147139 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF3BB653	02/18/2022	02/17/2023	47,523,950	4348.87000000	4,119,813	(3,576,541)	543,272	36,241	0	0	(3,576,541)	0003						
147142 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/18/2022	02/17/2023	50,012,005	4348.87000000	4,260,980	(3,699,093)	561,887	32,879	0	0	(3,699,093)	0003						
147144 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/18/2022	02/17/2023	40,444,491	4348.87000000	3,445,836	(2,991,440)	454,396	27,336	0	0	(2,991,440)	0003						
147150 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	02/18/2022	02/19/2027	1,589,414	4348.87000000	43,391	(7,505)	35,886	(11,042)	0	0	(7,505)	0003						
147153 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	02/18/2022	02/20/2029	2,507,570	4348.87000000	70,713	(8,732)	61,981	(32,416)	0	0	(8,732)	0003						
147803 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/04/2022	03/03/2023	1,328,199	69.03000000	115,830	(96,101)	19,729	12,534	0	0	(96,101)	0003						

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147822 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		42,924,042	4328.87000000		3,981,634	(3,303,444)	678,190		53,699	0	0	(3,303,444)				0003	
147824 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	09/01/2023		7,359,079	4328.87000000		812,447	(449,375)	363,072		66,001	0	0	(449,375)				0003	
147827 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		79,423,078	4328.87000000		7,314,885	(6,068,943)	1,245,942		81,717	0	0	(6,068,943)				0003	
147831 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		66,664,598	4328.87000000		6,139,826	(5,094,031)	1,045,795		75,525	0	0	(5,094,031)				0003	
147839 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		56,629,595	4328.87000000		5,323,182	(4,416,486)	906,696		67,654	0	0	(4,416,486)				0003	
147847 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		48,878,280	4328.87000000		4,594,558	(3,811,969)	782,590		59,653	0	0	(3,811,969)				0003	
147856 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		59,165,150	4328.87000000		5,561,524	(4,614,232)	947,293		75,232	0	0	(4,614,232)				0003	
147860 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/04/2022	03/03/2023		51,083,500	1185.35000000		2,421,358	(2,008,929)	412,429		105,185	0	0	(2,008,929)				0003	
147861 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	03/04/2022	03/03/2023		12,115,885	523.29000000		428,902	(355,848)	73,055		9,229	0	0	(355,848)				0003	
147862 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		45,452,132	4328.87000000		4,272,500	(3,544,767)	727,734		59,559	0	0	(3,544,767)				0003	
147866 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		65,066,540	4328.87000000		6,116,255	(5,074,475)	1,041,780		87,326	0	0	(5,074,475)				0003	
147870 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/04/2022	03/03/2023		35,654,541	4328.87000000		2,157,100	(1,789,682)	367,418		0	0	0	(1,789,682)				0003	
147872 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	03/04/2022	03/03/2023		19,270,440	4328.87000000		368,065	(305,373)	62,692		0	0	0	(305,373)				0003	
147876 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		66,604,893	4328.87000000		6,260,860	(5,194,450)	1,066,410		92,779	0	0	(5,194,450)				0003	
147899 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023		44,630,139	183.68000000		3,735,097	(3,098,899)	636,198		151,754	0	0	(3,098,899)				0003	
147901 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/04/2022	03/03/2023		27,577,715	104.54000000		2,341,552	(1,942,716)	398,836		273	0	0	(1,942,716)				0003	
147903 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/04/2022	03/03/2023		44,432,035	4328.87000000		4,033,799	(3,346,723)	687,076		35,194	0	0	(3,346,723)				0003	
147905 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	03/04/2022	03/03/2023		54,854,590	4328.87000000		4,990,029	(4,140,079)	849,950		36,366	0	0	(4,140,079)				0003	
147912 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/04/2027		2,313,933	4328.87000000		67,104	(11,098)	56,006		(17,208)	0	0	(11,098)				0003	
147914 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/02/2029		3,147,487	4328.87000000		96,628	(11,421)	85,206		(41,225)	0	0	(11,421)				0003	
148178 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/11/2022	03/11/2023		1,504,068	4280.46050278		82,209	(66,443)	15,766		0	0	0	(66,443)				0003	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
148430 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/18/2022	03/20/2023	43,055,840	179.30000000	3,611,600	(2,834,171)	777,429	318,560			0	0	(2,834,171)					0003
148445 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/18/2022	09/20/2023	10,711,488	4463.12000000	1,158,984	(605,785)	553,199	79,180			0	0	(605,785)					0003
148451 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/18/2022	03/20/2023	51,772,192	4463.12000000	4,504,164	(3,534,603)	969,561	27,849			0	0	(3,534,603)					0003
148459 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/18/2022	03/20/2023	62,838,430	4463.12000000	5,466,923	(4,290,120)	1,176,804	49,998			0	0	(4,290,120)					0003
148477 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/18/2022	03/20/2023	53,704,189	1201.28000000	2,604,653	(2,043,979)	560,675	92,216			0	0	(2,043,979)					0003
148479 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	03/18/2022	03/20/2023	11,511,538	521.22000000	437,438	(343,276)	94,163	30,078			0	0	(343,276)					0003
148480 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	03/18/2022	03/20/2023	30,742,454	105.83000000	2,413,180	(1,893,721)	519,458	3,668			0	0	(1,893,721)					0003
148482 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/18/2022	03/20/2023	32,562,934	4463.12000000	1,790,961	(1,405,441)	385,520	0			0	0	(1,405,441)					0003
148483 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/18/2022	03/20/2023	1,000,707	73.77000000	76,554	(60,075)	16,479	2,311			0	0	(60,075)					0003
148490 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	48,549,211	4463.12000000	4,013,932	(3,149,897)	864,034	27,619			0	0	(3,149,897)					0003
148492 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	03/18/2022	03/20/2023	23,780,994	4463.12000000	494,645	(388,168)	106,477	0			0	0	(388,168)					0003
148494 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	03/18/2022	03/20/2023	3,484,463	4463.12000000	103,140	(80,938)	22,202	(50,759)			0	0	(80,938)					0003
148496 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	03/18/2022	03/20/2023	2,690,653	4463.12000000	83,679	(65,667)	18,013	(63,307)			0	0	(65,667)					0003
148498 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	81,974,920	4463.12000000	6,777,489	(5,318,574)	1,458,914	60,131			0	0	(5,318,574)					0003
148502 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	52,606,386	4463.12000000	4,349,369	(3,413,129)	936,240	46,273			0	0	(3,413,129)					0003
148504 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	55,632,813	4463.12000000	4,599,587	(3,609,485)	990,102	51,172			0	0	(3,609,485)					0003
148506 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	57,242,412	4463.12000000	4,732,665	(3,713,917)	1,018,748	59,171			0	0	(3,713,917)					0003
148508 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023	54,286,799	4463.12000000	4,750,095	(3,727,595)	1,022,500	47,167			0	0	(3,727,595)					0003
148513 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023	60,718,922	4463.12000000	5,312,906	(4,169,256)	1,143,650	54,894			0	0	(4,169,256)					0003
148515 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023	74,299,860	4463.12000000	6,501,238	(5,101,789)	1,399,449	72,146			0	0	(5,101,789)					0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
149297 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	50,200,655	179.66000000		4,157,774	(3,064,223)	1,093,552			424,048	0	0	(3,064,223)				0003	
149311 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	10/06/2023	9,410,415	4481.15000000		1,005,963	(493,803)	512,160			67,837	0	0	(493,803)				0003	
149325 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/06/2022	04/06/2023	39,857,360	110.55000000		3,308,161	(2,438,069)	870,092			490	0	0	(2,438,069)				0003	
149327 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/06/2022	04/06/2023	1,083,647	72.70000000		87,342	(64,370)	22,972			5,600	0	0	(64,370)				0003	
149330 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	52,429,455	4481.15000000		4,634,721	(3,415,726)	1,218,995			38,351	0	0	(3,415,726)				0003	
149332 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	63,184,215	4481.15000000		5,585,433	(4,116,388)	1,469,045			48,453	0	0	(4,116,388)				0003	
149335 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	38,540,488	4481.15000000		3,406,948	(2,510,874)	896,074			41,776	0	0	(2,510,874)				0003	
149338 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	04/06/2022	04/06/2023	79,995,606	4481.15000000		7,243,100	(5,338,065)	1,905,035			63,354	0	0	(5,338,065)				0003	
149339 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	47,367,487	4481.15000000		4,187,247	(3,085,944)	1,101,303			55,986	0	0	(3,085,944)				0003	
149342 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	53,167,086	4481.15000000		4,699,927	(3,463,782)	1,236,145			64,566	0	0	(3,463,782)				0003	
149343 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	56,635,991	4481.15000000		5,153,875	(3,798,335)	1,355,540			70,216	0	0	(3,798,335)				0003	
149346 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	48,026,513	4481.15000000		4,245,505	(3,128,879)	1,116,626			59,813	0	0	(3,128,879)				0003	
149348 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	61,658,372	4481.15000000		5,610,912	(4,135,165)	1,475,747			90,326	0	0	(4,135,165)				0003	
149349 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	48,322,046	4481.15000000		4,271,629	(3,148,132)	1,123,497			62,122	0	0	(3,148,132)				0003	
149353 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	47,052,075	4481.15000000		4,159,365	(3,065,395)	1,093,970			65,683	0	0	(3,065,395)				0003	
149361 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	68,067,431	4481.15000000		6,194,136	(4,564,994)	1,629,143			102,563	0	0	(4,564,994)				0003	
149364 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	67,442,398	4481.15000000		6,137,258	(4,523,075)	1,614,183			107,849	0	0	(4,523,075)				0003	

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149381 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFMYMCJFT09	04/06/2022	04/06/2023		58,884,342	1202.43000000		3,014,878	(2,221,924)	792,954		214,092	0	0	(2,221,924)				0003	
149382 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	04/06/2022	04/06/2023		15,938,516	522.31000000		642,322	(473,383)	168,940		59,151	0	0	(473,383)				0003	
149383 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUM8P80K5P83	04/06/2022	04/06/2029		1,256,634	4481.15000000		38,830	(4,085)	34,745		(23,010)	0	0	(4,085)				0003	
149385 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGGFU57RNE97	04/06/2022	04/06/2027		3,034,169	4481.15000000		81,923	(12,069)	69,854		(14,348)	0	0	(12,069)				0003	
149390 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XB11	04/06/2022	04/06/2023		44,747,971	4481.15000000		2,340,319	(1,724,783)	615,536		0	0	0	(1,724,783)				0003	
149394 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGGFU57RNE97	04/06/2022	04/06/2023		26,713,623	4481.15000000		560,987	(413,440)	147,547		0	0	0	(413,440)				0003	
149730 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFMYMCJFT09	04/14/2022	04/14/2023		1,554,813	4092.58306698		176,096	(125,921)	50,175		112	0	0	(125,921)				0003	
149935 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		42,364,775	4459.45000000		3,728,085	(2,604,553)	1,123,532		47,771	0	0	(2,604,553)				0003	
149944 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		51,540,385	4459.45000000		4,535,535	(3,168,662)	1,366,874		62,325	0	0	(3,168,662)				0003	
149948 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		59,467,425	4459.45000000		5,233,112	(3,656,010)	1,577,102		96,524	0	0	(3,656,010)				0003	
149952 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		55,297,180	4459.45000000		4,866,132	(3,399,626)	1,466,506		97,298	0	0	(3,399,626)				0003	
149955 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		65,764,301	4459.45000000		5,787,235	(4,043,137)	1,744,098		123,018	0	0	(4,043,137)				0003	
149959 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		63,324,190	4459.45000000		5,572,506	(3,893,121)	1,679,385		123,841	0	0	(3,893,121)				0003	
149968 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROWP21HZNBB6K528	04/20/2022	04/20/2023		38,925,123	182.71000000		3,156,182	(2,205,004)	951,178		290,638	0	0	(2,205,004)				0003	
149970 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		52,530,357	4459.45000000		4,622,653	(3,229,524)	1,393,128		109,017	0	0	(3,229,524)				0003	
149973 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		29,626,696	112.38000000		2,387,912	(1,668,267)	719,645		2,887	0	0	(1,668,267)				0003	
149974 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	04/20/2022	04/20/2023		52,805,150	4459.45000000		4,646,834	(3,246,418)	1,400,416		113,739	0	0	(3,246,418)				0003	
149976 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGGFU57RNE97	04/20/2022	04/20/2023		1,288,206	72.42000000		93,652	(65,428)	28,224		8,378	0	0	(65,428)				0003	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
149978 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	10/20/2023	7,213,078	4459.45000000	642,685		(299,060)		343,625		55,628	0	0	(299,060)				0003	
149982 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	69,753,344	4459.45000000	6,138,269		(4,288,380)		1,849,889		154,723	0	0	(4,288,380)				0003	
149984 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	56,189,070	4459.45000000	4,944,618		(3,454,459)		1,490,159		129,302	0	0	(3,454,459)				0003	
150009 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2023	50,286,178	1200.40000000	2,640,024		(1,844,401)		795,624		255,955	0	0	(1,844,401)				0003	
150010 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	04/20/2022	04/20/2023	10,691,669	523.25000000	444,773		(310,732)		134,041		48,129	0	0	(310,732)				0003	
150017 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC BNP PARIBAS LONDON	04/20/2022	04/20/2023	31,480,978	4459.45000000	2,804,955		(1,959,626)		845,329		9	0	0	(1,959,626)				0003	
150021 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2027	3,978,366	4459.45000000	125,716		(17,556)		108,160		(50,114)	0	0	(17,556)				0003	
150023 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2029	2,397,649	4459.45000000	76,485		(7,628)		68,857		(37,460)	0	0	(7,628)				0003	
150025 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/20/2022	04/20/2023	21,692,132	4459.45000000	444,689		(310,673)		134,016		0	0	0	(310,673)				0003	
150374 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	11/06/2023	8,246,680	4123.34000000	923,620		(402,086)		521,534		138,007	0	0	(402,086)				0003	
150384 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	47,241,082	175.42000000	4,100,527		(2,692,379)		1,408,148		707,098	0	0	(2,692,379)				0003	
150386 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ROYAL BANK OF CANADA	05/06/2022	05/05/2023	35,745,090	99.83000000	3,420,805		(2,246,078)		1,174,727		90,462	0	0	(2,246,078)				0003	
150388 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023	1,074,947	67.27000000	96,423		(63,311)		33,112		25,294	0	0	(63,311)				0003	
150392 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023	56,077,424	4123.34000000	4,962,912		(3,258,615)		1,704,297		361,930	0	0	(3,258,615)				0003	
150395 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023	46,593,742	4123.34000000	4,123,596		(2,707,526)		1,416,070		407,107	0	0	(2,707,526)				0003	
150397 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	PLC	05/06/2022	05/05/2023	53,867,686	4123.34000000	5,225,636		(3,431,118)		1,794,518		342,065	0	0	(3,431,118)				0003	
150399 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	05/06/2022	05/05/2023	82,470,558	4123.34000000	8,382,382		(5,503,817)		2,878,565		918,878	0	0	(5,503,817)				0003	
150405 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	53,300,661	4123.34000000	5,399,357		(3,545,182)		1,854,175		676,990	0	0	(3,545,182)				0003	
150407 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	51,772,032	4123.34000000	5,244,507		(3,443,509)		1,800,998		701,970	0	0	(3,443,509)				0003	
150409 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	51,986,324	4123.34000000	5,266,215		(3,457,762)		1,808,453		742,109	0	0	(3,457,762)				0003	
150413 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	51,791,543	4123.34000000	5,246,483		(3,444,806)		1,801,677		765,731	0	0	(3,444,806)				0003	

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SCHEDULE DB - PART A - SECTION 1

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
150415 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2022	.05/05/2023	57,349,761	4123.34000000	5,809,531	(3,814,500)	1,995,031	871,977		0	0	(3,814,500)						0003	
150417 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2022	.05/05/2023	57,804,307	4123.34000000	5,855,576	(3,844,733)	2,010,843	927,550		0	0	(3,844,733)						0003	
150420 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.05/06/2022	.05/05/2023	51,541,750	4123.34000000	4,561,500	(2,995,051)	1,566,449	536,661		0	0	(2,995,051)						0003	
150422 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.05/06/2022	.05/05/2023	50,943,866	4123.34000000	4,508,587	(2,960,308)	1,548,278	565,251		0	0	(2,960,308)						0003	
150446 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1D8PRFMVCMJXT09	.05/06/2022	.05/05/2023	57,221,839	1159.24000000	2,952,647	(1,938,688)	1,013,958	1,019,495		0	0	(1,938,688)						0003	
150447 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.05/06/2022	.05/05/2023	15,676,768	510.08000000	675,670	(443,641)	232,030	318,030		0	0	(443,641)						0003	
150448 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2022	.05/05/2023	41,938,396	4123.34000000	4,248,360	(2,789,445)	1,458,915	7,791		0	0	(2,789,445)						0003	
150452 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	.05/06/2022	.05/06/2027	2,560,850	4123.34000000	78,874	(10,324)	68,551	(1,650)		0	0	(10,324)						0003	
150453 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	.05/06/2022	.05/04/2029	1,806,435	4123.34000000	58,890	(5,509)	53,381	(20,343)		0	0	(5,509)						0003	
150456 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	.05/06/2022	.05/05/2023	24,065,637	4123.34000000	452,434	(297,065)	155,369	0		0	0	(297,065)						0003	
150696 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.05/13/2022	.05/13/2023	1,496,901	3937.43000000	112,713	(71,643)	41,071	11,199		0	0	(71,643)						0003	
150999 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.05/20/2022	.05/19/2023	39,214,400	172.03000000	3,385,071	(2,092,421)	1,292,651	812,280		0	0	(2,092,421)						0003	
151002 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.05/20/2022	.05/19/2023	1,058,696	67.77000000	84,514	(52,241)	32,273	23,967		0	0	(52,241)						0003	
151038 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.05/20/2022	.05/19/2023	30,186,260	94.88000000	2,807,309	(1,735,287)	1,072,022	270,779		0	0	(1,735,287)						0003	
151040 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF38B653	.05/20/2022	.05/19/2023	60,257,817	3901.36000000	6,178,134	(3,818,902)	2,359,233	1,116,466		0	0	(3,818,902)						0003	
151042 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF38B653	.05/20/2022	.05/19/2023	39,792,383	3901.36000000	4,079,847	(2,521,884)	1,557,964	798,652		0	0	(2,521,884)						0003	
151046 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF38B653	.05/20/2022	.05/19/2023	53,166,502	3901.36000000	5,451,074	(3,369,482)	2,081,591	1,181,879		0	0	(3,369,482)						0003	
151050 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF38B653	.05/20/2022	.05/19/2023	46,001,890	3901.36000000	4,716,498	(2,915,418)	1,801,080	1,145,224		0	0	(2,915,418)						0003	
151052 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6FNF38B653	.05/20/2022	.05/19/2023	56,548,119	3901.36000000	5,797,785	(3,583,796)	2,213,989	1,511,094		0	0	(3,583,796)						0003	

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SCHEDULE DB - PART A - SECTION 1

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151054 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	4PQJHNSJPF6NF3BB653	05/20/2022	05/19/2023	46,789,391	3901.36000000		4,797,239	(2,965,326)	1,831,913		1,307,160	0	0	(2,965,326)				0003	
151057 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	11/20/2023	6,632,312	3901.36000000		814,453	(333,792)	480,661		151,616	0	0	(333,792)				0003	
151059 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	05/19/2023	46,036,048	3901.36000000		4,732,508	(2,925,314)	1,807,194		467,011	0	0	(2,925,314)				0003	
151061 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	05/19/2023	49,547,272	3901.36000000		5,093,462	(3,148,431)	1,945,031		529,975	0	0	(3,148,431)				0003	
151063 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	05/19/2023	42,314,151	3901.36000000		4,349,897	(2,688,810)	1,661,087		646,978	0	0	(2,688,810)				0003	
151065 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	05/19/2023	54,228,904	3901.36000000		5,574,734	(3,445,921)	2,128,813		1,162,867	0	0	(3,445,921)				0003	
151067 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	05/19/2023	62,421,760	3901.36000000		6,416,960	(3,966,527)	2,450,433		1,879,622	0	0	(3,966,527)				0003	
151069 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/20/2022	05/19/2023	48,767,000	3901.36000000		5,013,250	(3,098,850)	1,914,400		1,579,756	0	0	(3,098,850)				0003	
151092 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGFUF57RNE97	05/20/2022	05/19/2023	49,387,221	1137.94000000		2,565,666	(1,585,920)	979,746		1,354,127	0	0	(1,585,920)				0003	
151093 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	05/20/2022	05/19/2023	12,574,878	509.24000000		544,492	(336,568)	207,924		296,633	0	0	(336,568)				0003	
151094 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	05/20/2022	05/19/2023	36,643,026	3901.36000000		2,268,203	(1,402,049)	866,155		317,316	0	0	(1,402,049)				0003	
151098 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUWISFPUBM8R08K5P83	05/20/2022	05/20/2027	5,069,803	3901.36000000		173,894	(21,427)	152,467		84,467	0	0	(21,427)				0003	
151099 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUWISFPUBM8R08K5P83	05/20/2022	05/18/2029	1,272,358	3901.36000000		44,660	(3,933)	40,727		8,921	0	0	(3,933)				0003	
151102 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	05/20/2022	05/19/2023	21,232,330	3901.36000000		382,182	(236,239)	145,943		0	0	0	(236,239)				0003	
151614 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32WIFA76	06/06/2022	06/06/2023	64,110,670	4121.43000000		6,261,744	(3,568,336)	2,693,408		449,345	0	0	(3,568,336)				0003	
151616 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32WIFA76	06/06/2022	06/06/2023	59,875,755	4121.43000000		5,848,731	(3,332,976)	2,515,756		399,449	0	0	(3,332,976)				0003	
151618 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2022	06/06/2023	45,558,228	171.82000000		3,741,279	(2,132,017)	1,609,263		978,911	0	0	(2,132,017)				0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
151633 Call Options - iShares MSCI EAFE ...	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023		1,171,867	69.98000000		82,891	(47,237)	35,655		18,697	0	0	(47,237)				0003	
151636 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	12/06/2023		4,945,716	4121.43000000		586,068	(222,449)	363,619		96,620	0	0	(222,449)				0003	
151639 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		40,932,688	4121.43000000		4,044,150	(2,304,611)	1,739,538		423,534	0	0	(2,304,611)				0003	
151640 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023		49,460,375	4121.43000000		4,782,791	(2,725,536)	2,057,255		599,318	0	0	(2,725,536)				0003	
151644 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023		46,744,682	4121.43000000		4,520,185	(2,575,886)	1,944,299		600,565	0	0	(2,575,886)				0003	
151646 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023		49,457,160	4121.43000000		4,782,480	(2,725,358)	2,057,122		677,154	0	0	(2,725,358)				0003	
151653 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		30,077,374	98.01000000		2,743,056	(1,563,166)	1,179,890		205,242	0	0	(1,563,166)				0003	
151664 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/06/2022	06/06/2023		56,797,496	4121.43000000		5,559,657	(3,168,243)	2,391,414		836,075	0	0	(3,168,243)				0003	
151668 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/06/2022	06/06/2023		55,689,074	4121.43000000		5,451,158	(3,106,413)	2,344,745		868,373	0	0	(3,106,413)				0003	
151675 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/06/2022	06/06/2023		47,916,094	4121.43000000		4,690,295	(2,672,826)	2,017,469		783,599	0	0	(2,672,826)				0003	
151681 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		66,661,471	4121.43000000		6,519,110	(3,715,000)	2,804,110		1,081,031	0	0	(3,715,000)				0003	
151684 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		47,964,237	4121.43000000		4,692,281	(2,673,958)	2,018,324		801,337	0	0	(2,673,958)				0003	
151687 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		63,503,018	4121.43000000		6,207,152	(3,537,226)	2,669,926		1,120,818	0	0	(3,537,226)				0003	
151690 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		55,576,783	4121.43000000		5,437,944	(3,098,883)	2,339,061		1,042,554	0	0	(3,098,883)				0003	
151698 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	06/06/2022	06/06/2023		55,620,993	1157.03000000		2,959,037	(1,686,246)	1,272,791		1,239,972	0	0	(1,686,246)				0003	
151699 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	06/06/2022	06/06/2023		12,783,726	513.34000000		571,433	(325,638)	245,794		258,927	0	0	(325,638)				0003	
151700 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/06/2022	06/06/2023		37,200,320	4121.43000000		2,190,048	(1,248,028)	942,021		19,487	0	0	(1,248,028)				0003	
151704 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/04/2027		4,053,241	4121.43000000		143,079	(16,316)	126,763		(55,272)	0	0	(16,316)				0003	
151705 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2029		1,853,944	4121.43000000		65,073	(5,293)	59,780		(10,555)	0	0	(5,293)				0003	
151709 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		21,183,265	4121.43000000		446,967	(254,710)	192,257		0	0	0	(254,710)				0003	
151812 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/10/2022	06/10/2023		1,224,323	4115.37000000		48,841	(27,297)	21,543		1,532	0	0	(27,297)				0003	
152991 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023		34,318,827	3674.84000000		2,278,770	(1,219,885)	1,058,885		820,180	0	0	(1,219,885)				0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
15297 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	06/17/2022	12/20/2023		5,592,728	3674.84000000		601,217	(214,954)	386,263		157,705	0	0	(214,954)				0003	
15299 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	06/17/2022	06/20/2023		19,516,657	3674.84000000		382,526	(204,776)	177,750		0	0	0	(204,776)				0003	
15300 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	06/17/2022	06/18/2027		3,972,298	3674.84000000		129,483	(13,962)	115,521		41,303	0	0	(13,962)				0003	
15300 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		48,507,888	3674.84000000		5,107,872	(2,734,377)	2,373,495		624,355	0	0	(2,734,377)				0003	
15300 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	06/17/2022	06/20/2029		1,273,169	3674.84000000		42,519	(3,272)	39,247		26	0	0	(3,272)				0003	
15300 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		27,013,576	87.66000000		2,636,526	(1,411,401)	1,225,125		632,387	0	0	(1,411,401)				0003	
15301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	06/17/2022	06/20/2023		57,694,988	3674.84000000		6,075,272	(3,252,252)	2,823,020		1,836,947	0	0	(3,252,252)				0003	
15301 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		1,178,496	61.48000000		99,465	(53,246)	46,219		37,783	0	0	(53,246)				0003	
15301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	06/17/2022	06/20/2023		44,833,048	3674.84000000		4,720,912	(2,527,227)	2,193,685		1,548,753	0	0	(2,527,227)				0003	
15301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		43,363,112	3674.84000000		4,566,128	(2,444,367)	2,121,761		1,963,019	0	0	(2,444,367)				0003	
15301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	06/17/2022	06/20/2023		56,689,864	3674.84000000		6,081,583	(3,255,630)	2,825,953		778,576	0	0	(3,255,630)				0003	
15301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		66,424,383	3674.84000000		7,125,884	(3,814,672)	3,311,213		1,467,272	0	0	(3,814,672)				0003	
15303 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	06/17/2022	06/20/2023		40,915,255	171.27000000		3,662,234	(1,960,490)	1,701,745		893,891	0	0	(1,960,490)				0003	
15303 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		50,244,617	3674.84000000		5,290,749	(2,832,276)	2,458,473		1,274,553	0	0	(2,832,276)				0003	
15302 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		50,672,222	3674.84000000		5,335,776	(2,856,380)	2,479,396		1,380,931	0	0	(2,856,380)				0003	
15302 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		59,696,232	3674.84000000		6,286,003	(3,365,061)	2,920,941		1,749,717	0	0	(3,365,061)				0003	
15305 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		58,881,226	3674.84000000		6,200,183	(3,319,120)	2,881,063		2,210,590	0	0	(3,319,120)				0003	
15306 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		46,360,605	3674.84000000		4,881,764	(2,613,335)	2,268,428		1,874,042	0	0	(2,613,335)				0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
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153101 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU579NE97	.06/17/2022	.06/20/2023		49,198,338	1113.27000000		2,656,710	(1,422,206)	1,234,504		2,258,314	0	0	(1,422,206)				0003	
153102 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEM1K50	.06/17/2022	.06/20/2023		10,315,157	500.75000000		509,569	(272,785)	236,783		439,704	0	0	(272,785)				0003	
153784 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFMVCMJCFXT09	.07/06/2022	.07/06/2023		55,628,138	1130.16000000		3,031,734	(1,478,489)	1,553,244		2,223,149	0	0	(1,478,489)				0003	
153785 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEM1K50	.07/06/2022	.07/06/2023		12,737,041	508.13000000		612,652	(298,773)	313,879		409,508	0	0	(298,773)				0003	
153786 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.01/05/2024		5,767,620	3845.08000000		712,305	(231,369)	480,936		124,505	0	0	(231,369)				0003	
153791 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.07/06/2023		62,674,804	3845.08000000		6,424,156	(3,132,876)	3,291,280		718,334	0	0	(3,132,876)				0003	
153794 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.07/06/2023		65,366,360	3845.08000000		6,700,040	(3,267,417)	3,432,623		790,840	0	0	(3,267,417)				0003	
153798 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.07/06/2023		1,431,397	61.35000000		115,492	(56,322)	59,170		56,934	0	0	(56,322)				0003	
153816 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		50,903,301	3845.08000000		5,237,098	(2,553,982)	2,683,116		1,755,046	0	0	(2,553,982)				0003	
153819 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/06/2022	.07/06/2023		33,663,703	3845.08000000		2,019,822	(985,009)	1,034,813		502,707	0	0	(985,009)				0003	
153820 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC MORGAN STANLEY & CO. INTERNATIONAL PLC G5GSEF7VJP5170UK5573	.07/06/2022	.07/06/2023		69,495,328	3845.08000000		6,949,533	(3,389,087)	3,560,446		2,814,409	0	0	(3,389,087)				0003	
153828 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC BNP PARIBAS LONDON 4PQUH3JPGFNF3BB653	.07/06/2022	.07/06/2023		40,020,022	3845.08000000		4,204,877	(2,050,598)	2,154,280		688,071	0	0	(2,050,598)				0003	
153829 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROMUISFPUBMPRO8K5P83	.07/06/2022	.07/06/2029		4,331,917	3845.08000000		156,815	(10,916)	145,899		(86,542)	0	0	(10,916)				0003	
153832 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		53,887,436	3845.08000000		5,540,962	(2,702,168)	2,838,794		1,107,914	0	0	(2,702,168)				0003	
153835 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		52,103,743	3845.08000000		5,360,740	(2,614,279)	2,746,461		1,119,539	0	0	(2,614,279)				0003	
153837 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2027		4,143,069	3845.08000000		145,007	(14,135)	130,872		77,209	0	0	(14,135)				0003	
153838 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.07/06/2022	.07/06/2023		48,162,139	3845.08000000		4,917,354	(2,398,052)	2,519,302		1,111,124	0	0	(2,398,052)				0003	
153841 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		61,011,743	3845.08000000		6,276,014	(3,060,631)	3,215,382		1,451,237	0	0	(3,060,631)				0003	
153844 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		62,667,334	3845.08000000		6,447,570	(3,144,295)	3,303,276		1,596,395	0	0	(3,144,295)				0003	
153847 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		60,409,832	3845.08000000		6,217,024	(3,031,864)	3,185,160		1,803,394	0	0	(3,031,864)				0003	
153851 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WFEA76	.07/06/2022	.07/06/2023		53,202,742	3845.08000000		5,476,633	(2,670,796)	2,805,837		1,703,240	0	0	(2,670,796)				0003	
153882 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFMVCMJCFXT09	.07/06/2022	.07/06/2023		18,859,593	3845.08000000		407,367	(198,861)	208,706		83,976	0	0	(198,861)				0003	

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
153898 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/06/2022	07/06/2023	46,389,557	162.14000000		4,165,782	(2,031,532)	2,134,250			1,717,506	0	0	(2,031,532)				0003	
153907 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ROYAL BANK OF CANADA	07/06/2022	07/06/2023	30,452,804	93.31000000		2,893,016	(1,410,841)	1,482,176			415,480	0	0	(1,410,841)				0003	
154270 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CANADA X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/15/2022	07/14/2023	1,440,309	3801.99420000		100,530	(46,675)	53,855			54,739	0	0	(46,675)				0003	
154434 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO ROYAL BANK OF CANADA	07/20/2022	07/20/2023	4,751,880	3959.90000000		594,456	(177,903)	416,553			86,611	0	0	(177,903)				0003	
154439 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/20/2022	07/20/2023	29,188,206	3959.90000000		1,768,805	(794,751)	974,054			265,470	0	0	(794,751)				0003	
154454 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/20/2023	16,832,420	3959.90000000		345,065	(155,043)	190,022			0	0	0	(155,043)				0003	
154458 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/20/2027	2,557,974	3959.90000000		91,064	(8,179)	82,885			(15,620)	0	0	(8,179)				0003	
154462 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/20/2029	1,734,536	3959.90000000		63,657	(4,083)	59,575			(44,964)	0	0	(4,083)				0003	
154464 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023	49,102,760	3959.90000000		5,018,280	(2,254,789)	2,763,491			480,525	0	0	(2,254,789)				0003	
154477 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/20/2022	07/20/2023	34,161,641	158.04000000		3,036,975	(1,364,559)	1,672,416			1,372,637	0	0	(1,364,559)				0003	
154483 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023	62,962,410	3959.90000000		6,434,730	(2,891,221)	3,543,509			651,828	0	0	(2,891,221)				0003	
154486 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/20/2022	07/20/2023	21,764,795	93.96000000		1,978,419	(888,933)	1,089,486			292,363	0	0	(888,933)				0003	
154495 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/20/2022	07/20/2023	1,513,597	62.91000000		127,445	(57,263)	70,182			51,095	0	0	(57,263)				0003	
154507 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023	49,102,760	3959.90000000		5,018,280	(2,254,789)	2,763,491			1,040,491	0	0	(2,254,789)				0003	
154515 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023	46,726,820	3959.90000000		4,775,460	(2,145,686)	2,629,774			1,069,035	0	0	(2,145,686)				0003	
154532 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023	53,854,640	3959.90000000		5,503,920	(2,472,994)	3,030,926			1,830,536	0	0	(2,472,994)				0003	
154536 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/20/2022	07/20/2023	38,857,839	1143.36000000		2,148,839	(965,506)	1,183,333			1,292,707	0	0	(965,506)				0003	
154537 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	07/20/2022	07/20/2023	8,720,523	508.19000000		437,770	(196,697)	241,073			296,640	0	0	(196,697)				0003	

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
154538 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	35,667,017	3959.90000000			3,645,153	(1,637,822)	2,007,331		537,476	0	0	(1,637,822)					0003
154544 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	35,833,294	3959.90000000			3,662,146	(1,645,458)	2,016,689		645,999	0	0	(1,645,458)					0003
154551 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	54,564,650	3959.90000000			5,576,483	(2,505,598)	3,070,885		1,031,192	0	0	(2,505,598)					0003
154557 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	44,608,155	3959.90000000			4,558,933	(2,048,397)	2,510,536		868,058	0	0	(2,048,397)					0003
154563 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	44,527,888	3959.90000000			4,550,730	(2,044,712)	2,506,018		1,185,693	0	0	(2,044,712)					0003
154572 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	49,145,844	3959.90000000			5,022,683	(2,256,767)	2,765,916		1,418,241	0	0	(2,256,767)					0003
155003 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	61,273,190	4145.19000000			6,127,319	(2,491,328)	3,635,992		1,353,442	0	0	(2,491,328)					0003
155019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/04/2023	64,734,683	4145.19000000			6,469,736	(2,630,552)	3,839,184		913,009	0	0	(2,630,552)					0003
155024 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	08/05/2022	08/04/2023	51,090,867	1165.05000000			2,840,652	(1,154,990)	1,685,662		1,298,714	0	0	(1,154,990)					0003
155025 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	08/05/2022	08/04/2023	13,410,152	513.77000000			682,577	(277,531)	405,045		369,501	0	0	(277,531)					0003
155031 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	08/05/2022	08/06/2029	2,584,672	4145.19000000			90,464	(5,234)	85,230		14,631	0	0	(5,234)					0003
155046 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	24,855,413	98.55000000			2,236,987	(909,544)	1,327,443		196,712	0	0	(909,544)					0003
155058 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	08/05/2022	02/06/2024	7,750,577	4145.19000000			1,131,584	(304,499)	827,085		153,468	0	0	(304,499)					0003
155062 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/05/2022	08/04/2023	1,548,036	65.01000000			136,846	(55,641)	81,206		45,924	0	0	(55,641)					0003
155067 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/04/2023	69,240,473	4145.19000000			6,920,055	(2,813,649)	4,106,406		517,293	0	0	(2,813,649)					0003
155076 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/04/2023	62,383,563	4145.19000000			6,234,759	(2,535,012)	3,699,747		705,601	0	0	(2,535,012)					0003
155081 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	54,251,776	4145.19000000			5,425,178	(2,205,841)	3,219,336		1,386,220	0	0	(2,205,841)					0003
155084 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	62,161,605	4145.19000000			6,216,161	(2,527,450)	3,688,711		859,104	0	0	(2,527,450)					0003
155103 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/06/2027	1,336,139	4145.19000000			48,101	(3,897)	44,204		8,022	0	0	(3,897)					0003
155106 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	51,631,221	4145.19000000			5,163,122	(2,099,291)	3,063,831		809,233	0	0	(2,099,291)					0003
155114 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	52,227,546	4145.19000000			5,222,755	(2,123,538)	3,099,217		865,047	0	0	(2,123,538)					0003

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155120 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		49,496,908	4145.19000000		4,949,691	(2,012,512)	2,937,179		884,291	0	0	(2,012,512)				0003	
155127 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		49,687,424	4145.19000000		4,968,742	(2,020,258)	2,948,484		1,016,328	0	0	(2,020,258)				0003	
155132 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	08/05/2022	08/04/2023		20,434,560	4145.19000000		433,213	(176,141)	257,071		10,722	0	0	(176,141)				0003	
155142 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFXTO9	08/05/2022	08/04/2023		41,420,217	4145.19000000		2,427,225	(986,894)	1,440,331		79,860	0	0	(986,894)				0003	
155143 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/05/2022	08/04/2023		41,282,900	165.29000000		3,509,134	(1,426,791)	2,082,343		1,292,310	0	0	(1,426,791)				0003	
155155 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/05/2022	08/04/2023		57,719,284	4145.19000000		5,731,562	(2,330,415)	3,401,146		464,135	0	0	(2,330,415)				0003	
155336 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFXTO9	08/12/2022	08/11/2023		1,352,423	4206.21000000		83,742	(32,439)	51,304		2,805	0	0	(32,439)				0003	
155746 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWSPFU8MPR08K5P83	08/19/2022	08/20/2027		1,556,207	4228.48000000		56,023	(4,109)	51,914		(25,053)	0	0	(4,109)				0003	
155753 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWSPFU8MPR08K5P83	08/19/2022	08/20/2029		1,396,739	4228.48000000		51,540	(2,700)	48,840		(49,206)	0	0	(2,700)				0003	
155756 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFXTO9	08/19/2022	08/18/2023		18,643,242	4228.48000000		410,151	(150,990)	259,162		674	0	0	(150,990)				0003	
155775 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	08/19/2022	08/18/2023		31,341,369	162.72000000		2,592,872	(954,519)	1,638,353		1,089,643	0	0	(954,519)				0003	
155777 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWSPFU8MPR08K5P83	08/19/2022	02/20/2024		5,735,110	4228.48000000		724,230	(176,449)	547,781		93,172	0	0	(176,449)				0003	
155783 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWSPFU8MPR08K5P83	08/19/2022	08/18/2023		59,117,823	4228.48000000		5,902,915	(2,173,051)	3,729,864		410,234	0	0	(2,173,051)				0003	
155787 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023		53,794,996	4228.48000000		5,379,500	(1,980,365)	3,399,134		828,685	0	0	(1,980,365)				0003	
155791 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	08/19/2022	08/18/2023		20,518,725	100.66000000		1,815,086	(668,191)	1,146,895		146,431	0	0	(668,191)				0003	
155798 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U9RH1GCT1XBU11	08/19/2022	08/18/2023		1,070,731	64.69000000		96,152	(35,396)	60,755		34,813	0	0	(35,396)				0003	
155799 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023		46,294,354	4228.48000000		4,629,435	(1,704,243)	2,925,193		1,009,638	0	0	(1,704,243)				0003	
155815 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWSPFU8MPR08K5P83	08/19/2022	08/18/2023		47,750,958	4228.48000000		4,767,933	(1,755,228)	3,012,705		346,542	0	0	(1,755,228)				0003	
155837 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023		49,868,482	4228.48000000		4,986,848	(1,835,818)	3,151,030		537,999	0	0	(1,835,818)				0003	
155848 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUG0FU57RNE97	08/19/2022	08/18/2023		39,156,817	1174.45000000		2,286,758	(841,829)	1,444,930		909,992	0	0	(841,829)				0003	
155849 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	08/19/2022	08/18/2023		9,018,288	517.00000000		460,835	(169,648)	291,187		224,700	0	0	(169,648)				0003	
155852 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023		46,177,520	4228.48000000		4,617,752	(1,699,942)	2,917,810		571,977	0	0	(1,699,942)				0003	
155859 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023		50,342,491	4228.48000000		5,034,249	(1,853,268)	3,180,982		645,690	0	0	(1,853,268)				0003	
155873 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023		52,523,919	4228.48000000		5,252,392	(1,933,573)	3,318,819		733,819	0	0	(1,933,573)				0003	

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SCHEDULE DB - PART A - SECTION 1

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
155882 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023	45,409,720	4228.48000000	4,540,972	(1,671,676)	2,869,295	793,458	0	0	(1,671,676)	0003						
155888 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/19/2022	08/18/2023	47,463,742	4228.48000000	4,746,374	(1,747,292)	2,999,083	898,972	0	0	(1,747,292)	0003						
156450 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNB66K528	09/06/2022	09/06/2023	35,127,192	158.33000000	3,004,880	(954,976)	2,049,905	1,414,686	0	0	(954,976)	0003						
156455 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	03/06/2024	4,689,828	3908.19000000	599,364	(127,105)	472,259	86,185	0	0	(127,105)	0003						
156458 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/06/2022	09/06/2023	24,021,255	94.28000000	2,337,267	(742,803)	1,594,464	353,087	0	0	(742,803)	0003						
156460 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	59,013,669	3908.19000000	6,155,062	(1,956,129)	4,198,933	656,515	0	0	(1,956,129)	0003						
156474 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XBU11	09/06/2022	09/06/2023	1,621,224	60.32000000	156,935	(49,875)	107,059	57,331	0	0	(49,875)	0003						
156492 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	49,634,013	3908.19000000	5,176,774	(1,645,221)	3,531,553	1,647,054	0	0	(1,645,221)	0003						
156497 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8M9R08K5P83	09/06/2022	09/06/2023	34,726,329	3908.19000000	2,237,070	(710,959)	1,526,111	446,562	0	0	(710,959)	0003						
156500 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIWZ7FF32TWEFA76	09/06/2022	09/06/2027	1,564,291	3908.19000000	54,750	(3,478)	51,272	26,208	0	0	(3,478)	0003						
156505 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/06/2022	09/06/2029	987,646	3908.19000000	36,049	(1,635)	34,414	8,575	0	0	(1,635)	0003						
156508 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	49,819,730	3908.19000000	5,196,144	(1,651,377)	3,544,767	590,525	0	0	(1,651,377)	0003						
156526 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	29,894,449	3908.19000000	3,117,959	(990,913)	2,127,046	507,975	0	0	(990,913)	0003						
156533 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	54,517,687	3908.19000000	5,686,136	(1,807,101)	3,879,035	1,096,508	0	0	(1,807,101)	0003						
156541 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	49,490,074	3908.19000000	5,161,761	(1,640,450)	3,521,311	1,038,276	0	0	(1,640,450)	0003						
156549 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	74,136,801	3908.19000000	7,732,388	(2,457,417)	5,274,972	1,676,805	0	0	(2,457,417)	0003						
156559 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023	46,654,409	3908.19000000	4,866,005	(1,546,456)	3,319,548	1,170,131	0	0	(1,546,456)	0003						

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SCHEDULE DB - PART A - SECTION 1

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
156569 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	63,928,804	3908.19000000	6,667,705	(2,119,052)	4,548,654	1,686,942	0	0	(2,119,052)	0003						
156572 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/06/2022	09/06/2023	46,854,214	1127.44000000	2,787,827	(885,994)	1,901,832	2,327,111	0	0	(885,994)	0003						
156578 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	43,231,812	3908.19000000	4,509,031	(1,433,007)	3,076,024	1,351,777	0	0	(1,433,007)	0003						
156579 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	09/06/2022	09/06/2023	13,000,187	505.76000000	689,010	(218,973)	470,037	580,130	0	0	(218,973)	0003						
156588 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	09/06/2022	09/06/2023	18,186,604	3908.19000000	383,737	(121,955)	261,782	22,247	0	0	(121,955)	0003						
156621 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/06/2022	09/06/2023	48,723,171	3908.19000000	5,211,429	(1,656,235)	3,555,194	1,958,886	0	0	(1,656,235)	0003						
156718 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/09/2022	09/09/2023	998,178	3994.15000000	68,118	(21,089)	47,029	14,592	0	0	(21,089)	0003						
156928 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023	54,317,583	3855.93000000	6,000,463	(1,676,842)	4,323,622	604,247	0	0	(1,676,842)	0003						
156935 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023	62,240,572	3855.93000000	7,021,561	(1,962,190)	5,059,372	1,231,023	0	0	(1,962,190)	0003						
156943 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023	39,214,733	3855.93000000	4,423,942	(1,236,280)	3,187,662	845,980	0	0	(1,236,280)	0003						
156960 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/20/2022	09/20/2023	59,815,447	3855.93000000	6,579,699	(1,838,710)	4,740,989	2,455,198	0	0	(1,838,710)	0003						
156969 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023	34,678,393	3855.93000000	2,302,299	(643,382)	1,658,916	517,680	0	0	(643,382)	0003						
156979 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2027	1,181,616	3855.93000000	45,492	(2,541)	42,951	25,147	0	0	(2,541)	0003						
156981 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	09/20/2022	09/20/2023	9,746,598	504.43000000	552,632	(154,434)	398,198	476,236	0	0	(154,434)	0003						
156983 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023	37,811,296	1122.20000000	2,344,300	(655,120)	1,689,181	2,079,817	0	0	(655,120)	0003						
156984 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2029	908,253	3855.93000000	35,059	(1,399)	33,660	10,098	0	0	(1,399)	0003						
156987 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2023	17,448,140	3855.93000000	383,859	(107,270)	276,589	93,601	0	0	(107,270)	0003						
156990 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	29,492,835	155.07000000	2,609,413	(729,206)	1,880,207	1,223,704	0	0	(729,206)	0003						
156998 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	03/20/2024	7,326,267	3855.93000000	961,210	(179,238)	781,972	143,034	0	0	(179,238)	0003						

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
157000 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	62,857,828	3855.93000000			5,085,121	(1,421,048)	3,664,074		903,979	0	0	(1,421,048)					0003
157014 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	50,179,299	3855.93000000			4,059,444	(1,134,420)	2,925,024		1,202,482	0	0	(1,134,420)					0003
157027 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	56,234,652	3855.93000000			4,549,314	(1,271,315)	3,277,999		1,475,157	0	0	(1,271,315)					0003
157038 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	45,715,790	3855.93000000			3,698,351	(1,033,512)	2,664,839		1,412,846	0	0	(1,033,512)					0003
157047 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	47,042,346	3855.93000000			3,805,668	(1,063,502)	2,742,166		1,596,508	0	0	(1,063,502)					0003
157067 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2022	09/20/2023	20,314,675	89.16000000			1,808,006	(505,251)	1,302,755		441,205	0	0	(505,251)					0003
157075 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023	925,831	59.58000000			90,917	(25,407)	65,510		31,383	0	0	(25,407)					0003
157991 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	45,325,656	3744.52000000			5,204,948	(1,226,371)	3,978,577		830,874	0	0	(1,226,371)					0003
158005 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	63,021,991	3744.52000000			7,140,392	(1,682,394)	5,457,998		1,410,795	0	0	(1,682,394)					0003
158016 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	50,422,349	3744.52000000			5,712,348	(1,345,923)	4,366,425		1,221,131	0	0	(1,345,923)					0003
158019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	62,122,194	3744.52000000			7,133,770	(1,680,833)	5,452,936		1,609,709	0	0	(1,680,833)					0003
158030 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	37,651,671	3744.52000000			4,323,710	(1,018,737)	3,304,973		981,921	0	0	(1,018,737)					0003
158038 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	43,939,507	3744.52000000			5,045,770	(1,188,866)	3,856,904		1,517,116	0	0	(1,188,866)					0003
158041 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	46,394,151	3744.52000000			5,327,648	(1,255,281)	4,072,367		1,709,610	0	0	(1,255,281)					0003
158061 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	63,962,154	3744.52000000			7,345,061	(1,730,617)	5,614,444		3,422,860	0	0	(1,730,617)					0003
158073 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	10/06/2022	10/06/2023	10,955,312	498.42000000			632,121	(148,938)	483,183		679,466	0	0	(148,938)					0003
158074 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	10/06/2022	10/06/2023	18,551,640	3744.52000000			352,481	(83,050)	269,431		397,137	0	0	(83,050)					0003
158075 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	42,815,454	1110.16000000			2,680,247	(631,510)	2,048,737		2,883,009	0	0	(631,510)					0003
158076 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	2,932,137	3744.52000000			137,810	(6,491)	131,320		7,733	0	0	(6,491)					0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
158083 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/05/2029		2,188,606	3744.52000000		108,555	(3,652)	104,902		(46,988)	0	0	(3,652)					0003
158096 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	10/06/2022	10/06/2023		34,614,121	159.63000000		3,239,585	(763,300)	2,476,286		1,325,541	0	0	(763,300)					0003
158094 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/06/2022	10/06/2023		46,775,196	3744.52000000		3,915,130	(922,469)	2,992,661		1,413,269	0	0	(922,469)					0003
158110 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/06/2022	10/06/2023		38,412,021	3744.52000000		2,612,300	(615,501)	1,996,799		734,667	0	0	(615,501)					0003
158130 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/06/2022	10/06/2023		23,095,663	80.52000000		2,498,950	(588,794)	1,910,156		780,538	0	0	(588,794)					0003
158140 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		1,449,217	57.75000000		147,675	(34,795)	112,881		57,525	0	0	(34,795)					0003
158141 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	04/05/2024		6,051,642	3744.52000000		846,625	(133,107)	713,517		128,834	0	0	(133,107)					0003
158143 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2022	10/06/2023		63,435,360	3744.52000000		10,301,901	(2,427,297)	7,874,604		777,274	0	0	(2,427,297)					0003
158151 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023		49,425,607	3744.52000000		5,675,764	(1,337,303)	4,338,460		623,737	0	0	(1,337,303)					0003
158397 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/14/2022	10/13/2023		1,552,292	3583.15000000		129,338	(27,715)	101,623		155,963	0	0	(27,715)					0003
158672 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023		28,660,761	151.45000000		2,782,961	(548,968)	2,233,993		1,343,679	0	0	(548,968)					0003
158690 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023		18,630,293	78.33000000		2,090,320	(412,337)	1,677,983		697,647	0	0	(412,337)					0003
158703 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023		788,916	56.96000000		82,678	(16,309)	66,369		29,126	0	0	(16,309)					0003
158715 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		58,410,257	3665.78000000		6,892,410	(1,359,599)	5,532,812		2,981,696	0	0	(1,359,599)					0003
158720 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/20/2023		29,295,136	3665.78000000		2,079,662	(410,235)	1,669,427		599,874	0	0	(410,235)					0003
158726 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		39,211,139	3665.78000000		4,626,914	(912,706)	3,714,208		2,492,554	0	0	(912,706)					0003
158729 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	10/20/2022	10/20/2027		6,530,815	3665.78000000		321,316	(12,670)	308,646		212,264	0	0	(12,670)					0003
158732 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/19/2029		3,668,206	3665.78000000		186,345	(5,249)	181,096		(77,523)	0	0	(5,249)					0003
158743 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	04/19/2024		5,498,670	3665.78000000		780,810	(102,776)	678,034		121,947	0	0	(102,776)					0003
158752 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		59,019,058	3665.78000000		6,881,623	(1,357,471)	5,524,152		751,711	0	0	(1,357,471)					0003
158755 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		72,927,027	3665.78000000		8,503,292	(1,677,362)	6,825,931		1,204,854	0	0	(1,677,362)					0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
158769 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	10/20/2022	10/20/2023	38,430,560	1103.30000000	2,505,673	(494,270)	2,011,403	2,671,563	0	0	(494,270)	0003						0003
158771 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	10/20/2022	10/20/2023	8,641,892	496.73000000	532,341	(105,010)	427,331	579,950	0	0	(105,010)	0003						0003
158774 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6FNF3BB653	10/20/2022	10/20/2023	17,015,922	3665.78000000	318,198	(62,768)	255,430	356,360	0	0	(62,768)	0003						0003
158776 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2022	10/20/2023	43,043,589	3665.78000000	5,018,883	(990,026)	4,028,857	978,165	0	0	(990,026)	0003						0003
158792 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2022	10/20/2023	79,898,021	3665.78000000	9,316,110	(1,837,698)	7,478,412	2,098,216	0	0	(1,837,698)	0003						0003
158810 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2022	10/20/2023	31,755,149	3665.78000000	3,702,651	(730,386)	2,972,265	858,197	0	0	(730,386)	0003						0003
158821 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2022	10/20/2023	48,197,272	3665.78000000	5,619,803	(1,108,564)	4,511,239	1,509,632	0	0	(1,108,564)	0003						0003
158828 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2022	10/20/2023	58,285,902	3665.78000000	6,796,137	(1,340,608)	5,455,529	2,182,453	0	0	(1,340,608)	0003						0003
159728 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	38,842,841	3770.55000000	4,481,240	(695,996)	3,785,243	797,231	0	0	(695,996)	0003						0003
159745 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	43,403,478	3770.55000000	5,007,355	(777,709)	4,229,646	975,403	0	0	(777,709)	0003						0003
159748 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	53,801,564	3770.55000000	6,206,978	(964,027)	5,242,952	1,298,195	0	0	(964,027)	0003						0003
159760 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	56,716,378	3770.55000000	6,543,353	(1,016,270)	5,527,083	1,461,799	0	0	(1,016,270)	0003						0003
159769 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCFXT09	11/04/2022	11/06/2023	45,692,708	1115.53000000	3,024,857	(469,801)	2,555,057	2,970,797	0	0	(469,801)	0003						0003
159771 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	11/04/2022	11/06/2023	13,151,244	503.66000000	825,882	(128,270)	697,611	742,002	0	0	(128,270)	0003						0003
159794 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	42,547,547	3770.55000000	4,908,605	(762,372)	4,146,233	1,211,867	0	0	(762,372)	0003						0003
159810 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	53,553,142	3770.55000000	6,178,318	(959,575)	5,218,743	1,708,104	0	0	(959,575)	0003						0003
159815 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	50,254,079	3770.55000000	5,797,556	(900,438)	4,897,118	1,758,252	0	0	(900,438)	0003						0003
159820 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	51,856,153	3770.55000000	5,982,495	(929,161)	5,053,334	2,165,392	0	0	(929,161)	0003						0003
159831 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	76,202,158	3770.55000000	8,791,372	(1,365,417)	7,425,954	4,394,376	0	0	(1,365,417)	0003						0003
159834 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	11/04/2022	11/05/2027	11,680,363	3770.55000000	496,415	(15,488)	480,928	413,953	0	0	(15,488)	0003						0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
159838 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2029		7,664,623	3770.55000000		344,908	(7,683)	337,225		120,269	0	0	(7,683)					0003
159842 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	05/06/2024		8,295,210	3770.55000000		1,154,692	(119,886)	1,034,806		168,615	0	0	(119,886)					0003
159850 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2023		82,197,990	3770.55000000		9,271,976	(1,440,062)	7,831,914		973,688	0	0	(1,440,062)					0003
159852 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2023		47,814,156	3770.55000000		5,393,462	(837,677)	4,555,785		602,864	0	0	(837,677)					0003
159862 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		30,915,219	156.47000000		2,986,410	(463,829)	2,522,580		1,280,186	0	0	(463,829)					0003
159884 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		24,333,525	82.65000000		2,569,620	(399,096)	2,170,524		803,254	0	0	(399,096)					0003
159894 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2023		1,151,938	60.75000000		116,000	(18,016)	97,984		38,574	0	0	(18,016)					0003
159900 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/06/2023		40,610,293	3770.55000000		649,765	(100,917)	548,848		753,254	0	0	(100,917)					0003
159907 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		57,344,121	3770.55000000		6,615,877	(1,027,534)	5,588,343		1,005,679	0	0	(1,027,534)					0003
159911 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	11/04/2022	11/06/2023		21,552,501	3770.55000000		362,082	(56,236)	305,846		495,483	0	0	(56,236)					0003
160252 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/11/2022	11/11/2023		1,236,181	3742.94162740		131,801	(18,055)	113,746		85,166	0	0	(18,055)					0003
160843 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/19/2027		12,068,585	3965.34000000		582,913	(13,719)	569,193		(17,339)	0	0	(13,719)					0003
160847 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2029		7,589,428	3965.34000000		380,230	(6,389)	373,841		(176,574)	0	0	(6,389)					0003
160852 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		39,938,226	1138.09000000		2,643,911	(309,777)	2,334,134		2,124,473	0	0	(309,777)					0003
160853 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		29,389,556	162.79000000		2,729,714	(319,830)	2,409,883		959,047	0	0	(319,830)					0003
160854 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	11/18/2022	11/20/2023		11,578,651	508.36000000		722,508	(84,654)	637,854		579,707	0	0	(84,654)					0003
160855 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	11/18/2022	11/20/2023		18,373,857	86.59000000		1,803,823	(211,347)	1,592,476		490,846	0	0	(211,347)					0003
160872 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	11/18/2022	05/20/2024		6,584,397	3965.34000000		737,256	(57,745)	679,511		127,919	0	0	(57,745)					0003
160874 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		1,027,143	65.15000000		96,487	(11,305)	85,182		34,002	0	0	(11,305)					0003
160893 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	11/18/2022	11/20/2023		68,905,179	3965.34000000		7,620,277	(892,839)	6,727,438		710,216	0	0	(892,839)					0003

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
160896 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	47,256,107	3965.34000000	5,169,840	(605,731)	4,564,109		784,876	0	0	(605,731)					0003
160908 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	E570DZIVZ7FF32TWEFA76	11/18/2022	11/20/2023	60,874,627	3965.34000000	6,732,172	(788,783)	5,943,389		757,498	0	0	(788,783)					0003
160909 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	46,984,640	3965.34000000	5,140,141	(602,251)	4,537,890		1,037,399	0	0	(602,251)					0003
160921 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	32,843,563	3965.34000000	3,593,101	(420,990)	3,172,111		801,722	0	0	(420,990)					0003
160932 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	65,871,276	3965.34000000	7,206,348	(844,340)	6,362,007		1,601,731	0	0	(844,340)					0003
160936 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIVZ7FF32TWEFA76	11/18/2022	11/20/2023	45,564,355	3965.34000000	5,038,997	(590,400)	4,448,597		934,828	0	0	(590,400)					0003
160943 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	50,496,533	3965.34000000	5,662,772	(663,485)	4,999,286		2,398,697	0	0	(663,485)					0003
160972 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	34,842,921	3965.34000000	2,132,684	(249,879)	1,882,806		424,723	0	0	(249,879)					0003
160985 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	45,997,944	3965.34000000	5,032,196	(589,603)	4,442,593		1,333,080	0	0	(589,603)					0003
160992 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	51,071,041	3965.34000000	5,587,195	(654,631)	4,932,565		1,633,594	0	0	(654,631)					0003
160993 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFBM6T61CT2L1QCEMIK50	11/18/2022	11/20/2023	17,723,482	3965.34000000	342,063	(40,078)	301,985		249,187	0	0	(40,078)					0003
161833 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL JPMORGAN CHASE	02RNE81BX4R0TD8PU41	12/06/2022	12/06/2023	18,574,287	86.37000000	1,727,409	(118,316)	1,609,093		505,329	0	0	(118,316)					0003
161845 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK, N.A.	7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2023	16,030,576	3941.26000000	312,596	(21,411)	291,186		218,842	0	0	(21,411)					0003
161847 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	28,693,189	164.84000000	2,579,672	(176,690)	2,402,982		881,370	0	0	(176,690)					0003
161858 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	786,120	66.53000000	69,833	(4,783)	65,050		28,565	0	0	(4,783)					0003
161868 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	KB1H1DSPRFMYMCJFX09	12/06/2022	12/06/2023	41,734,898	1137.22000000	2,739,896	(187,664)	2,552,232		2,317,250	0	0	(187,664)					0003
161869 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	06/06/2024	6,306,016	3941.26000000	831,136	(37,917)	793,219		129,231	0	0	(37,917)					0003

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)		
161871 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	10,850,695	511.36000000	671,658	(46,004)	625,654	510,760	0	0	(46,004)	0003								
161874 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	42,938,254	3941.26000000	4,585,843	(314,099)	4,271,744	490,513	0	0	(314,099)	0003								
161884 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	62,999,881	3941.26000000	6,868,308	(470,432)	6,397,876	653,437	0	0	(470,432)	0003								
161886 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	42,233,596	3941.26000000	4,510,585	(308,944)	4,201,641	665,361	0	0	(308,944)	0003								
161899 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	49,507,062	3941.26000000	5,397,308	(369,679)	5,027,629	947,626	0	0	(369,679)	0003								
161902 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	29,559,450	3941.26000000	1,658,250	(113,579)	1,544,671	372,103	0	0	(113,579)	0003								
161925 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	38,579,747	3941.26000000	4,206,002	(288,082)	3,917,919	830,838	0	0	(288,082)	0003								
161940 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	50,076,725	3941.26000000	5,459,413	(373,932)	5,085,481	1,121,083	0	0	(373,932)	0003								
161942 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	42,726,240	3941.26000000	4,658,056	(319,045)	4,339,011	1,028,461	0	0	(319,045)	0003								
161957 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	59,655,691	3941.26000000	6,503,721	(445,460)	6,058,261	1,627,400	0	0	(445,460)	0003								
161962 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	66,457,345	3941.26000000	7,245,244	(496,250)	6,748,995	2,037,752	0	0	(496,250)	0003								
161964 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023	52,186,877	3941.26000000	5,689,464	(389,689)	5,299,775	2,374,490	0	0	(389,689)	0003								
161965 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2027	8,250,589	3941.26000000	391,903	(5,366)	386,537	302,512	0	0	(5,366)	0003								
161970 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2029	10,495,862	3941.26000000	524,793	(5,131)	519,662	428,980	0	0	(5,131)	0003								
162048 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/09/2022	12/09/2023	2,301,254	3937.33544339	157,725	(9,507)	148,218	98,615	0	0	(9,507)	0003								
162527 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	29,854,890	3821.62000000	1,916,684	(57,763)	1,858,921	471,941	0	0	(57,763)	0003								
162533 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2027	6,695,471	3821.62000000	321,383	(1,936)	319,447	179,634	0	0	(1,936)	0003								
162536 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2029	10,151,085	3821.62000000	507,554	(2,183)	505,371	248,426	0	0	(2,183)	0003								
162540 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	27,730,919	169.08000000	2,496,242	(75,229)	2,421,013	736,621	0	0	(75,229)	0003								
162559 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	511,690	65.52000000	47,795	(1,440)	46,355	15,086	0	0	(1,440)	0003								
162574 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	06/20/2024	6,114,592	3821.62000000	813,248	(16,324)	796,924	126,955	0	0	(16,324)	0003								

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
162578 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	52,356,194	3821.62000000		5,654,401	(170,407)	5,483,994		594,279	0	0	(170,407)					0003
162596 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	47,703,372	3821.62000000		5,151,902	(155,263)	4,996,639		599,477	0	0	(155,263)					0003
162587 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GMZ0031MB27	12/20/2022	12/20/2023	41,531,267	1123.49000000		2,707,839	(81,606)	2,626,233		2,714,368	0	0	(81,606)					0003
162590 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	12/20/2022	12/20/2023	10,505,238	508.98000000		650,274	(19,597)	630,677		554,064	0	0	(19,597)					0003
162601 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	44,369,085	3821.62000000		4,791,804	(144,411)	4,647,393		767,707	0	0	(144,411)					0003
162614 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	45,763,135	3821.62000000		4,942,359	(148,948)	4,793,411		956,394	0	0	(148,948)					0003
162625 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	49,857,963	3821.62000000		5,384,595	(162,275)	5,222,320		1,148,608	0	0	(162,275)					0003
162644 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	63,641,591	3821.62000000		6,873,209	(207,138)	6,666,071		1,801,344	0	0	(207,138)					0003
162656 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	49,681,060	3821.62000000		5,365,490	(161,700)	5,203,790		1,603,347	0	0	(161,700)					0003
162660 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	47,089,467	3821.62000000		5,085,601	(153,265)	4,932,337		1,729,114	0	0	(153,265)					0003
162677 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	12/20/2022	12/20/2023	19,054,087	83.29000000		1,953,043	(58,859)	1,894,184		558,609	0	0	(58,859)					0003
162692 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G56SEF7VJP517OUK5573	12/20/2022	12/20/2023	32,587,007	3821.62000000		3,588,735	(108,154)	3,480,582		1,800,189	0	0	(108,154)					0003
162698 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	12/20/2022	12/20/2023	19,414,179	3821.62000000		423,229	(12,755)	410,474		527,302	0	0	(12,755)					0003
162699 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	52,322,182	3821.62000000		5,650,728	(170,296)	5,480,432		1,293,914	0	0	(170,296)					0003
Adoption of OAC 3901-1-67 Accounting Guidance											1,326,292					(454,367,259)		1,326,292					
0159999999. Subtotal - Purchased Options - Hedging Other - Call Options and Warrants										10,791,953	1,657,567,041	(818,733,458)	846,759,487	XXX	287,374,142	(454,367,259)	0	(818,733,458)	0	0	XXX	XXX	
0219999999. Subtotal - Purchased Options - Hedging Other										10,791,953	1,657,567,041	(818,733,458)	846,759,487	XXX	287,374,142	(454,367,259)	0	(818,733,458)	0	0	XXX	XXX	
0289999999. Subtotal - Purchased Options - Replications										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX	
0359999999. Subtotal - Purchased Options - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX	
0429999999. Subtotal - Purchased Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23													
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)													
0439999999. Total Purchased Options - Call Options and Warrants										10,791,953	1,657,567,041	(818,733,458)	846,759,487	XXX	287,374,142	(454,367,259)	0	(818,733,458)	0	0	XXX	XXX													
0449999999. Total Purchased Options - Put Options										0	0	0	0	XXX	0	0	0	0	0	0	0	0	XXX	XXX											
0459999999. Total Purchased Options - Caps										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	XXX	XXX									
0469999999. Total Purchased Options - Floors										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX								
0479999999. Total Purchased Options - Collars										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX						
0489999999. Total Purchased Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX				
0499999999. Total Purchased Options										10,791,953	1,657,567,041	(818,733,458)	846,759,487	XXX	287,374,142	(454,367,259)	0	(818,733,458)	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX				
0569999999. Subtotal - Written Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX		
0639999999. Subtotal - Written Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX
141924 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	04/06/2021	04/06/2028	2,662,509	4236.90000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0003	0003												
141928 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	04/06/2021	04/06/2026	669,047	4232.82000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141923 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	04/20/2021	04/20/2028	2,225,032	4316.88000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141927 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	04/20/2021	04/20/2026	1,074,629	4300.34000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141922 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	05/06/2021	05/06/2026	3,051,593	4369.68000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141926 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	05/06/2021	05/06/2028	3,678,547	4384.39000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141921 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	05/20/2021	05/20/2026	3,369,262	4327.56000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141925 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	05/20/2021	05/19/2028	4,582,427	4344.20000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
142028 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	06/04/2021	06/05/2026	3,946,952	4401.20000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
142029 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	06/04/2021	06/06/2028	3,919,696	4413.89000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
142032 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	06/18/2021	06/19/2026	4,418,795	4335.19000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
142033 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	06/18/2021	06/20/2028	6,158,364	4351.86000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141127 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	07/06/2021	01/06/2023	6,935,548	4623.70000000	(300,870)	199,484	(3,836)	0	0	0	0	0	199,484	0	0	0	0003	0003												
142034 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	07/06/2021	07/06/2026	4,959,571	4519.45000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
142035 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBM8P8K5P83	07/06/2021	07/06/2028	3,750,662	4528.14000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141142 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	07/20/2021	01/20/2023	5,057,332	4587.57000000	(232,298)	154,019	(8,886)	0	0	0	0	0	154,019	0	0	0	0003	0003												
142026 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32TWEFA76	07/20/2021	07/20/2026	4,354,125	4500.31000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
142027 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32TWEFA76	07/20/2021	07/20/2028	2,123,673	4502.47000000	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0003	0003											
141170 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	08/06/2021	02/06/2023	12,100,165	4653.91000000	(612,846)	406,331	(42,419)	0	0	0	0	0	406,331	0	0	0	0003	0003												

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
142036 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
142037 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
141372 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO																			
142038 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.																			
142039 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.																			
141410 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO																			
142040 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.																			
142041 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.																			
141587 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO																			
142220 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
142222 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
141615 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO																			
142233 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
142234 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
142244 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
142245 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
142679 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.																			
143686 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL																			
143734 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO																			
143736 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			
143710 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO																			
143910 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON																			

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
143912 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/19/2021	11/20/2028		2,401,016	4887.15000000	0			0			0	0					0003
144157 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078	12/06/2021	06/06/2023		9,453,330	4726.66509800	(760,560)		506,113	(219,686)			0	0	506,113				0003
144236 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	12/06/2021	12/04/2026		755,616	4758.35000000	0			0			0	0					0003
144238 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8K5P83	12/06/2021	12/06/2028		782,197	4772.12000000	0			0			0	0					0003
144702 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8K5P83	12/20/2021	12/18/2026		1,098,660	4734.30000000	0			0			0	0					0003
144704 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8K5P83	12/20/2021	12/20/2028		1,756,967	4757.14000000	0			0			0	0					0003
144705 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2021	06/20/2023		9,415,603	4707.80141200	(751,080)		499,805	(236,171)			0	0	499,805				0003
145251 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		36,857,025	175.52957873	(1,587,420)		1,561,325	(26,095)			0	0	1,561,325				0003
145264 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		848,934	82.05354100	(25,969)		25,542	(427)			0	0	25,542				0003
145267 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	07/06/2023		6,359,162	4891.66323581	(438,633)		288,405	(150,228)			0	0	288,405				0003
145271 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		32,549,235	4786.65220374	(2,058,088)		2,024,256	(33,832)			0	0	2,024,256				0003
145275 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		47,457,097	4795.22367768	(2,946,062)		2,897,634	(48,428)			0	0	2,897,634				0003
145279 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		65,814,102	4889.69705917	(3,300,735)		3,246,476	(54,259)			0	0	3,246,476				0003
145283 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		45,623,062	4915.42579469	(2,150,178)		2,114,832	(35,345)			0	0	2,114,832				0003
145285 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		44,764,038	4973.78204106	(1,821,600)		1,791,656	(29,944)			0	0	1,791,656				0003
145287 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2027		872,078	4870.86049988	0			0			0	0					0003
145289 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		42,468,777	4996.32675137	(1,628,600)		1,601,828	(26,772)			0	0	1,601,828				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
145292 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/05/2029	2,158,669	4884.89463634	0	0	0	0	0		0	0	0	0				0003
145296 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	01/06/2022	01/06/2023	36,652,211	4835.80649239	(2,174,729)	2,138,980	(35,749)	0	0		0	0	0	2,138,980				0003
145301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	48,825,818	4831.50445368	(2,899,811)	2,852,143	(47,668)	0	0		0	0	0	2,852,143				0003
145303 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	45,320,601	4844.01909885	(2,618,774)	2,575,726	(43,048)	0	0		0	0	0	2,575,726				0003
145304 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	51,230,035	4868.70421671	(2,801,934)	2,755,874	(46,059)	0	0		0	0	0	2,755,874				0003
145305 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	59,994,845	4902.27184824	(3,040,451)	2,990,471	(49,980)	0	0		0	0	0	2,990,471				0003
145306 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	62,797,229	4938.33319493	(2,908,423)	2,860,614	(47,810)	0	0		0	0	0	2,860,614				0003
145321 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/06/2022	01/06/2023	19,827,970	117.56127897	(772,884)	760,179	(12,705)	0	0		0	0	0	760,179				0003
145762 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2022	01/20/2023	29,533,049	4623.23208459	(830,430)	784,927	(45,503)	0	0		0	0	0	784,927				0003
145771 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/20/2027	1,109,017	4658.79505485	0	0	0	0	0		0	0	0	0				0003
145774 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/19/2029	2,388,575	4687.35252513	0	0	0	0	0		0	0	0	0				0003
145778 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/20/2022	01/20/2023	18,271,027	111.60199670	(772,937)	730,585	(42,353)	0	0		0	0	0	730,585				0003
145779 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	722,427	80.50794588	(29,236)	27,634	(1,602)	0	0		0	0	0	27,634				0003
145782 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2022	01/20/2023	35,205,908	4570.09214940	(2,372,411)	2,242,416	(129,995)	0	0		0	0	0	2,242,416				0003
145785 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	56,587,969	4696.66196729	(2,729,117)	2,579,577	(149,541)	0	0		0	0	0	2,579,577				0003
145791 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	44,303,797	4713.16990223	(2,048,730)	1,936,471	(112,259)	0	0		0	0	0	1,936,471				0003
145793 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	57,416,978	4745.20477479	(2,440,812)	2,307,069	(133,743)	0	0		0	0	0	2,307,069				0003
145796 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	41,973,678	4769.73615366	(1,671,824)	1,580,217	(91,607)	0	0		0	0	0	1,580,217				0003
145874 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	30,153,719	180.62708954	(1,252,043)	1,183,438	(68,605)	0	0		0	0	0	1,183,438				0003
145876 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	07/20/2023	4,208,827	4676.47472112	(295,767)	186,886	(108,881)	0	0		0	0	0	186,886				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

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145878 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	01/20/2022		59,596,145	4584.31888098		(3,743,610)	3,538,481	(205,129)			0	0	3,538,481				0003	
145880 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	01/20/2022		49,144,212	4618.27050527		(2,861,647)	2,704,845	(156,803)			0	0	2,704,845				0003	
145882 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	01/20/2022		56,830,148	4641.38967635		(3,134,640)	2,962,879	(171,761)			0	0	2,962,879				0003	
145885 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	01/20/2022		52,396,848	4668.75547264		(2,706,620)	2,558,312	(148,308)			0	0	2,558,312				0003	
145887 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	01/20/2022		37,630,723	4686.52620033		(1,860,528)	1,758,582	(101,947)			0	0	1,758,582				0003	
146414 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP2IHZNBB6K528	02/04/2022		37,468,280	4635.54590000		(1,182,252)	1,063,060	(119,192)			0	0	1,063,060				0003	
146416 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP2IHZNBB6K528	02/04/2022		28,935,780	111.25907900		(1,168,283)	1,050,500	(117,783)			0	0	1,050,500				0003	
146419 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	02/04/2022		1,520,717	79.47793600		(62,150)	55,884	(6,266)			0	0	55,884				0003	
146422 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	02/04/2022		46,153,247	177.74203600		(2,004,608)	1,802,508	(202,099)			0	0	1,802,508				0003	
146424 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUWISFPUBM8PR08K5P83	02/04/2022		9,139,814	4679.20104100		(709,507)	428,823	(280,684)			0	0	428,823				0003	
146427 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	02/04/2022		52,373,208	4594.14102400		(3,534,456)	3,178,121	(356,335)			0	0	3,178,121				0003	
146430 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	02/04/2022		85,376,823	4632.84558200		(5,309,646)	4,774,341	(535,305)			0	0	4,774,341				0003	
146433 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JPFNF3BB653	02/04/2022		42,368,571	4587.84028200		(3,147,221)	2,829,926	(317,295)			0	0	2,829,926				0003	
146435 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	02/04/2022		64,710,369	4659.39870900		(3,796,461)	3,413,712	(382,750)			0	0	3,413,712				0003	
146437 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSRPFMYM0CFX09	02/04/2022		55,404,445	4699.00337300		(3,077,730)	2,767,441	(310,289)			0	0	2,767,441				0003	
146439 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	02/04/2022		43,382,600	4681.90135900		(2,419,173)	2,175,278	(243,895)			0	0	2,175,278				0003	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

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146441 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	4PQUH3JPF6GFNF3BB653	02/04/2022	02/06/2023	63,139,517	4774.16222400		(3,179,775)	2,859,198	(320,577)		0	0	2,859,198					0003
146443 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO WELLS FARGO BANK, N.A.	9R7GPTS07KV3U0JZ0078	02/04/2022	02/06/2023	65,949,867	4710.70475100		(3,440,780)	3,093,889	(346,891)		0	0	3,093,889					0003
146444 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	KB1H1DSRPFMYMCFXT09	02/04/2022	02/06/2023	62,709,972	4793.06445000		(2,796,924)	2,514,945	(281,979)		0	0	2,514,945					0003
146446 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3U0JZ0078	02/04/2022	02/06/2023	53,348,678	4723.30623500		(2,701,258)	2,428,924	(272,334)		0	0	2,428,924					0003
146448 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	9R7GPTS07KV3U0JZ0078	02/04/2022	02/06/2023	51,215,851	4742.20846100		(2,477,952)	2,228,131	(249,821)		0	0	2,228,131					0003
146460 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E57ODZVZ7FF32WEFA76	02/04/2022	02/05/2027	911,857	4689.10220700		0	0	0		0	0	0					0003
146462 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUWISFPUBM8P08K5P83	02/04/2022	02/06/2029	2,301,878	4697.20316100		0	0	0		0	0	0					0003
147079 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	G5GSEF7VJP5170UK5573	02/18/2022	02/17/2023	24,771,880	107.22501300		(1,395,369)	1,211,364	(184,005)		0	0	1,211,364					0003
147087 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	9R7GPTS07KV3U0JZ0078	02/18/2022	02/17/2023	41,004,821	186.25939200		(1,913,095)	1,660,819	(252,276)		0	0	1,660,819					0003
147089 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU579NE97	02/18/2022	02/17/2023	1,104,321	78.54543000		(49,229)	42,737	(6,492)		0	0	42,737					0003
147094 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JPF6GFNF3BB653	02/18/2022	08/18/2023	7,830,759	4525.86900900		(630,512)	364,912	(265,600)		0	0	364,912					0003
147102 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	4PQUH3JPF6GFNF3BB653	02/18/2022	02/17/2023	38,350,591	4433.23807800		(2,827,545)	2,454,682	(372,863)		0	0	2,454,682					0003
147103 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	9R7GPTS07KV3U0JZ0078	02/18/2022	02/17/2023	61,746,996	4540.22028000		(3,549,872)	3,081,757	(468,115)		0	0	3,081,757					0003
147104 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LROWP21HZNB6K528	02/18/2022	02/17/2023	29,459,315	4478.90121300		(1,049,769)	911,338	(138,431)		0	0	911,338					0003
147112 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JPF6GFNF3BB653	02/18/2022	02/17/2023	63,999,009	4447.15446200		(4,592,407)	3,986,815	(605,592)		0	0	3,986,815					0003
147128 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JPF6GFNF3BB653	02/18/2022	02/17/2023	58,426,686	4479.33610000		(3,923,051)	3,405,725	(517,325)		0	0	3,405,725					0003
147134 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JPF6GFNF3BB653	02/18/2022	02/17/2023	53,660,528	4501.51533700		(3,439,084)	2,985,578	(453,506)		0	0	2,985,578					0003
147136 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JPF6GFNF3BB653	02/18/2022	02/17/2023	47,875,776	4525.86900900		(2,910,600)	2,526,785	(383,815)		0	0	2,526,785					0003

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147138 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023		53,513,452	4548.91802000		(3,090,539)	2,682,996	(407,544)			0	0	2,682,996				0003	
147140 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023		50,517,958	4622.84881000		(2,457,425)	2,133,369	(324,056)			0	0	2,133,369				0003	
147141 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023		44,157,877	4561.09485600		(2,419,290)	2,100,263	(319,027)			0	0	2,100,263				0003	
147143 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023		52,682,646	4581.09965800		(2,753,675)	2,390,553	(363,122)			0	0	2,390,553				0003	
147145 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023		42,798,360	4601.97423400		(2,127,747)	1,847,165	(280,582)			0	0	1,847,165				0003	
147152 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/18/2022	02/19/2027		1,656,805	4533.26208800		0	0	0			0	0	0				0003	
147156 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/18/2022	02/20/2029		2,616,900	4538.48073200		0	0	0			0	0	0				0003	
147823 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		1,385,843	72.02590200		(82,543)	68,484	(14,060)			0	0	68,484				0003	
147826 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	09/01/2023		7,605,608	4473.88714500		(673,642)	372,601	(301,041)			0	0	372,601				0003	
147828 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023		44,683,927	4506.35367000		(2,972,919)	2,466,543	(506,376)			0	0	2,466,543				0003	
147830 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		81,805,770	4458.73610000		(5,928,196)	4,918,449	(1,009,748)			0	0	4,918,449				0003	
147843 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		59,143,949	4521.07182800		(3,888,754)	3,226,384	(662,370)			0	0	3,226,384				0003	
147844 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023		69,051,191	4483.84354600		(4,762,450)	3,951,263	(811,187)			0	0	3,951,263				0003	
147851 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		51,146,232	4529.72968800		(3,304,661)	2,741,779	(562,882)			0	0	2,741,779				0003	
147859 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		62,164,823	4548.34370900		(3,867,034)	3,208,364	(658,671)			0	0	3,208,364				0003	
147863 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		47,920,183	4563.92764100		(2,886,210)	2,394,603	(491,607)			0	0	2,394,603				0003	
147869 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/04/2022	03/03/2023		36,742,005	4460.90053500		(1,529,580)	1,269,047	(260,533)			0	0	1,269,047				0003	
147873 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		68,807,866	4577.78002500		(4,025,016)	3,339,437	(685,580)			0	0	3,339,437				0003	
147878 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		70,814,323	4602.45458400		(3,927,691)	3,258,688	(689,002)			0	0	3,258,688				0003	
147900 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023		46,946,443	193.21299200		(2,847,849)	2,362,776	(485,073)			0	0	2,362,776				0003	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
147902 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	03/04/2022	03/03/2023	29,130,341	110.42560200	(1,583,165)	1,313,505	(269,660)				0	0	1,313,505					0003
147904 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3BB653	03/04/2022	03/03/2023	45,298,460	4413.28296500	(3,522,830)	2,922,788	(600,043)				0	0	2,922,788					0003
147906 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	03/04/2022	03/03/2023	56,044,934	4422.80647900	(4,287,891)	3,557,536	(730,355)				0	0	3,557,536					0003
147913 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWISFPU8MPRO8K5P83	03/04/2022	03/04/2027	2,419,217	4525.83358500	0	0	0				0	0	0					0003
147915 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWISFPU8MPRO8K5P83	03/04/2022	03/02/2029	3,298,567	4536.65576000	0	0	0				0	0	0					0003
148443 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/18/2022	03/20/2023	45,277,521	188.55188000	(2,780,740)	2,182,161	(588,579)				0	0	2,182,161					0003
148449 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/18/2022	09/20/2023	11,109,955	4629.14806400	(931,248)	486,750	(444,498)				0	0	486,750					0003
148456 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/18/2022	03/20/2023	52,781,750	4550.15084000	(3,896,904)	3,058,061	(838,843)				0	0	3,058,061					0003
148462 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/18/2022	03/20/2023	65,113,181	4624.68494400	(4,133,455)	3,243,692	(889,763)				0	0	3,243,692					0003
148481 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNBB6K528	03/18/2022	03/20/2023	32,430,215	111.64006700	(1,582,779)	1,242,072	(340,707)				0	0	1,242,072					0003
148484 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC 656SEF7VJP5170UK5573	03/18/2022	03/20/2023	33,546,334	4597.90622400	(1,228,274)	963,877	(264,397)				0	0	963,877					0003
148487 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	03/18/2022	03/20/2023	1,043,437	76.91997900	(51,636)	40,521	(11,115)				0	0	40,521					0003
148491 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3BB653	03/18/2022	03/20/2023	49,559,034	4555.95289600	(3,407,067)	2,673,665	(733,401)				0	0	2,673,665					0003
148495 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	03/18/2022	03/20/2023	3,639,522	4661.72884000	0	0	0				0	0	0					0003
148497 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	03/18/2022	03/20/2023	2,815,500	4670.20876800	0	0	0				0	0	0					0003
148499 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3BB653	03/18/2022	03/20/2023	84,425,971	4596.56728800	(5,326,533)	4,179,949	(1,146,583)				0	0	4,179,949					0003
148503 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3BB653	03/18/2022	03/20/2023	54,731,684	4643.43004800	(3,113,119)	2,442,993	(670,126)				0	0	2,442,993					0003
148505 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3BB653	03/18/2022	03/20/2023	58,075,093	4659.05096800	(3,186,513)	2,500,588	(685,925)				0	0	2,500,588					0003
148507 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3BB653	03/18/2022	03/20/2023	60,453,711	4713.50103200	(2,912,356)	2,285,445	(626,910)				0	0	2,285,445					0003
148510 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE181XP4R0TD8PU41	03/18/2022	03/20/2023	56,854,564	4674.22557600	(3,273,494)	2,568,845	(704,649)				0	0	2,568,845					0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
148514 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	03/18/2022	03/20/2023	63,870,234	4694.75592800	(3,515,626)	2,758,856	(756,770)				0	0	2,758,856					0003
148516 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	03/18/2022	03/20/2023	78,958,461	4742.95762400	(3,893,313)	3,055,243	(838,070)				0	0	3,055,243					0003
149310 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	52,816,109	189.02028600	(3,165,832)	2,333,175	(632,657)				0	0	2,333,175					0003
149326 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. ... 7H6GLXDRUGOFU57RNE97	04/06/2022	04/06/2023	42,137,201	116.87346000	(2,160,269)	1,592,089	(568,180)				0	0	1,592,089					0003
149328 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. ... 7H6GLXDRUGOFU57RNE97	04/06/2022	04/06/2023	1,138,263	76.36408000	(52,665)	38,814	(13,852)				0	0	38,814					0003
149329 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	10/06/2023	9,739,780	4637.99025000	(814,275)	399,708	(414,567)				0	0	399,708					0003
149331 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	53,441,343	4567.63619500	(4,018,716)	2,961,739	(1,056,977)				0	0	2,961,739					0003
149333 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	64,485,810	4573.46169000	(4,794,423)	3,533,424	(1,260,999)				0	0	3,533,424					0003
149337 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	39,873,989	4636.19779000	(2,614,232)	1,926,653	(687,579)				0	0	1,926,653					0003
149340 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	49,281,133	4662.18846000	(3,058,964)	2,254,415	(804,549)				0	0	2,254,415					0003
149341 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ... E570DZIZ7FF32WFEA76	04/06/2022	04/06/2023	82,347,477	4612.89581000	(5,835,177)	4,300,446	(1,534,732)				0	0	4,300,446					0003
149344 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	55,437,321	4672.49510500	(3,366,582)	2,481,125	(885,457)				0	0	2,481,125					0003
149345 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... E571P3U3RH1GC71XBU11	04/06/2022	04/06/2023	58,759,840	4649.19312500	(3,896,556)	2,871,709	(1,024,848)				0	0	2,871,709					0003
149347 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	50,182,904	4682.35363500	(2,983,417)	2,198,738	(784,680)				0	0	2,198,738					0003
149350 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... E571P3U3RH1GC71XBU11	04/06/2022	04/06/2023	64,827,612	4711.48111000	(3,779,658)	2,785,556	(994,102)				0	0	2,785,556					0003
149351 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	50,631,840	4695.34897000	(2,925,861)	2,156,319	(769,541)				0	0	2,156,319					0003
149354 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	49,790,506	4741.95293000	(2,591,190)	1,909,672	(681,518)				0	0	1,909,672					0003
149363 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... E571P3U3RH1GC71XBU11	04/06/2022	04/06/2023	71,790,720	4726.26890500	(4,050,012)	2,984,804	(1,065,209)				0	0	2,984,804					0003

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149365 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB011	04/06/2022	04/06/2023		71,711,502	4764.80679500		(3,716,076)	2,738,697	(977,379)			0	0	2,738,697				0003	
149384 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWSPUBM8P808K5P83	04/06/2022	04/06/2029		1,315,067	4689.52347500		0		0			0	0					0003	
149386 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	04/06/2022	04/06/2027		3,167,976	4678.76871500		0		0			0	0					0003	
149391 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB011	04/06/2022	04/06/2023		46,018,813	4608.41466000		(1,624,351)	1,197,125	(427,227)			0	0	1,197,125				0003	
149943 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		43,182,415	4545.51738500		(3,232,470)	2,258,301	(974,169)			0	0	2,258,301				0003	
149947 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		52,633,041	4553.99034000		(3,874,789)	2,707,045	(1,167,745)			0	0	2,707,045				0003	
149950 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		61,406,063	4604.82807000		(4,080,689)	2,850,892	(1,229,797)			0	0	2,850,892				0003	
149953 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		57,359,765	4625.78748500		(3,649,072)	2,549,352	(1,099,720)			0	0	2,549,352				0003	
149957 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		68,480,367	4643.62528500		(4,193,802)	2,929,917	(1,263,886)			0	0	2,929,917				0003	
149969 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		66,180,111	4660.57119500		(3,907,698)	2,730,036	(1,177,662)			0	0	2,730,036				0003	
149971 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNB6K528	04/20/2022	04/20/2023		41,089,360	192.86867600		(2,330,970)	1,628,486	(702,484)			0	0	1,628,486				0003	
149972 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		55,219,912	4687.77384000		(3,069,871)	2,144,704	(925,167)			0	0	2,144,704				0003	
149975 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	04/20/2022	04/20/2023		31,451,701	119.30260800		(1,472,448)	1,028,696	(443,751)			0	0	1,028,696				0003	
149977 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	04/20/2022	04/20/2023		1,357,769	76.33068000		(57,067)	39,869	(17,198)			0	0	39,869				0003	
149980 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	10/20/2023		7,445,339	4603.04429000		(507,224)	236,026	(271,198)			0	0	236,026				0003	
149981 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		55,746,397	4707.84136500		(2,961,361)	2,068,896	(892,465)			0	0	2,068,896				0003	
149983 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		73,952,495	4727.90889000		(3,750,565)	2,620,258	(1,130,307)			0	0	2,620,258				0003	
149985 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		59,942,500	4757.34126000		(2,835,252)	1,980,792	(854,460)			0	0	1,980,792				0003	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
150019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/20/2022	04/20/2023		32,406,519	4590.55783000		(2,273,871)	1,588,585	(685,276)			0	0	1,588,585				0003
150022 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2027		4,166,941	4670.82793000		0	0	0			0	0	0				0003
150024 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2029		2,515,134	4677.96305000		0	0	0			0	0	0				0003
150385 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		49,924,375	185.38385600		(3,042,326)	1,997,571	(1,044,755)			0	0	1,997,571				0003
150387 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		37,882,646	105.79983400		(2,330,581)	1,530,244	(800,337)			0	0	1,530,244				0003
150389 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		1,133,639	70.94294200		(62,884)	41,290	(21,595)			0	0	41,290				0003
150390 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	11/06/2023		8,569,125	4284.56259400		(743,600)	323,717	(419,883)			0	0	323,717				0003
150394 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023		57,232,619	4208.28080400		(4,291,616)	2,817,847	(1,473,769)			0	0	2,817,847				0003
150398 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/06/2022	05/05/2023		54,912,719	4203.33279600		(4,616,931)	3,031,447	(1,585,485)			0	0	3,031,447				0003
150400 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	05/06/2022	05/05/2023		86,082,769	4303.94229200		(6,354,431)	4,172,277	(2,182,153)			0	0	4,172,277				0003
150406 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		55,763,152	4313.83830800		(4,021,002)	2,640,163	(1,380,839)			0	0	2,640,163				0003
150408 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		54,412,405	4333.63034000		(3,775,217)	2,478,782	(1,296,434)			0	0	2,478,782				0003
150410 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		54,866,366	4351.77303600		(3,675,953)	2,413,606	(1,262,346)			0	0	2,413,606				0003
150414 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		54,836,885	4365.79239200		(3,573,616)	2,346,413	(1,227,203)			0	0	2,346,413				0003
150416 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		60,893,976	4378.16241200		(3,871,109)	2,541,745	(1,329,364)			0	0	2,541,745				0003
150418 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		61,763,902	4405.78879000		(3,711,615)	2,437,022	(1,274,593)			0	0	2,437,022				0003
150419 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023		47,968,257	4244.97853000		(3,335,195)	2,189,867	(1,145,328)			0	0	2,189,867				0003
150421 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023		53,443,641	4275.49124600		(3,481,750)	2,286,094	(1,195,656)			0	0	2,286,094				0003
150423 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023		52,991,809	4289.09826800		(3,351,170)	2,200,356	(1,150,814)			0	0	2,200,356				0003
150450 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		43,192,354	4246.62786600		(3,547,988)	2,329,586	(1,218,403)			0	0	2,329,586				0003
150454 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	05/06/2022	05/06/2027		2,684,539	4322.49732200		0	0	0			0	0	0				0003

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150455 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/04/2029	1,896,215	4328.26999800	0	0	0	0	0		0	0	0	0				0003
151001 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	05/20/2022	05/19/2023	41,610,400	182.54103300	(2,439,075)	1,507,670	(931,405)				0	0	0	1,507,670				0003
151039 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	32,084,976	100.84795200	(1,856,449)	1,147,530	(708,919)				0	0	0	1,147,530				0003
151041 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	62,547,614	4049.61168000	(4,912,720)	3,036,709	(1,876,011)				0	0	0	3,036,709				0003
151043 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	41,447,746	4063.65657600	(3,168,602)	1,958,614	(1,209,988)				0	0	0	1,958,614				0003
151047 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	55,654,695	4083.94364800	(4,095,328)	2,531,453	(1,563,875)				0	0	0	2,531,453				0003
151051 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	48,462,991	4110.08276000	(3,391,643)	2,096,483	(1,295,161)				0	0	0	2,096,483				0003
151053 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	59,844,874	4128.80928800	(4,027,829)	2,489,730	(1,538,100)				0	0	0	2,489,730				0003
151055 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	49,671,618	4141.68376000	(3,257,868)	2,013,792	(1,244,076)				0	0	0	2,013,792				0003
151056 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	1,118,301	71.58545100	(50,615)	31,287	(19,328)				0	0	0	31,287				0003
151058 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	11/20/2023	6,916,838	4068.72834400	(658,648)	269,938	(388,710)				0	0	0	269,938				0003
151060 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	46,933,751	3977.43652000	(4,223,810)	2,610,872	(1,612,938)				0	0	0	2,610,872				0003
151062 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	50,567,946	3981.72801600	(4,515,231)	2,791,008	(1,724,223)				0	0	0	2,791,008				0003
151064 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	43,600,501	4019.96134400	(3,631,783)	2,244,921	(1,386,862)				0	0	0	2,244,921				0003
151066 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	56,614,976	4073.01984000	(4,264,520)	2,636,036	(1,628,484)				0	0	0	2,636,036				0003
151068 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	66,641,471	4165.09193600	(4,177,920)	2,582,505	(1,595,415)				0	0	0	2,582,505				0003

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151070 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	52,409,895	4192.79159200	(3,101,125)	1,916,904	(1,184,221)	0			0	0	1,916,904					0003
151096 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	05/20/2022	05/19/2023	37,753,309	4019.57120800	(1,665,059)	1,029,226	(635,833)	0			0	0	1,029,226					0003
151100 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBM8P08K5P83	05/20/2022	05/20/2027	5,349,149	4116.32493600	0	0	0	0			0	0	0					0003
151101 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBM8P08K5P83	05/20/2022	05/18/2029	1,342,084	4115.15452800	0	0	0	0			0	0	0					0003
151615 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	06/06/2022	06/06/2023	65,431,349	4206.33145800	(5,505,238)	3,137,231	(2,368,006)	0			0	0	3,137,231					0003
151617 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	06/06/2022	06/06/2023	61,043,332	4201.79789500	(5,178,123)	2,950,821	(2,227,302)	0			0	0	2,950,821					0003
151632 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	48,319,056	182.23229200	(2,635,600)	1,501,931	(1,133,669)	0			0	0	1,501,931					0003
151635 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	1,231,398	73.53498400	(49,735)	28,342	(21,393)	0			0	0	28,342					0003
151638 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	12/06/2023	5,173,219	4311.01578000	(460,296)	174,711	(285,585)	0			0	0	174,711					0003
151643 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	51,295,355	4274.33505300	(3,751,084)	2,137,604	(1,613,480)	0			0	0	2,137,604					0003
151645 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	48,619,144	4286.69934300	(3,471,290)	1,978,160	(1,493,130)	0			0	0	1,978,160					0003
151648 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	51,618,438	4301.53649100	(3,579,240)	2,039,676	(1,539,564)	0			0	0	2,039,676					0003
151655 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHH1GCT1XB11	06/06/2022	06/06/2023	31,975,257	104.19443100	(1,777,573)	1,012,973	(764,600)	0			0	0	1,012,973					0003
151657 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHH1GCT1XB11	06/06/2022	06/06/2023	42,164,762	4245.48504300	(3,344,201)	1,905,736	(1,438,464)	0			0	0	1,905,736					0003
151667 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	06/06/2022	06/06/2023	59,404,501	4310.60363700	(4,112,456)	2,343,537	(1,768,920)	0			0	0	2,343,537					0003
151670 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	06/06/2022	06/06/2023	58,451,253	4325.85292800	(3,926,948)	2,237,822	(1,689,126)	0			0	0	2,237,822					0003
151676 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	06/06/2022	06/06/2023	50,455,647	4339.86579000	(3,296,895)	1,878,779	(1,418,117)	0			0	0	1,878,779					0003
151683 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	06/06/2022	06/06/2023	70,581,165	4363.77008400	(4,392,609)	2,503,185	(1,889,424)	0			0	0	2,503,185					0003
151686 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	06/06/2022	06/06/2023	50,918,834	4375.31008800	(3,095,072)	1,763,767	(1,331,305)	0			0	0	1,763,767					0003
151689 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	06/06/2022	06/06/2023	67,783,122	4399.21438200	(3,921,044)	2,234,458	(1,686,586)	0			0	0	2,234,458					0003
151692 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	06/06/2022	06/06/2023	59,750,599	4430.94939300	(3,231,546)	1,841,538	(1,390,007)	0			0	0	1,841,538					0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
151702 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	06/06/2022	06/06/2023		38,305,169	4243.83647100		(1,585,915)	903,754	(682,161)			0	0	903,754				0003	
151706 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8MPRO8K5P83	06/06/2022	06/04/2027		4,280,628	4352.64222300		0	0	0			0	0	0				0003	
151708 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8MPRO8K5P83	06/06/2022	06/06/2029		1,953,500	4342.75079100		0	0	0			0	0	0				0003	
152983 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GCT1XBU11	06/17/2022	06/20/2023		35,348,391	3785.08520000		(1,729,669)	925,937	(803,732)			0	0	925,937				0003	
152988 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL C2PNE81BX4P0TD8PU41	06/17/2022	12/20/2023		5,850,553	3844.25012400		(461,399)	164,965	(296,434)			0	0	164,965				0003	
153004 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	06/17/2022	06/18/2027		4,183,227	3674.84000000		0	0	0			0	0	0				0003	
153008 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	06/17/2022	06/20/2029		1,343,448	3877.69116800		0	0	0			0	0	0				0003	
153009 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		49,453,792	3746.49938000		(4,575,780)	2,449,534	(2,126,246)			0	0	2,449,534				0003	
153012 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	06/17/2022	06/20/2023		28,650,599	92.97219600		(1,782,896)	954,431	(828,465)			0	0	954,431				0003	
153013 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		60,625,893	3861.52187200		(4,503,702)	2,410,949	(2,092,753)			0	0	2,410,949				0003	
153016 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		47,316,799	3878.42613600		(3,398,310)	1,819,204	(1,579,106)			0	0	1,819,204				0003	
153017 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	06/17/2022	06/20/2023		1,234,121	64.38185600		(67,056)	35,897	(31,159)			0	0	35,897				0003	
153020 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		46,580,655	3947.51312800		(2,900,086)	1,552,492	(1,347,594)			0	0	1,552,492				0003	
153021 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	06/17/2022	06/20/2023		57,891,689	3752.74660800		(5,412,643)	2,897,529	(2,515,114)			0	0	2,897,529				0003	
153025 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	06/17/2022	06/20/2023		68,735,951	3802.72443200		(5,857,179)	3,135,501	(2,721,678)			0	0	3,135,501				0003	
153047 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		43,259,700	181.08377100		(2,663,660)	1,425,927	(1,237,733)			0	0	1,425,927				0003	
153051 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		52,244,353	3821.09863200		(4,201,453)	2,249,148	(1,952,306)			0	0	2,249,148				0003	
153053 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		52,851,127	3832.85812000		(4,154,062)	2,223,778	(1,930,284)			0	0	2,223,778				0003	
153055 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	06/17/2022	06/20/2023		62,472,107	3845.72006000		(4,788,252)	2,563,276	(2,224,976)			0	0	2,563,276				0003	

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
153059 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	62,443,541	3897.16782000		(4,317,824)	2,311,444		(2,006,380)		0	0	2,311,444					0003	
153062 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	49,392,589	3915.17453600		(3,290,674)	1,761,584		(1,529,090)		0	0	1,761,584						0003
153789 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2022	01/05/2024	5,991,404	3994.26910400		(589,455)	191,465		(397,990)		0	0	191,465						0003
153793 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2022	07/06/2023	63,896,963	3920.05906000		(5,730,265)	2,794,485		(2,935,780)		0	0	2,794,485						0003
153795 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2022	07/06/2023	66,712,907	3924.28864800		(5,935,210)	2,894,431		(3,040,779)		0	0	2,894,431						0003
153799 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2022	07/06/2023	1,509,981	64.71811500		(71,862)	35,045		(36,817)		0	0	35,045						0003
153818 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	54,430,900	4111.54404400		(3,374,037)	1,645,421		(1,728,616)		0	0	1,645,421						0003
153822 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2022	07/06/2023	75,249,541	4163.45262400		(3,970,268)	1,936,186		(2,034,083)		0	0	1,936,186						0003
153825 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2022	07/06/2023	34,687,079	3961.97043200		(1,462,688)	713,311		(749,377)		0	0	713,311						0003
153830 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2022	07/06/2023	41,272,649	3965.43100400		(3,504,527)	1,709,057		(1,795,470)		0	0	1,709,057						0003
153833 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	55,956,713	3992.73107200		(4,398,549)	2,145,046		(2,253,503)		0	0	2,145,046						0003
153836 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	54,203,524	4000.03672400		(4,201,432)	2,048,917		(2,152,514)		0	0	2,048,917						0003
153840 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/06/2022	07/06/2023	50,218,662	4009.26491600		(3,785,544)	1,846,101		(1,939,443)		0	0	1,846,101						0003
153842 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	63,763,372	4018.49310800		(4,769,023)	2,325,716		(2,443,308)		0	0	2,325,716						0003
153846 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	65,719,233	4032.33539600		(4,783,753)	2,332,899		(2,450,854)		0	0	2,332,899						0003
153848 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/06/2029	4,579,270	4064.63406800		0	0		0		0	0	0						0003
153849 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	63,937,766	4069.63267200		(4,320,155)	2,106,815		(2,213,340)		0	0	2,106,815						0003
153852 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	56,575,795	4088.85807200		(3,675,720)	1,792,543		(1,883,177)		0	0	1,792,543						0003
153854 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2027	4,382,124	4066.94111600		0	0		0		0	0	0						0003
153902 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/06/2022	07/06/2023	49,298,182	172.30617800		(2,922,542)	1,425,240		(1,497,302)		0	0	1,425,240						0003

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153908 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/06/2022	07/06/2023		32,346,968	99.11388200		(1,939,845)	946,006	(993,838)			0	0	946,006				0003	
154440 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	07/20/2022	01/19/2024		4,921,522	4101.26843000		(499,176)	149,388	(349,788)			0	0	149,388				0003	
154444 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023		30,072,609	4079.88497000		(1,284,281)	577,047	(707,234)			0	0	577,047				0003	
154460 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/20/2027		2,701,988	4182.84237000		0	0	0			0	0	0				0003	
154465 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/20/2029		1,833,751	4186.40628000		0	0	0			0	0	0				0003	
154474 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		50,055,354	4036.72210000		(4,464,372)	2,005,910	(2,458,462)			0	0	2,005,910				0003	
154481 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/20/2022	07/20/2023		36,173,762	167.34855600		(2,159,016)	970,079	(1,188,938)			0	0	970,079				0003	
154487 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		64,259,436	4041.47390000		(5,681,070)	2,552,590	(3,128,480)			0	0	2,552,590				0003	
154488 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/20/2022	07/20/2023		23,033,683	99.43786800		(1,332,005)	598,490	(733,515)			0	0	598,490				0003	
154496 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/20/2022	07/20/2023		1,595,634	66.31972200		(82,037)	36,860	(45,176)			0	0	36,860				0003	
154508 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		51,302,564	4137.30352000		(3,784,852)	1,700,591	(2,084,261)			0	0	1,700,591				0003	
154518 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		49,016,434	4153.93500000		(3,499,408)	1,572,337	(1,927,071)			0	0	1,572,337				0003	
154535 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		58,157,626	4276.29600000		(3,221,024)	1,447,255	(1,773,769)			0	0	1,447,255				0003	
154541 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		36,761,995	4081.46890000		(3,018,803)	1,356,394	(1,662,409)			0	0	1,356,394				0003	
154548 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		37,173,459	4108.00030000		(2,902,842)	1,304,290	(1,598,551)			0	0	1,304,290				0003	
154554 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	07/20/2022	07/20/2023		56,714,497	4115.92010000		(4,360,735)	1,959,344	(2,401,391)			0	0	1,959,344				0003	

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
154560 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	46,423,707	4121.06790000		(3,534,272)	1,588,002	(1,946,270)			0	0	1,588,002					0003
154568 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	47,146,127	4192.74210000		(3,113,320)	1,398,862	(1,714,458)			0	0	1,398,862					0003
154575 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	52,330,494	4216.50150000		(3,291,241)	1,478,804	(1,812,437)			0	0	1,478,804					0003
155009 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	08/05/2022	08/04/2023	42,729,096	4276.17800400		(1,706,513)	693,857	(1,012,656)			0	0	693,857					0003
155014 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/04/2023	67,311,123	4310.16860000		(5,011,263)	2,037,547	(2,973,717)			0	0	2,037,547					0003
155021 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/05/2022	08/04/2023	1,632,094	68.54000000		(91,179)	37,073	(54,106)			0	0	37,073					0003
155026 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/04/2023	64,304,977	4272.86185200		(5,133,690)	2,087,324	(3,046,365)			0	0	2,087,324					0003
155028 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/06/2027	1,414,170	4387.26909600		0	0	0			0	0	0					0003
155035 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	08/05/2022	08/06/2029	2,732,774	4382.70938700		0	0	0			0	0	0					0003
155056 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	26,321,882	104.36445000		(1,478,898)	601,310	(877,588)			0	0	601,310					0003
155061 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	08/05/2022	02/06/2024	8,098,578	4331.30903100		(935,495)	251,733	(683,762)			0	0	251,733					0003
155069 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	08/05/2022	08/04/2023	70,590,662	4226.02120500		(6,134,176)	2,494,115	(3,640,060)			0	0	2,494,115					0003
155087 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	58,673,295	4483.02298500		(3,092,351)	1,257,330	(1,835,022)			0	0	1,257,330					0003
155100 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	64,436,720	4296.90400000		(4,921,334)	2,000,982	(2,920,352)			0	0	2,000,982					0003
155109 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	53,820,384	4320.94605600		(3,929,136)	1,597,561	(2,331,575)			0	0	1,597,561					0003
155117 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	54,593,454	4332.96710000		(3,895,653)	1,583,947	(2,311,706)			0	0	1,583,947					0003
155123 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	51,956,905	4351.20594300		(3,579,616)	1,455,448	(2,124,168)			0	0	1,455,448					0003
155130 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	52,623,950	4390.17072900		(3,358,373)	1,365,492	(1,992,881)			0	0	1,365,492					0003
155138 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	65,292,711	4417.11446400		(3,947,219)	1,604,913	(2,342,306)			0	0	1,604,913					0003
155147 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/05/2022	08/04/2023	43,768,130	175.24045800		(2,432,666)	989,106	(1,443,560)			0	0	989,106					0003
155159 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/05/2022	08/04/2023	58,919,845	4231.40995200		(5,031,443)	2,045,751	(2,985,691)			0	0	2,045,751					0003
155751 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/20/2027	1,644,288	4467.81200000		0	0	0			0	0	0					0003
155755 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/20/2029	1,477,052	4471.61760000		0	0	0			0	0	0					0003

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155768 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		35,000,020	4359.14003200		(1,449,026)	533,433	(915,593)			0	0	533,433				0003	
155781 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	08/19/2022	08/18/2023		33,231,253	172.53201600		(1,762,640)	648,884	(1,113,756)			0	0	648,884				0003	
155782 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	02/20/2024		5,965,661	4398.46489600		(591,003)	143,990	(447,013)			0	0	143,990				0003	
155784 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/18/2023		60,300,180	4313.04960000		(5,196,457)	1,912,981	(3,283,475)			0	0	1,912,981				0003	
155790 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		56,436,331	4436.09836800		(3,872,702)	1,425,665	(2,447,037)			0	0	1,425,665				0003	
155795 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	08/19/2022	08/18/2023		21,756,005	106.72979800		(1,187,418)	437,126	(750,291)			0	0	437,126				0003	
155800 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		50,076,603	4573.94681600		(2,583,688)	951,138	(1,632,550)			0	0	951,138				0003	
155806 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		1,133,155	68.46142700		(60,175)	22,152	(38,023)			0	0	22,152				0003	
155825 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/18/2023		48,753,728	4317.27808000		(4,169,614)	1,534,968	(2,634,646)			0	0	1,534,968				0003	
155846 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		51,459,287	4363.36851200		(4,054,308)	1,492,520	(2,561,788)			0	0	1,492,520				0003	
155855 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		47,909,177	4387.04800000		(3,611,544)	1,329,524	(2,282,019)			0	0	1,329,524				0003	
155866 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		52,310,882	4393.81356800		(3,893,488)	1,433,317	(2,460,171)			0	0	1,433,317				0003	
155879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		54,803,457	4411.99603200		(3,940,344)	1,450,566	(2,489,778)			0	0	1,450,566				0003	
155885 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		48,048,024	4474.15468800		(3,057,436)	1,125,540	(1,931,897)			0	0	1,125,540				0003	
155891 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		50,558,379	4504.17689600		(3,025,814)	1,113,898	(1,911,915)			0	0	1,113,898				0003	
156454 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/06/2022	09/06/2023		37,273,464	168.00396300		(2,035,720)	646,969	(1,388,751)			0	0	646,969				0003	
156459 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	03/06/2024		4,851,158	4042.63173600		(510,252)	108,207	(402,045)			0	0	108,207				0003	
156461 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		60,193,942	3986.35380000		(5,479,941)	1,741,570	(3,738,371)			0	0	1,741,570				0003	
156466 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/06/2022	09/06/2023		25,452,922	99.89908800		(1,631,043)	518,359	(1,112,684)			0	0	518,359				0003	
156486 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023		1,702,447	63.34203200		(111,864)	35,551	(76,313)			0	0	35,551				0003	
156493 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		52,934,675	4168.08463500		(3,408,807)	1,083,347	(2,325,460)			0	0	1,083,347				0003	
156499 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2023		35,837,571	4033.25208000		(1,636,652)	520,141	(1,116,510)			0	0	520,141				0003	
156503 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	09/06/2022	09/06/2027		1,651,422	4125.87618300		0	0	0			0	0	0				0003	

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156506 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2029		1,044,140	4131.73846800		0		0			0	0					0003
156522 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		50,885,872	3991.83000000		(4,587,832)	1,458,051	(3,129,782)			0	0	1,458,051				0003
156529 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		30,833,134	4030.90716600		(2,590,012)	823,127	(1,766,885)			0	0	823,127				0003
156537 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		56,573,004	4055.52876300		(4,540,176)	1,442,905	(3,097,271)			0	0	1,442,905				0003
156546 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		51,444,932	4062.56000000		(4,074,502)	1,294,910	(2,779,591)			0	0	1,294,910				0003
156555 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		77,317,270	4075.85135100		(5,971,630)	1,897,833	(4,073,797)			0	0	1,897,833				0003
156563 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		48,898,486	4096.17393900		(3,632,492)	1,154,436	(2,478,056)			0	0	1,154,436				0003
156573 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		67,189,173	4107.50769000		(4,882,759)	1,551,781	(3,330,978)			0	0	1,551,781				0003
156584 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023		45,912,184	4150.49778000		(3,064,243)	973,842	(2,090,401)			0	0	973,842				0003
156623 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/06/2022	09/06/2023		52,781,811	4233.74222700		(3,093,921)	983,273	(2,110,647)			0	0	983,273				0003
156930 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023		55,376,776	3931.12063500		(5,399,168)	1,508,809	(3,890,359)			0	0	1,508,809				0003
156939 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023		64,481,233	3994.74348000		(5,782,974)	1,616,064	(4,166,910)			0	0	1,616,064				0003
156949 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023		40,763,715	4008.23923500		(3,569,060)	997,381	(2,571,679)			0	0	997,381				0003
156963 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/20/2022	09/20/2023		64,660,499	4168.26033000		(4,057,282)	1,133,816	(2,923,466)			0	0	1,133,816				0003
156971 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023		35,743,020	3974.30705100		(1,732,533)	484,160	(1,248,373)			0	0	484,160				0003
156982 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2027		1,254,640	4094.22647400		0		0			0	0					0003
156986 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2029		964,383	4094.22647400		0		0			0	0					0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
156995 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	31,209,318	164.09507400		(1,816,319)		507,574	(1,308,745)			0	0	507,574				0003	
156999 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	03/20/2024	7,584,884	3992.04432900		(819,888)		152,886	(667,002)			0	0	152,886				0003	
157005 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	64,391,560	3950.01469200		(4,221,462)		1,179,696	(3,041,766)			0	0	1,179,696				0003	
157019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	52,321,955	4020.57821100		(2,882,759)		805,593	(2,077,166)			0	0	805,593				0003	
157034 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	58,883,304	4037.54430300		(3,103,025)		867,147	(2,235,878)			0	0	867,147				0003	
157043 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	48,303,304	4074.17563800		(2,304,445)		643,982	(1,660,463)			0	0	643,982				0003	
157048 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	50,001,310	4098.46799700		(2,226,012)		622,064	(1,603,948)			0	0	622,064				0003	
157070 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2022	09/20/2023	21,509,178	94.40260800		(1,214,818)		339,483	(875,335)			0	0	339,483				0003	
157078 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023	969,253	62.37430200		(66,012)		18,447	(47,565)			0	0	18,447				0003	
157994 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	46,699,024	3857.97895600		(4,438,944)		1,045,888	(3,393,056)			0	0	1,045,888				0003	
158009 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	65,360,107	3883.44169200		(5,844,659)		1,377,098	(4,467,562)			0	0	1,377,098				0003	
158018 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	52,454,369	3895.42415600		(4,591,459)		1,081,823	(3,509,636)			0	0	1,081,823				0003	
158023 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	64,830,722	3907.78107200		(5,649,049)		1,331,009	(4,318,040)			0	0	1,331,009				0003	
158034 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	39,304,579	3908.90442800		(3,416,305)		804,938	(2,611,367)			0	0	804,938				0003	
158040 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	46,549,514	3966.94448800		(3,644,100)		858,610	(2,785,490)			0	0	858,610				0003	
158046 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	49,354,098	3983.42037600		(3,750,247)		883,620	(2,866,627)			0	0	883,620				0003	
158065 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	70,204,861	4109.98515200		(4,178,934)		984,626	(3,194,308)			0	0	984,626				0003	
158081 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2027	3,163,776	4040.33708000		0		0	0			0	0	0				0003	

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158084 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/05/2029		2,372,230	4058.68522800		0		0			0	0					0003
158090 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROMUISFPUBMPRO8K5P83	10/06/2022	10/06/2023		36,718,660	169.33550400		(2,287,659)	539,010	(1,748,649)			0	0	539,010				0003
158098 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/06/2022	10/06/2023		49,137,343	3933.61826000		(2,630,240)	619,728	(2,010,512)			0	0	619,728				0003
158115 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/06/2023		39,645,046	3864.71909200		(1,950,077)	459,470	(1,490,607)			0	0	459,470				0003
158133 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/06/2022	10/06/2023		24,467,545	85.30288800		(1,810,701)	426,631	(1,384,070)			0	0	426,631				0003
158142 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	04/05/2024		6,268,896	3878.94826800		(726,742)	114,259	(612,482)			0	0	114,259				0003
158146 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		1,525,591	60.79342500		(106,373)	25,063	(81,309)			0	0	25,063				0003
158147 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2022	10/06/2023		64,704,067	3819.41040000		(9,580,007)	2,257,207	(7,322,800)			0	0	2,257,207				0003
158157 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023		50,443,774	3821.65711200		(5,097,484)	1,201,051	(3,896,433)			0	0	1,201,051				0003
158690 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023		30,460,657	160.96106000		(1,946,067)	383,882	(1,562,185)			0	0	383,882				0003
158696 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023		19,770,467	83.12379600		(1,522,095)	300,249	(1,221,846)			0	0	300,249				0003
158710 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023		826,862	59.69977600		(60,825)	11,998	(48,827)			0	0	11,998				0003
158721 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		63,468,586	3983.23654800		(4,339,882)	856,086	(3,483,796)			0	0	856,086				0003
158722 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/20/2023		30,182,779	3776.85313400		(1,612,697)	318,121	(1,294,576)			0	0	318,121				0003
158728 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		43,575,339	4073.78131400		(2,505,984)	494,331	(2,011,653)			0	0	494,331				0003
158730 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	10/20/2022	10/20/2027		7,088,546	3978.83761200		0		0			0	0					0003
158734 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/19/2029		3,982,571	3979.93734600		0		0			0	0					0003
158746 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	04/19/2024		5,699,921	3799.94754800		(672,270)	88,489	(583,781)			0	0	88,489				0003
158754 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		60,187,635	3738.36244400		(6,234,725)	1,229,864	(5,004,861)			0	0	1,229,864				0003
158762 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		74,808,545	3760.35712400		(7,471,391)	1,473,809	(5,997,582)			0	0	1,473,809				0003

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158779 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/20/2022	10/20/2023	44,588,854	3797.38150200		(4,182,970)	825,134	(3,357,836)			0	0	825,134				0003	
158795 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/20/2022	10/20/2023	83,245,748	3819.37618200		(7,520,804)	1,483,556	(6,037,248)			0	0	1,483,556				0003	
158815 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/20/2022	10/20/2023	33,126,972	3824.14169600		(2,967,803)	585,430	(2,382,374)			0	0	585,430				0003	
158825 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/20/2022	10/20/2023	50,631,234	3850.90189000		(4,328,548)	853,851	(3,474,698)			0	0	853,851				0003	
158829 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/20/2022	10/20/2023	61,835,513	3889.02600200		(4,936,791)	973,833	(3,962,958)			0	0	973,833				0003	
159732 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	40,206,225	3902.89630500		(3,731,185)	579,503	(3,151,682)			0	0	579,503				0003	
159746 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	45,078,853	3916.09323000		(4,090,674)	635,336	(3,455,338)			0	0	635,336				0003	
159752 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	56,039,710	3927.40488000		(4,987,835)	774,677	(4,213,157)			0	0	774,677				0003	
159764 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	59,245,929	3938.71653000		(5,171,384)	803,185	(4,368,199)			0	0	803,185				0003	
159803 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	44,657,906	3957.56928000		(3,772,585)	585,933	(3,186,653)			0	0	585,933				0003	
159813 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	56,552,118	3981.70080000		(4,578,686)	711,131	(3,867,555)			0	0	711,131				0003	
159818 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	53,364,806	4003.94704500		(4,152,740)	644,976	(3,507,764)			0	0	644,976				0003	
159826 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	55,755,735	4054.09536000		(3,959,586)	614,977	(3,344,610)			0	0	614,977				0003	
159833 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	84,508,193	4181.53995000		(4,695,506)	729,275	(3,966,231)			0	0	729,275				0003	
159835 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	11/04/2022	11/05/2027	12,677,866	4092.55497000		0	0	0			0	0	0				0003	
159839 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	11/04/2022	11/06/2029	8,325,314	4095.57141000		0	0	0			0	0	0				0003	
159844 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/04/2022	05/06/2024	8,588,031	3903.65041500		(995,434)	103,351	(892,083)			0	0	103,351				0003	
159851 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/04/2022	11/06/2023	83,833,730	3845.58394500		(8,352,234)	1,297,213	(7,055,021)			0	0	1,297,213				0003	
159856 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/04/2022	11/06/2023	48,827,816	3850.48566000		(4,823,960)	749,225	(4,074,735)			0	0	749,225				0003	
159873 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPFMVCMJXF09	11/04/2022	11/06/2023	32,797,956	165.99902300		(2,120,784)	329,386	(1,791,398)			0	0	329,386				0003	

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159887 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFT09	11/04/2022	11/06/2023	25,791,103	87.60073500		(1,876,116)		291,386	(1,584,730)		0	0	0	291,386				0003	
159899 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	11/04/2022	11/06/2023	1,207,807	63.69637500		(83,285)		12,935	(70,350)		0	0	0	12,935				0003	
159904 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGUFU57RNE97	11/04/2022	11/06/2023	41,881,396	3888.56821500		0		0	0		0	0	0	0				0003	
159910 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC BNP PARIBAS LONDON	11/04/2022	11/06/2023	59,052,975	3882.91239000		(5,667,405)		880,224	(4,787,181)		0	0	0	880,224				0003	
160845 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	11/18/2022	11/19/2027	13,083,553	4298.82509400		0		0	0		0	0	0	0				0003	
160848 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	11/18/2022	11/20/2029	8,257,298	4314.28992000		0		0	0		0	0	0	0				0003	
160861 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	31,067,700	172.08530900		(1,946,185)		228,027	(1,718,158)		0	0	0	228,027				0003	
160867 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	11/18/2022	11/20/2023	19,457,914	91.69881000		(1,252,240)		146,720	(1,105,520)		0	0	0	146,720				0003	
160891 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHNSJPFQFN3B8653	11/18/2022	05/20/2024	6,833,287	4115.22985200		(597,009)		46,760	(550,248)		0	0	0	46,760				0003	
160892 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	1,084,663	68.79840000		(63,536)		7,444	(56,092)		0	0	0	7,444				0003	
160900 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	48,796,656	4094.61008400		(4,287,603)		502,362	(3,785,240)		0	0	0	502,362				0003	
160903 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	11/18/2022	11/20/2023	70,276,392	4044.25026600		(6,822,355)		799,349	(6,023,005)		0	0	0	799,349				0003	
160914 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	49,047,265	4139.41842600		(3,976,349)		465,894	(3,510,455)		0	0	0	465,894				0003	
160915 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	11/18/2022	11/20/2023	62,347,792	4061.30122800		(5,879,927)		688,929	(5,190,998)		0	0	0	688,929				0003	
160927 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	34,446,329	4158.84859200		(2,694,846)		315,745	(2,379,101)		0	0	0	315,745				0003	
160937 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	69,072,620	4158.05552400		(5,411,945)		634,097	(4,777,848)		0	0	0	634,097				0003	
160940 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TWEFA76	11/18/2022	11/20/2023	47,437,050	4128.31547400		(3,978,259)		466,118	(3,512,141)		0	0	0	466,118				0003	
160957 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	55,904,712	4390.02791400		(2,887,987)		338,375	(2,549,613)		0	0	0	338,375				0003	
160978 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	35,895,178	4085.09326800		(1,558,822)		182,641	(1,376,180)		0	0	0	182,641				0003	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
160991 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	48,721,022	4200.08812800		(3,528,024)	413,365	(3,114,659)			0	0	413,365				0003	
160996 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	54,462,159	4228.63857600		(3,733,855)	437,482	(3,296,374)			0	0	437,482				0003	
161837 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	02RNE81BXP4R0TD8PU41	12/06/2022	12/06/2023	19,655,311	91.39673400		(1,188,754)	81,422	(1,107,333)			0	0	81,422				0003	
161851 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	30,337,309	174.28533200		(1,805,074)	123,635	(1,681,439)			0	0	123,635				0003	
161863 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	837,139	70.84779700		(42,183)	2,889	(39,294)			0	0	2,889				0003	
161873 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	06/06/2024	6,553,212	4095.75739200		(690,832)	31,516	(659,316)			0	0	31,516				0003	
161879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	43,870,014	4026.78534200		(4,035,777)	276,423	(3,759,354)			0	0	276,423				0003	
161887 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	64,234,679	4018.50869600		(6,143,810)	420,809	(5,723,001)			0	0	420,809				0003	
161890 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	43,509,051	4060.28605200		(3,765,625)	257,920	(3,507,706)			0	0	257,920				0003	
161905 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	51,348,725	4087.87487200		(4,332,906)	296,774	(4,036,132)			0	0	296,774				0003	
161932 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	40,207,813	4107.58117200		(3,272,372)	224,135	(3,048,237)			0	0	224,135				0003	
161939 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	30,425,542	4056.73891800		(1,182,375)	80,985	(1,101,390)			0	0	80,985				0003	
161941 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	52,280,101	4114.67544000		(4,197,480)	287,499	(3,909,981)			0	0	287,499				0003	
161947 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	44,760,010	4128.86397600		(3,500,175)	239,738	(3,260,437)			0	0	239,738				0003	
161958 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	62,912,892	4156.45279600		(4,678,257)	320,429	(4,357,829)			0	0	320,429				0003	
161963 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	70,590,992	4186.40637200		(4,952,466)	339,210	(4,613,256)			0	0	339,210				0003	
161967 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2027	8,949,414	4275.08472200		0	0	0			0	0	0				0003	
161971 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2029	11,421,597	4288.87913200		0	0	0			0	0	0				0003	
161972 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32WFEA76	12/06/2022	12/06/2023	57,358,597	4331.83886600		(2,975,747)	203,818	(2,771,928)			0	0	203,818				0003	
162528 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI G071XBU11	12/20/2022	12/20/2023	30,723,667	3932.82914200		(1,439,006)	43,367	(1,395,638)			0	0	43,367				0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
162534 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	12/20/2022	12/20/2027		7,255,213	4141.10743200		0		0			0	0					0003
162538 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	12/20/2022	12/20/2029		11,042,350	4157.15823600		0		0			0	0					0003
162544 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		29,319,901	178.76828400		(1,751,634)	52,789	(1,698,845)			0	0		52,789			0003
162569 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		538,093	68.90083200		(32,723)	966	(31,736)			0	0		966			0003
162577 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	06/20/2024		6,342,055	3963.78426400		(686,736)	13,785	(672,951)			0	0		13,785			0003
162581 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		53,382,375	3896.52375200		(5,062,835)	152,579	(4,910,256)			0	0		152,579			0003
162591 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		48,738,535	3904.54915400		(4,556,113)	137,308	(4,418,805)			0	0		137,308			0003
162606 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		45,704,594	3936.65076200		(4,031,347)	121,493	(3,909,855)			0	0		121,493			0003
162617 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		47,442,642	3961.87345400		(3,994,195)	120,373	(3,873,822)			0	0		120,373			0003
162631 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		51,887,182	3977.15993400		(4,244,871)	127,928	(4,116,944)			0	0		127,928			0003
162639 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		54,624,358	3989.77128000		(4,363,080)	131,490	(4,231,590)			0	0		131,490			0003
162649 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		66,887,312	4016.52262000		(5,074,681)	152,936	(4,921,745)			0	0		152,936			0003
162658 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		52,602,306	4046.33125600		(3,763,240)	113,413	(3,649,827)			0	0		113,413			0003
162665 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		50,272,715	4079.96151200		(3,359,802)	101,254	(3,258,547)			0	0		101,254			0003
162689 Call Options - IShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	12/20/2022	12/20/2023		20,180,184	88.21243900		(1,385,231)	41,747	(1,343,485)			0	0		41,747			0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)		
162695 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	12/20/2022	12/20/2023		36,116,180	4235.50144600		(1,789,770)	53,938	(1,735,831)			0	0	53,938					0003	
0649999999. Subtotal - Written Options - Hedging Other - Call Options and Warrants										(6,248,367)	(1,162,904,499)	569,598,719	(598,604,817)	XXX	0	0	0	569,598,719	0	0	XXX	XXX		
0709999999. Subtotal - Written Options - Hedging Other										(6,248,367)	(1,162,904,499)	569,598,719	(598,604,817)	XXX	0	0	0	569,598,719	0	0	XXX	XXX		
0779999999. Subtotal - Written Options - Replications										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX		
0849999999. Subtotal - Written Options - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0919999999. Subtotal - Written Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0929999999. Total Written Options - Call Options and Warrants										(6,248,367)	(1,162,904,499)	569,598,719	(598,604,817)	XXX	0	0	0	569,598,719	0	0	XXX	XXX		
0939999999. Total Written Options - Put Options										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0949999999. Total Written Options - Caps										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0959999999. Total Written Options - Floors										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0969999999. Total Written Options - Collars										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0979999999. Total Written Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0989999999. Total Written Options										(6,248,367)	(1,162,904,499)	569,598,719	(598,604,817)	XXX	0	0	0	569,598,719	0	0	XXX	XXX		
1049999999. Subtotal - Swaps - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	0	XXX	XXX
1109999999. Subtotal - Swaps - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	0	XXX	XXX
Interest Rate Swap /140377	LIABILITY HEDGE	Exhibit 5	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	06/04/2015	06/23/2030		79,000,000	2.434% [LIBOR]	0		478,649	(5,964,306)		(5,964,306)	(11,105,997)						1,080,309	0001	
Interest Rate Swap /140456	LIABILITY HEDGE	Exhibit 5	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	10/06/2016	06/23/2030		184,000,000	1.618% [LIBOR]	0		(413,941)	(20,217,494)		(20,217,494)	(22,295,574)							2,516,162	0001
Interest Rate Swap /140458	LIABILITY HEDGE	Exhibit 5	Interest	MERRILL LYNCH CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	11/10/2016	12/25/2023		16,000,000	1.385% [LIBOR]	0		(34,459)	(456,218)		(456,218)	(693,397)							79,599	0001
Interest Rate Swap /140462	LIABILITY HEDGE	Exhibit 5	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	07/14/2017	04/15/2024		239,000,000	2.005% [LIBOR]	0		1,158,145	(7,140,333)		(7,140,333)	(14,888,302)							1,357,259	0001
Interest Rate Swap /140467	LIABILITY HEDGE	Exhibit 5	Interest	MORGAN STANLEY & COMPANY / MORGAN STANLEY/CLEARED THROUGH CME	10/25/2017	06/23/2030		73,000,000	2.4175% [LIBOR]	0		434,919	(5,364,863)		(5,364,863)	(9,265,252)							998,260	0001
Interest Rate Swap /140473	LIABILITY HEDGE	Exhibit 5	Interest	MORGAN STANLEY & COMPANY / MORGAN STANLEY/CLEARED THROUGH CME	10/25/2017	10/25/2025		107,000,000	2.233% [LIBOR]	0		514,035	(3,938,981)		(3,938,981)	(8,467,464)							900,003	0001

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)
Interest Rate Swap /140474	LIABILITY HEDGE	Exhibit 5	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	07/23/2018	04/15/2024	267,000,000	2.9741% [LIBOR]	0			3,132,304	(5,386,601)		(5,386,601)	(18,233,195)				1,516,269	0001	
Interest Rate Swap /140476	LIABILITY HEDGE	Exhibit 5	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	09/11/2018	04/15/2024	132,000,000	2.998% [LIBOR]	0			2,110,111	(2,692,676)		(2,692,676)	(10,140,301)				749,616	0001	
Interest Rate Swap /140488	LIABILITY HEDGE	Exhibit 5	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	10/05/2018	05/15/2024	67,000,000	3.1675% [LIBOR]	0			1,203,652	(1,302,202)		(1,302,202)	(5,178,876)				393,536	0001	
Interest Rate Swap /145139	LIABILITY HEDGE	Exhibit 5	Interest	BNP PARIBAS LONDON / MORGAN STANLEY/CLEARED THROUGH CME	12/15/2021	05/15/2024	6,836,735	LIBOR [3.1675%]	(402,000)			(122,822)	132,878		132,878	490,020				40,157	0001	
Interest Rate Swap /145478	LIABILITY HEDGE	Exhibit 5	Interest	CITIBANK N.A. / MORGAN STANLEY/CLEARED THROUGH CME	01/13/2022	01/18/2030	286,000,000	1.481% [SOFR]	0			(671,213)	(37,093,295)		(37,093,295)	(37,093,295)				3,796,913	0001	
Interest Rate Swap /162729	Portfolio Hedge		Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2042	240,000,000	SOFR [3.28%]	0			61,266	5,159,888		5,159,888	5,159,888				5,365,221	0001	
Interest Rate Swap /162730	Portfolio Hedge		Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2032	280,000,000	SOFR [3.36%]	0			65,877	3,733,699		3,733,699	3,733,699				4,424,975	0001	
Interest Rate Swap /162731	Portfolio Hedge		Interest	CITIBANK N.A. / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2024	855,000,000	4.2535% [SOFR]	0			(10,175)	(3,311,117)		(3,311,117)	(3,311,117)				6,030,630	0001	
Interest Rate Swap /162732	Portfolio Hedge		Interest	CITIBANK N.A. / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2032	195,000,000	SOFR [3.354%]	0			46,171	2,697,644		2,697,644	2,697,644				3,081,679	0001	
Interest Rate Swap /162733	Portfolio Hedge		Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2042	240,000,000	SOFR [3.276%]	0			61,506	5,297,204		5,297,204	5,297,204				5,365,221	0001	
Interest Rate Swap /162734	Portfolio Hedge		Interest	JPMORGAN CHASE BANK, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2023	1,625,000,000	4.7705% [SOFR]	0			190,693	(2,096,438)		(2,096,438)	(2,096,438)				8,084,273	0001	
Interest Rate Swap /162735	Portfolio Hedge		Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2032	400,000,000	SOFR [3.3545%]	0			94,660	5,516,981		5,516,981	5,516,981				6,321,392	0001	
Interest Rate Swap /162736	Portfolio Hedge		Interest	JPMORGAN CHASE BANK, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	12/21/2022	12/23/2032	190,000,000	SOFR [3.354%]	0			44,987	2,628,474		2,628,474	2,628,474				3,002,661	0001	

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SCHEDULE DB - PART A - SECTION 1

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)						
Conversion Adjustment																5,556,033												
1119999999. Subtotal - Swaps - Hedging Other - Interest Rate										(402,000)	0	8,344,367	(69,797,756)	XXX	(69,797,756)	(111,689,266)	0	0	0	55,104,141	XXX	XXX						
Currency Swap /154919	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	08/04/2022	08/20/2027		22,972,500	5.214% [3.33%]		0	166,028	(323,446)		(323,446)	(340,123)	16,677			247,421		0002						
Currency Swap /156715	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	09/09/2022	09/20/2032		19,669,000	6.78% [6.66%]		0	3,940	(891,152)		(891,152)	(905,273)	14,121			306,609		0002						
Currency Swap /158392	ASSET HEDGE	Schedule D	Currency	ROYAL BANK OF CANADA	10/13/2022	10/30/2027		21,802,500	7.672% [6.04%]		0	47,769	(2,219,845)		(2,219,845)	(2,228,397)	8,552			239,828		0002						
Currency Swap /158652	ASSET HEDGE	Schedule D	Currency	CITIBANK N.A.	10/20/2022	10/19/2027		4,895,000	6.408%		0		(22,531)		(22,531)	(22,531)				53,622		0002						
Currency Swap /158899	ASSET HEDGE	Schedule D	Currency	ROYAL BANK OF CANADA	10/25/2022	01/31/2030		27,528,000	6.22%		0		(105,432)		(105,432)	(105,432)				366,236		0002						
Currency Swap /158983	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	10/26/2022	05/02/2025		5,785,000	9.2279%		0	(2,044)	(264,274)		(264,274)	(265,249)	975			44,247		0002						
Currency Swap /159089	ASSET HEDGE	Schedule D	Currency	JPMORGAN CHASE BANK, N.A.	10/27/2022	11/09/2037		18,528,000	6.282% [6.07%]		0	(967)	(942,191)		(942,191)	(942,831)	640			357,115		0002						
Currency Swap /159812	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	11/07/2022	01/31/2030		20,000,000	6.691% [5.01%]		0		543,426		543,426	543,426				266,083		0002						
Currency Swap /161475	ASSET HEDGE	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	12/02/2022	06/27/2030		18,445,000	6.418% [5.08%]		0		388,988		388,988	388,988				252,400		0002						
Currency Swap /162602	ASSET HEDGE	Schedule D	Currency	JPMORGAN CHASE BANK, N.A.	12/21/2022	01/04/2032		21,180,000	5.478%		0		(24,612)		(24,612)	(24,612)				317,876		0002						
1139999999. Subtotal - Swaps - Hedging Other - Foreign Exchange										0	0	214,726	(3,861,069)	XXX	(3,861,069)	(3,902,035)	40,966	0	0	2,451,437	XXX	XXX						
1169999999. Subtotal - Swaps - Hedging Other										(402,000)	0	8,559,092	(73,658,824)	XXX	(73,658,824)	(115,591,301)	40,966	0	0	57,555,578	XXX	XXX						
1229999999. Subtotal - Swaps - Replication										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	XXX	XXX		
1289999999. Subtotal - Swaps - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX	
1349999999. Subtotal - Swaps - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX
1359999999. Total Swaps - Interest Rate										(402,000)	0	8,344,367	(69,797,756)	XXX	(69,797,756)	(111,689,266)	0	0	55,104,141	XXX	XXX							
1369999999. Total Swaps - Credit Default										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX	
1379999999. Total Swaps - Foreign Exchange										0	0	214,726	(3,861,069)	XXX	(3,861,069)	(3,902,035)	40,966	0	0	2,451,437	XXX	XXX						
1389999999. Total Swaps - Total Return										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX	
1399999999. Total Swaps - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	XXX	XXX
1409999999. Total Swaps										(402,000)	0	8,559,092	(73,658,824)	XXX	(73,658,824)	(115,591,301)	40,966	0	0	57,555,578	XXX	XXX						
REC 169479.00 USD PAY [150000.00] GBP /157772	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	10/05/2022	01/05/2023		169,479	1.12986000		0		(11,852)		(11,852)	(11,852)				85		0002						
REC 168646.20 USD PAY [150000.00] GBP /157830	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	10/06/2022	01/05/2023		168,646	1.12430800		0		(12,684)		(12,684)	(12,684)				84		0002						
REC 4483820.42 USD PAY [4043000.00] GBP /158218	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	10/11/2022	01/05/2023		4,483,820	1.10903300		0		(403,600)		(403,600)	(403,600)				2,242		0002						
REC 198325.41 USD PAY [201000.00] EUR /158414	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	10/17/2022	01/17/2023		198,325	98669358		0		(17,193)		(17,193)	(17,193)				222		0002						
REC 10167128.19 USD PAY [10263000.00] EUR /158473	Asset Hedge	Schedule D	Currency	WELLS FARGO BANK, N.A.	10/18/2022	01/17/2023		10,167,128	99065850		0		(779,719)		(779,719)	(779,719)				11,367		0002						
REC 53000.00 GBP PAY [61423.22] USD /159145	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	10/28/2022	01/11/2023		61,423	1.15892868		0		2,654		2,654	2,654				53		0002						

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SCHEDULE DB - PART A - SECTION 1

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Year-end (b)	
REC 3222723.34 USD PAY [3236000.00] EUR /159321	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	11/01/2022	02/01/2023		3,222,723	.99589720			0	(250,237)		(250,237)	(250,237)					4,834	0002	
REC 397374.37 USD PAY [394000.00] EUR /159966	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	11/08/2022	02/08/2023		397,374	1.00856439			0	(25,707)		(25,707)	(25,707)					659	0002	
REC 1011561.55 USD PAY [1001000.00] EUR /160136	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	11/09/2022	02/09/2023		1,011,562	1.01055100			0	(62,834)		(62,834)	(62,834)					1,677	0002	
REC 13668972.67 USD PAY [11291000.00] GBP /161253	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	11/23/2022	02/24/2023		13,668,973	1.21060780			0	(3,866)		(3,866)	(3,866)					26,470	0002	
REC 15603060.00 USD PAY [15000000.00] EUR /161415	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	11/29/2022	01/17/2023		15,603,060	1.04020400			0	(473,721)		(473,721)	(473,721)					17,445	0002	
REC 10404711.00 USD PAY [10000000.00] EUR /161431	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	11/30/2022	01/17/2023		10,404,711	1.04047110			0	(318,741)		(318,741)	(318,741)					11,633	0002	
REC 1085848.63 USD PAY [1026000.00] EUR /161515	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	12/05/2022	02/08/2023		1,085,849	1.05833200			0	(15,552)		(15,552)	(15,552)					1,801	0002	
REC 6250000.00 EUR PAY [6561141.88] USD /161709	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	12/06/2022	01/11/2023		6,561,142	1.04978270			0	103,264		103,264	103,264					5,682	0002	
REC 6587241.25 USD PAY [6250000.00] EUR /161726	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	12/06/2022	03/08/2023		6,587,241	1.05395860			0	(102,351)		(102,351)	(102,351)					14,357	0002	
REC 1083504.95 USD PAY [1025000.00] EUR /161777	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	12/07/2022	02/09/2023		1,083,505	1.05707800			0	(16,888)		(16,888)	(16,888)					1,797	0002	
REC 804000.00 EUR PAY [860319.48] USD /162229	Asset Hedge	Schedule BA	Currency	WELLS FARGO BANK, N.A.	12/13/2022	03/20/2023		860,319	1.07004910			0	969		969	969					2,018	0002	
REC 600000.00 GBP PAY [744413.46] USD /162249	Asset Hedge	Schedule BA	Currency	BANK OF AMERICA, N.A.	12/13/2022	03/20/2023		744,413	1.24068910			0	(17,569)		(17,569)	(17,569)					1,746	0002	
REC 6415.75 USD PAY [6000.00] EUR /162905	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	12/29/2022	02/09/2023		6,416	1.06929167			0	(29)		(29)	(29)					11	0002	
1439999999. Subtotal - Forwards - Hedging Other										0	0	0	(2,405,656)	XXX	(2,405,656)	(2,405,656)	0	0	0	0	104,183	XXX	XXX
1479999999. Subtotal - Forwards										0	0	0	(2,405,656)	XXX	(2,405,656)	(2,405,656)	0	0	0	0	104,183	XXX	XXX
1509999999. Subtotal - SSAP No. 108 Adjustments										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1689999999. Subtotal - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1699999999. Subtotal - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1709999999. Subtotal - Hedging Other										4,141,586	494,662,542	(240,575,646)	172,090,190	XXX	211,309,661	(572,364,216)	40,966	(249,134,738)	0	0	57,659,761	XXX	XXX
1719999999. Subtotal - Replication										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1729999999. Subtotal - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1739999999. Subtotal - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1749999999. Subtotal - Adjustments for SSAP No. 108 Derivatives										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1759999999 - Totals										4,141,586	494,662,542	(240,575,646)	172,090,190	XXX	211,309,661	(572,364,216)	40,966	(249,134,738)	0	0	57,659,761	XXX	XXX

(a)	Code	Description of Hedged Risk(s)
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(b)	Code	Financial or Economic Impact of the Hedge at the End of the Reporting Period
	0001	Interest rate hedges reduced the portfolio's interest rate risk (duration, convexity, volatility, yield curve)

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0002	Currency derivatives hedging foreign investments or liabilities back to USD
0003	Equity derivatives hedging portfolio's exposure to equity markets

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25													
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)													
007999999. Subtotal - Purchased Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108												0	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX	
014999999. Subtotal - Purchased Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108												0	0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	XXX
140736	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	07/06/2020	01/06/2022	01/06/2022	Maturity	6,471,461	3179.72000000	661,414	3,032,660	3,025,431			0			(7,229)	3,032,660			0003												
140733	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	07/20/2020	01/20/2022	01/20/2022	Maturity	4,224,592	3251.84000000	392,323	1,600,157	1,585,865			0			(14,292)	1,600,157			0003												
140740	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	08/06/2020	02/04/2022	02/04/2022	Maturity	9,247,816	3349.16000000	750,252	3,223,836	3,175,831			0			(48,005)	3,223,836			0003												
140737	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	08/20/2020	02/18/2022	02/18/2022	Maturity	7,848,355	3385.51000000	756,118	2,215,728	2,147,995			0			(67,733)	2,215,728			0003												
140744	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	09/04/2020	03/04/2022	03/04/2022	Maturity	7,253,126	3426.96000000	794,550	1,894,011	1,802,332			0			(91,679)	1,894,011			0003												
140741	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	09/18/2020	03/18/2022	03/18/2022	Maturity	9,626,463	3319.47000000	969,432	3,316,585	3,179,870			0			(136,715)	3,316,585			0003												
140334	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	10/06/2020	04/06/2022	04/06/2022	Maturity	9,074,565	3360.95000000	905,680	3,024,540	2,865,591			0			(158,949)	3,024,540			0003												
140330	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	10/20/2020	04/20/2022	04/20/2022	Maturity	7,919,176	3443.12000000	784,040	2,337,559	2,179,891			0			(157,668)	2,337,559			0003												
143618	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	11/06/2020	05/06/2022	05/06/2022	Maturity	9,826,432	3509.44000000	933,568	1,718,920	1,503,481			0			(215,439)	1,718,920			0003												
140337	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	11/20/2020	05/20/2022	05/20/2022	Maturity	7,826,588	3557.54000000	709,120	756,404	574,578			0			(181,826)	756,404			0003												
140345	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	12/04/2020	06/06/2022	06/06/2022	Maturity	5,918,592	3699.12000000	528,555	675,696	524,543			0			(151,153)	675,696			0003												
140340	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	12/18/2020	06/17/2022	06/17/2022	Expiry	7,047,879	3709.41000000	642,099	0	(197,569)			0			(197,569)	0			0003												
140335	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	BFM8T61CT2L10CEMIK50	01/06/2021	01/06/2022	01/06/2022	Expiry	29,076,972	179.90000000	2,486,218	0	(40,869)			0			(40,869)	0			0003												
140429	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	59,851,209	3748.14000000	4,504,113	15,166,560	15,092,520			0			(74,040)	15,166,560			0003												
140494	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	58,577,088	3748.14000000	4,391,510	14,787,396	14,715,207			0			(72,189)	14,787,396			0003												
140625	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	BFM8T61CT2L10CEMIK50	01/06/2021	01/06/2022	01/06/2022	Maturity	15,706,674	82.68000000	1,195,276	5,493,252	5,473,604			0			(19,648)	5,493,252			0003												
140684	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	56,024,303	3748.14000000	4,194,455	14,123,859	14,054,909			0			(68,950)	14,123,859			0003												
140689	Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	KB1HDSPPRMMNCUFX09	01/06/2021	01/06/2022	01/06/2022	Maturity	882,687	74.95000000	65,319	42,279	41,206			0			(1,074)	42,279			0003												

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140748	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	07/06/2022	07/06/2022	Maturity	7,496,280	3748.14000000	676,954	193,880	(37,971)			0		(231,851)	193,880			0003
140760	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	53,813,989	3748.14000000	4,053,702	13,649,904	13,583,268			0		(66,636)	13,649,904			0003
140768	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	50,935,206	3748.14000000	3,828,496	12,891,576	12,828,642			0		(62,934)	12,891,576			0003
140828	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	54,260,591	3748.14000000	4,081,852	13,744,695	13,677,596			0		(67,099)	13,744,695			0003
140850	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	43,531,757	3748.14000000	3,265,482	10,995,756	10,942,077			0		(53,679)	10,995,756			0003
140884	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	58,122,154	3748.14000000	4,363,359	14,692,605	14,620,879			0		(71,726)	14,692,605			0003
140900	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	51,639,022	3748.14000000	3,884,797	13,081,158	13,017,298			0		(63,860)	13,081,158			0003
141708	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHNSJFFG9NF388653	01/06/2021	01/06/2022	01/06/2022	Maturity	46,001,946	3748.14000000	3,751,817	11,633,958	11,572,285			0		(61,674)	11,633,958			0003
141943	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	01/06/2021	01/06/2022	01/06/2022	Maturity	25,478,346	3748.14000000	428,036	1,700,595	1,693,559			0		(7,036)	1,700,595			0003
142108	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH16C71XB11	01/06/2021	01/06/2022	01/06/2022	Maturity	46,594,956	3748.14000000	2,115,411	6,618,171	6,583,398			0		(34,774)	6,618,171			0003
142565	Call Options - S&P	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE	ES8DXGMJYJYLJNB3868	01/06/2021	01/06/2022	01/06/2022	Maturity	38,066,440	1075.16000000	1,614,017	5,738,503	5,711,971			0		(26,532)	5,738,503			0003
142578	Call Options - S&P	Liability Hedge	Exhibit 5	Equity/Index	INTERNATIONAL	ES8DXGMJYJYLJNB3868	01/06/2021	01/06/2022	01/06/2022	Maturity	38,066,440	1075.16000000	1,614,017	5,738,503	5,711,971			0		(26,532)	5,738,503			0003
14278	Call Options - S&P	Liability Hedge	Exhibit 5	Equity/Index	U.S. Retiree Spending Index																			
142165	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	01/06/2021	01/06/2022	01/06/2022	Maturity	8,205,199	510.74000000	241,234	386,531	382,566			0		(3,965)	386,531			0003
142165	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH16C71XB11	01/19/2021	01/14/2022	01/14/2022	Maturity	1,009,429	3809.74000000	45,467	146,023	144,255			0		(1,768)	146,023			0003
140329	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	01/20/2021	01/20/2022	01/20/2022	Expiry	22,067,166	175.39000000	1,732,271	0	(94,919)			0		(94,919)	0			0003
140426	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	48,105,350	3851.85000000	3,635,338	7,886,000	7,686,803			0		(199,197)	7,886,000			0003
140491	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	56,162,380	3851.85000000	4,246,075	9,210,848	8,978,186			0		(232,662)	9,210,848			0003
140612	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON CREDIT SUISSE	ROMUISFPUBMP08K5P83	01/20/2021	01/20/2022	01/20/2022	Maturity	15,171,604	86.06000000	1,080,218	3,448,252	3,389,062			0		(59,190)	3,448,252			0003
140678	Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	INTERNATIONAL	ES8DXGMJYJYLJNB3868	01/20/2021	01/20/2022	01/20/2022	Maturity	396,787	75.45000000	37,338	10,202	8,156			0		(2,046)	10,202			0003
140745	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/20/2021	07/20/2022	07/20/2022	Maturity	5,777,775	3851.85000000	534,476	162,075	(34,683)			0		(196,758)	162,075			0003
140757	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	58,334,231	3851.85000000	4,391,489	9,526,288	9,285,658			0		(240,630)	9,526,288			0003
140765	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07K3UQJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	51,734,526	3851.85000000	3,897,083	8,453,792	8,240,253			0		(213,539)	8,453,792			0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140825 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2021	01/20/2022	01/20/2022	Maturity	97GPTS07KV3UQJZ0078	50,523,898	3851.85000000	3,809,834		8,264,528	8,055,770			0		(208,758)	8,264,528			0003
140847 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2021	01/20/2022	01/20/2022	Maturity	97GPTS07KV3UQJZ0078	56,120,938	3851.85000000	4,246,075		9,210,848	8,978,186			0		(232,662)	9,210,848			0003
140881 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2021	01/20/2022	01/20/2022	Maturity	97GPTS07KV3UQJZ0078	52,531,700	3851.85000000	3,955,248		8,579,968	8,363,242			0		(216,726)	8,579,968			0003
140897 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2021	01/20/2022	01/20/2022	Maturity	97GPTS07KV3UQJZ0078	43,430,616	3851.85000000	3,286,346		7,128,944	6,948,870			0		(180,074)	7,128,944			0003
140911 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2021	01/20/2022	01/20/2022	Maturity	97GPTS07KV3UQJZ0078	65,576,821	3851.85000000	4,944,060		10,724,960	10,454,053			0		(270,907)	10,724,960			0003
141496 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	01/20/2021	01/20/2022	01/20/2022	Maturity	BFBMT61CT2L10CEMIK50	5,884,982	511.33000000	173,018		143,519	134,039			0		(9,480)	143,519			0003
141942 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	01/20/2021	01/20/2022	01/20/2022	Maturity	E570DZIKZ7FF32TIEFA76	22,152,280	3851.85000000	381,019		958,309	937,431			0		(20,878)	958,309			0003
142107 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2021	01/20/2022	01/20/2022	Maturity	K81HDSPPRM1MUCFX109	38,248,936	3851.85000000	1,763,276		4,522,694	4,426,076			0		(96,618)	4,522,694			0003
142564 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2021	01/20/2022	01/20/2022	Maturity	K81HDSPPRM1MUCFX109	33,058,454	1101.44000000	1,451,266		3,035,301	2,955,779			0		(79,521)	3,035,301			0003
140347 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	4PQUHNSJFFG9NF38B653	50,296,369	3886.83000000	4,105,926		7,941,403	7,546,602			0		(394,801)	7,941,403			0003
140579 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/05/2021	02/04/2022	02/04/2022	Expiry	ROMUISFPUBMR08K5P83	37,245,198	169.81000000	2,875,329		0	(276,474)			0		(276,474)	0			0003
140654 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	G5GSEF7VJP5170UK5573	26,565,374	88.24000000	1,963,182		5,084,873	4,896,105			0		(188,768)	5,084,873			0003
140706 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	4PQUHNSJFFG9NF38B653	72,407,142	3886.83000000	5,910,932		11,432,520	10,864,162			0		(568,359)	11,432,520			0003
140752 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	08/05/2022	08/05/2022	Maturity	97GPTS07KV3UQJZ0078	9,328,392	3886.83000000	901,169		620,064	261,907			0		(358,157)	620,064			0003
140762 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	02/04/2022	02/04/2022	Maturity	97GPTS07KV3UQJZ0078	69,944,588	3886.83000000	5,541,427		11,046,600	10,513,770			0		(532,830)	11,046,600			0003
140798 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	02/04/2022	02/04/2022	Maturity	97GPTS07KV3UQJZ0078	86,459,552	3886.83000000	6,834,427		13,624,140	12,966,984			0		(657,156)	13,624,140			0003
140914 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	02/04/2022	02/04/2022	Maturity	97GPTS07KV3UQJZ0078	57,526,763	3886.83000000	4,556,284		9,082,760	8,644,656			0		(438,104)	9,082,760			0003
141657 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	G5GSEF7VJP5170UK5573	57,923,591	3886.83000000	4,709,188		9,145,681	8,692,875			0		(452,807)	9,145,681			0003
141682 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/05/2021	02/04/2022	02/04/2022	Maturity	K81HDSPPRM1MUCFX109	1,117,661	74.71000000	76,001		20,346	13,038			0		(7,308)	20,346			0003
141847 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	4PQUHNSJFFG9NF38B653	65,806,558	3886.83000000	5,372,095		10,390,340	9,873,792			0		(516,548)	10,390,340			0003
141945 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	4PQUHNSJFFG9NF38B653	31,150,071	3886.83000000	479,711		377,280	331,154			0		(46,126)	377,280			0003
142112 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	G5GSEF7VJP5170UK5573	45,035,355	3886.83000000	2,058,116		5,668,044	5,470,149			0		(197,896)	5,668,044			0003
142198 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	4PQUHNSJFFG9NF38B653	46,465,016	3886.83000000	3,793,155		7,336,462	6,971,735			0		(364,726)	7,336,462			0003
142391 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/05/2021	02/04/2022	02/04/2022	Maturity	4PQUHNSJFFG9NF38B653	59,946,934	3886.83000000	4,893,747		9,465,151	8,994,599			0		(470,553)	9,465,151			0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
142415 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQJHN3JFF9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity		54,510,813	3886.83000000	4,449,971		8,606,830	8,178,948			0		(427,882)	8,606,830			0003
142567 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFXT09	02/05/2021	02/04/2022	02/04/2022	Maturity		49,633,450	1099.17000000	2,094,531		4,867,751	4,666,354			0		(201,397)	4,867,751			0003
142580 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFMBT61CT2L10CEMIK50	02/05/2021	02/04/2022	02/04/2022	Maturity		11,848,307	512.13000000	347,155		207,755	174,375			0		(33,380)	207,755			0003
142166 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71YBU11	02/12/2021	02/11/2022	02/11/2022	Maturity		1,337,335	3908.85000000	66,934		161,661	153,938			0		(7,723)	161,661			0003
140338 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TNEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity		40,249,427	3906.71000000	3,310,836		4,555,415	4,109,726			0		(445,689)	4,555,415			0003
140438 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TNEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity		45,671,901	3906.71000000	3,758,275		5,169,129	4,663,207			0		(505,922)	5,169,129			0003
140574 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON JPMORGAN CHASE BANK, N.A. ROMJISFPUBMR08KSP83	02/19/2021	02/18/2022	02/18/2022	Maturity		29,867,106	167.01000000	2,341,581		1,808,014	1,492,801			0		(315,213)	1,808,014			0003
140640 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	N.A. 7H6QLXDRUG3UF57RNE97	02/19/2021	02/18/2022	02/18/2022	Maturity		22,599,789	88.71000000	1,931,455		3,260,932	3,000,929			0		(260,004)	3,260,932			0003
140749 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	02/19/2021	08/19/2022	08/19/2022	Maturity		5,860,065	3906.71000000	579,581		482,655	237,448			0		(245,207)	482,655			0003
140769 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	02/19/2021	02/18/2022	02/18/2022	Maturity		66,186,534	3906.71000000	5,381,248		7,472,504	6,748,105			0		(724,399)	7,472,504			0003
140829 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	02/19/2021	02/18/2022	02/18/2022	Maturity		48,830,869	3906.71000000	3,980,213		5,527,000	4,991,202			0		(535,798)	5,527,000			0003
140851 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	02/19/2021	02/18/2022	02/18/2022	Maturity		60,026,620	3906.71000000	4,903,623		6,809,264	6,149,161			0		(660,103)	6,809,264			0003
140901 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	02/19/2021	02/18/2022	02/18/2022	Maturity		55,284,088	3906.71000000	4,521,522		6,278,672	5,670,006			0		(608,666)	6,278,672			0003
141301 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMJISFPUBMR08KSP83	02/19/2021	02/18/2022	02/18/2022	Maturity		62,933,330	3906.71000000	5,267,520		7,122,771	6,413,682			0		(709,089)	7,122,771			0003
141566 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFXT09	02/19/2021	02/18/2022	02/18/2022	Expiry		818,764	76.25000000	56,740		0	(7,638)			0		(7,638)	0			0003
141846 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TNEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity		50,821,531	3906.71000000	4,178,173		5,751,962	5,189,516			0		(562,446)	5,751,962			0003
141875 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMJISFPUBMR08KSP83	02/19/2021	02/18/2022	02/18/2022	Maturity		64,368,077	3906.71000000	5,374,734		7,285,155	6,561,633			0		(723,522)	7,285,155			0003
141944 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TNEFA76	02/19/2021	02/18/2022	02/18/2022	Expiry		25,384,363	3906.71000000	383,304		0	(51,599)			0		(51,599)	0			0003
142109 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFXT09	02/19/2021	02/18/2022	02/18/2022	Maturity		36,696,701	3906.71000000	1,803,643		4,109,015	3,866,217			0		(242,798)	4,109,015			0003
142412 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TNEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity		47,762,694	3906.71000000	3,926,538		5,405,764	4,877,192			0		(528,572)	5,405,764			0003
142566 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFXT09	02/19/2021	02/18/2022	02/18/2022	Maturity		41,990,498	1102.50000000	1,805,581		3,240,029	2,996,968			0		(243,060)	3,240,029			0003
142579 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFMBT61CT2L10CEMIK50	02/19/2021	02/18/2022	02/18/2022	Maturity		8,925,658	511.66000000	260,629		129,089	94,005			0		(35,085)	129,089			0003
140359 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	03/05/2021	03/04/2022	03/04/2022	Maturity		52,329,205	3841.94000000	4,238,666		6,632,238	5,898,623			0		(733,615)	6,632,238			0003
140529 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	03/05/2021	03/04/2022	03/04/2022	Maturity		51,270,311	3841.94000000	4,139,187		6,476,169	5,759,771			0		(716,398)	6,476,169			0003
140610 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMJISFPUBMR08KSP83	03/05/2021	03/04/2022	03/04/2022	Maturity		34,760,277	159.14000000	2,728,682		5,360,168	4,887,897			0		(472,272)	5,360,168			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140673 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/05/2021	03/04/2022	03/04/2022	Maturity	26,655,179	86.33000000	1,985,815		5,622,504	5,278,806				0		(343,699)	5,622,504			0003
140756 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/05/2021	09/06/2022	09/06/2022	Maturity	5,762,910	3841.94000000	560,756		99,375	(154,494)				0		(253,869)	99,375			0003
140802 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/05/2021	03/04/2022	03/04/2022	Maturity	70,391,319	3841.94000000	5,695,272		8,910,819	7,925,099				0		(985,720)	8,910,819			0003
141653 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	50,864,277	3841.94000000	4,120,006		6,446,572	5,733,494				0		(713,078)	6,446,572			0003
141654 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	45,061,961	3841.94000000	3,650,019		5,711,182	5,079,448				0		(631,734)	5,711,182			0003
141668 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRFMMJCFX09	03/05/2021	03/04/2022	03/04/2022	Expiry	903,461	74.63000000	61,978		0	(10,727)				0		(10,727)	0			0003
141851 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	03/05/2021	03/04/2022	03/04/2022	Maturity	54,525,621	3841.94000000	4,416,575		6,910,613	6,146,206				0		(764,407)	6,910,613			0003
141857 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	03/05/2021	03/04/2022	03/04/2022	Maturity	70,712,885	3841.94000000	5,727,744		8,962,198	7,970,857				0		(991,340)	8,962,198			0003
141878 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	03/05/2021	03/04/2022	03/04/2022	Maturity	77,858,437	3841.94000000	6,219,450		9,867,829	8,791,386				0		(1,076,443)	9,867,829			0003
141947 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	03/05/2021	03/04/2022	03/04/2022	Expiry	22,227,242	3841.94000000	360,081		0	(62,322)				0		(62,322)	0			0003
142114 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	44,005,278	3841.94000000	2,213,465		6,582,052	6,198,953				0		(383,100)	6,582,052			0003
142223 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	03/05/2021	03/04/2022	03/04/2022	Maturity	29,246,151	3841.94000000	2,336,227		3,706,676	3,302,329				0		(404,347)	3,706,676			0003
142411 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	68,367,674	3841.94000000	5,537,782		8,664,964	7,706,502				0		(958,462)	8,664,964			0003
142417 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	47,659,409	3841.94000000	3,860,412		6,040,386	5,372,238				0		(668,148)	6,040,386			0003
142569 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRFMMJCFX09	03/05/2021	03/04/2022	03/04/2022	Maturity	43,756,925	1090.58000000	1,877,172		3,802,421	3,477,525				0		(324,895)	3,802,421			0003
142582 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	03/05/2021	03/04/2022	03/04/2022	Maturity	9,324,001	511.61000000	273,193		212,866	165,583				0		(47,283)	212,866			0003
142168 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/12/2021	03/11/2022	03/11/2022	Maturity	1,615,799	3899.94000000	84,326		208,938	192,722				0		(16,217)	208,938			0003
140430 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/19/2021	03/18/2022	03/18/2022	Maturity	61,044,360	3913.10000000	4,572,470		8,580,312	7,613,059				0		(967,253)	8,580,312			0003
140590 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/19/2021	03/18/2022	03/18/2022	Maturity	33,542,784	163.24000000	2,509,000		3,300,031	2,769,261				0		(530,750)	3,300,031			0003
140656 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRFMMJCFX09	03/19/2021	03/18/2022	03/18/2022	Maturity	23,763,355	90.04000000	1,718,090		4,167,296	3,803,854				0		(363,442)	4,167,296			0003
140703 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7F32WIEFA76	03/19/2021	03/18/2022	03/18/2022	Maturity	54,151,624	3913.10000000	4,118,352		7,611,478	6,740,289				0		(871,190)	7,611,478			0003
140753 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/19/2021	09/20/2022	09/20/2022	Expiry	9,000,130	3913.10000000	830,753		0	(397,251)				0		(397,251)	0			0003
140763 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/19/2021	03/18/2022	03/18/2022	Maturity	93,131,780	3913.10000000	6,975,948		13,090,476	11,614,795				0		(1,475,681)	13,090,476			0003
140799 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/19/2021	03/18/2022	03/18/2022	Maturity	75,914,140	3913.10000000	5,686,277		10,670,388	9,467,522				0		(1,202,866)	10,670,388			0003
140831 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/19/2021	03/18/2022	03/18/2022	Maturity	29,348,250	3913.10000000	2,198,303		4,125,150	3,660,124				0		(465,026)	4,125,150			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140853	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	51,652,920	3913.1000000	3,869,013	7,260,264	6,441,819			0		(818,445)	7,260,264			0003
140886	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	63,000,910	3913.1000000	4,719,024	8,855,322	7,857,067			0		(998,255)	8,855,322			0003
140903	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	50,087,680	3913.1000000	3,751,770	7,040,256	6,246,612			0		(793,644)	7,040,256			0003
141663	Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUJGFU57RNE97	03/19/2021	03/18/2022	03/18/2022	Expiry	649,706	76.4300000	39.406		(8,336)			0		(8,336)	0			0003
141797	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPRFMMJCFXT09	03/19/2021	03/18/2022	03/18/2022	Maturity	53,761,872	3913.1000000	4,169,233	7,556,695	6,674,742			0		(881,953)	7,556,695			0003
141850	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZFF32TNEFA76	03/19/2021	03/18/2022	03/18/2022	Maturity	72,285,016	3913.1000000	5,497,437	10,160,283	8,997,364			0		(1,162,919)	10,160,283			0003
141946	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZFF32TNEFA76	03/19/2021	03/18/2022	03/18/2022	Maturity	28,710,053	3913.1000000	445,006	244,628	150,492			0		(94,136)	244,628			0003
142113	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . WELLS FARGO BANK, N.A.	G5GSEF7VJPS170UK5573	03/19/2021	03/18/2022	03/18/2022	Maturity	41,508,657	3913.1000000	3,226,675	5,058,645	4,376,079			0		(682,566)	5,058,645			0003
142568	Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPRFMMJCFXT09	03/19/2021	03/18/2022	03/18/2022	Maturity	45,678,559	1103.0100000	1,950,474	4,069,620	3,657,020			0		(412,600)	4,069,620			0003
142581	Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	03/19/2021	03/18/2022	03/18/2022	Maturity	9,616,012	516.9600000	282,711	79,241	19,436			0		(59,804)	79,241			0003
140204	Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPRFMMJCFXT09	04/06/2021	04/06/2022	04/06/2022	Expiry	299,699	77.1500000	19,690		(5,179)			0		(5,179)	0			0003
140275	Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	04/06/2021	04/06/2022	04/06/2022	Expiry	13,015,384	522.4900000	383,954		(100,985)			0		(100,985)	0			0003
140350	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	29,332,368	4073.9400000	1,965,363	2,931,912	2,414,995			0		(516,917)	2,931,912			0003
140353	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	85,960,134	4073.9400000	5,759,605	8,592,131	7,077,276			0		(1,514,855)	8,592,131			0003
140417	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	68,442,192	4073.9400000	4,585,846	6,841,128	5,634,988			0		(1,206,140)	6,841,128			0003
140435	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	48,887,280	4073.9400000	3,275,605	4,886,520	4,024,991			0		(861,529)	4,886,520			0003
140532	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	42,368,976	4073.9400000	2,838,857	4,234,984	3,488,326			0		(746,658)	4,234,984			0003
140687	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	60,294,312	4073.9400000	4,039,912	6,026,708	4,964,156			0		(1,062,552)	6,026,708			0003
140718	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	61,516,494	4073.9400000	4,121,802	6,148,871	5,064,781			0		(1,084,091)	6,148,871			0003
140840	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	93,293,226	4073.9400000	6,250,945	9,325,109	7,681,025			0		(1,644,084)	9,325,109			0003
140859	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	96,959,772	4073.9400000	6,496,616	9,691,598	7,982,899			0		(1,708,699)	9,691,598			0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140892	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	80,607,931	4073.94000000	5,400,990	8,057,152	6,636,618			0		(1,420,534)	8,057,152			0003
140908	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	50,516,856	4073.94000000	3,384,791	5,049,404	4,159,158			0		(890,247)	5,049,404			0003
141672	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISFPUBMRO8K5P83	04/06/2021	04/06/2022	04/06/2022	Maturity	36,741,529	163.22000000	2,546,188	3,700,715	3,031,033			0		(669,682)	3,700,715			0003
141938	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/06/2021	04/06/2022	04/06/2022	Expiry	31,159,220	4073.94000000	523,475	0	(137,681)			0		(137,681)	0			0003
142161	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	04/06/2021	04/06/2022	04/06/2022	Maturity	54,197,437	4073.94000000	2,167,897	5,009,935	4,439,748			0		(570,187)	5,009,935			0003
142196	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUH3JFFG9NF38B653	04/06/2021	10/06/2022	10/06/2022	Expiry	7,986,759	4073.94000000	692,039	0	(352,334)			0		(352,334)	0			0003
142573	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/06/2021	04/06/2022	04/06/2022	Maturity	26,541,988	94.20000000	1,597,828	4,606,810	4,186,559			0		(420,251)	4,606,810			0003
142584	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/06/2021	04/06/2022	04/06/2022	Maturity	52,736,981	1130.23000000	2,246,595	3,368,881	2,777,995			0		(590,885)	3,368,881			0003
142169	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GCT1XBU11	04/09/2021	04/08/2022	04/08/2022	Maturity	1,665,410	4077.99000000	70,329	156,068	137,134			0		(18,935)	156,068			0003
140201	Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/20/2021	04/20/2022	04/20/2022	Expiry	378,253	77.73000000	23,830	0	(7,182)			0		(7,182)	0			0003
140211	Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEM1K50	04/20/2021	04/20/2022	04/20/2022	Expiry	8,184,626	527.78000000	241,446	0	(72,765)			0		(72,765)	0			0003
140346	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	04/20/2022	04/20/2022	Maturity	64,918,558	4134.94000000	4,505,540	5,094,807	3,736,973			0		(1,357,834)	5,094,807			0003
140432	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	04/20/2022	04/20/2022	Maturity	48,378,798	4134.94000000	3,357,631	3,796,767	2,784,878			0		(1,011,889)	3,796,767			0003
140707	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/20/2021	04/20/2022	04/20/2022	Maturity	46,596,675	4134.94000000	3,293,453	3,656,906	2,664,359			0		(992,547)	3,656,906			0003
140819	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	10/20/2022	10/20/2022	Expiry	8,269,880	4134.94000000	699,674	0	(374,096)			0		(374,096)	0			0003
140855	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	04/20/2022	04/20/2022	Maturity	33,906,508	4134.94000000	2,353,212	2,660,982	1,951,795			0		(709,187)	2,660,982			0003
140888	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	04/20/2022	04/20/2022	Maturity	49,619,280	4134.94000000	3,443,725	3,894,120	2,856,285			0		(1,037,835)	3,894,120			0003
140905	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	04/20/2022	04/20/2022	Maturity	63,678,076	4134.94000000	4,419,447	4,997,454	3,665,566			0		(1,331,888)	4,997,454			0003
140915	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJQZ0078	04/20/2021	04/20/2022	04/20/2022	Maturity	43,830,364	4134.94000000	3,041,957	3,439,806	2,523,052			0		(916,754)	3,439,806			0003
141689	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISFPUBMRO8K5P83	04/20/2021	04/20/2022	04/20/2022	Maturity	29,313,189	166.48000000	1,881,907	2,857,719	2,290,569			0		(567,150)	2,857,719			0003
141854	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/20/2021	04/20/2022	04/20/2022	Maturity	60,728,401	4134.94000000	4,289,247	4,765,964	3,473,314			0		(1,292,650)	4,765,964			0003
141860	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISFPUBMRO8K5P83	04/20/2021	04/20/2022	04/20/2022	Maturity	59,638,190	4134.94000000	4,180,637	4,680,404	3,420,486			0		(1,259,918)	4,680,404			0003
141937	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZVZFF32TIEFA76	04/20/2021	04/20/2022	04/20/2022	Expiry	23,701,433	4134.94000000	395,814	0	(119,286)			0		(119,286)	0			0003
142115	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFIMMUCFXT09	04/20/2021	04/20/2022	04/20/2022	Maturity	38,281,071	4134.94000000	1,584,836	2,611,583	2,133,961			0		(477,622)	2,611,583			0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
142225 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Maturity	72,344,215	4134.94000000	5,102,438	5,677,572	4,139,852	0	(1,537,721)	5,677,572		0	(1,537,721)	5,677,572				0003
142570 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2021	04/20/2022	04/20/2022	Maturity	18,251,253	97.56000000	1,023,896	2,772,484	2,463,913	0	(308,571)	2,772,484		0	(308,571)	2,772,484				0003
142583 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Maturity	42,304,914	1141.43000000	1,840,264	2,185,610	1,631,010	0	(554,600)	2,185,610		0	(554,600)	2,185,610				0003
140208 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	528,769	79.51000000	31,991	0	(11,043)	0	(11,043)		0	0	(11,043)	0				0003
140210 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	44,860,237	4201.62000000	3,122,272	0	(1,077,826)	0	(1,077,826)		0	0	(1,077,826)	0				0003
140212 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	74,530,456	4201.62000000	5,187,320	0	(1,790,691)	0	(1,790,691)		0	0	(1,790,691)	0				0003
140311 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	05/06/2021	05/06/2022	05/06/2022	Expiry	11,910,047	529.17000000	350,155	0	(120,875)	0	(120,875)		0	0	(120,875)	0				0003
140425 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	41,175,876	4201.62000000	2,783,661	0	(960,935)	0	(960,935)		0	0	(960,935)	0				0003
140490 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	59,242,842	4201.62000000	4,005,063	0	(1,382,570)	0	(1,382,570)		0	0	(1,382,570)	0				0003
140538 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	65,545,272	4201.62000000	4,431,134	0	(1,529,652)	0	(1,529,652)		0	0	(1,529,652)	0				0003
140824 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	11/04/2022	11/04/2022	Expiry	11,764,536	4201.62000000	972,964	0	(547,848)	0	(547,848)		0	0	(547,848)	0				0003
140880 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	71,007,378	4201.62000000	4,800,395	0	(1,657,123)	0	(1,657,123)		0	0	(1,657,123)	0				0003
140896 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	43,696,848	4201.62000000	2,954,089	0	(1,019,768)	0	(1,019,768)		0	0	(1,019,768)	0				0003
140910 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	39,915,390	4201.62000000	2,698,447	0	(931,519)	0	(931,519)		0	0	(931,519)	0				0003
141676 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2021	05/06/2022	05/06/2022	Maturity	38,452,909	170.06000000	2,410,997	1,211,970	379,680	0	(832,289)	1,211,970		0	(832,289)	1,211,970				0003
141855 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	57,076,959	4201.62000000	3,972,556	0	(1,371,348)	0	(1,371,348)		0	0	(1,371,348)	0				0003
141861 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	48,531,396	4201.62000000	3,377,785	0	(1,166,030)	0	(1,166,030)		0	0	(1,166,030)	0				0003
141941 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	05/06/2021	05/06/2022	05/06/2022	Expiry	26,926,004	4201.62000000	460,435	0	(158,945)	0	(158,945)		0	0	(158,945)	0				0003
142164 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Maturity	50,246,797	4201.62000000	2,060,119	2,898,670	2,187,506	0	(711,164)	2,898,670		0	(711,164)	2,898,670				0003
142504 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/06/2021	05/06/2022	05/06/2022	Expiry	97,166,565	4201.62000000	6,752,785	0	(2,331,098)	0	(2,331,098)		0	0	(2,331,098)	0				0003
142577 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2021	05/06/2022	05/06/2022	Maturity	22,413,845	97.23000000	1,304,487	599,362	149,046	0	(450,316)	599,362		0	(450,316)	599,362				0003
142586 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Maturity	46,724,201	1154.17000000	2,032,503	205,249	(496,383)	0	(701,631)	205,249		0	(701,631)	205,249				0003
142172 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/14/2021	05/13/2022	05/13/2022	Maturity	3,090,116	4063.75000000	179,989	265,181	199,416	0	(65,765)	265,181		0	(65,765)	265,181				0003
140205 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	699,536	79.92000000	45,959	0	(17,628)	0	(17,628)		0	0	(17,628)	0				0003
140298 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	05/20/2021	05/20/2022	05/20/2022	Expiry	10,074,461	527.98000000	295,182	0	(113,220)	0	(113,220)		0	0	(113,220)	0				0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140351	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	56,564,032	4159.12000000	3,903,160		0	(1,497,102)			0		(1,497,102)	0			0003
140357	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	39,927,552	4159.12000000	2,755,172		0	(1,056,778)			0		(1,056,778)	0			0003
140361	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	KB1H1DSPPRFMMJCUFXOT9	55,768,890	4159.12000000	3,996,399		0	(1,532,865)			0		(1,532,865)	0			0003
140420	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	63,218,624	4159.12000000	4,362,355		0	(1,673,232)			0		(1,673,232)	0			0003
140534	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	44,918,496	4159.12000000	3,099,568		0	(1,188,875)			0		(1,188,875)	0			0003
140717	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	49,077,616	4159.12000000	3,386,565		0	(1,298,957)			0		(1,298,957)	0			0003
140722	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	48,245,792	4159.12000000	3,329,166		0	(1,276,940)			0		(1,276,940)	0			0003
140821	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	11/18/2022	11/18/2022	Expiry	97	9,565,976	4159.12000000	796,874		0	(469,092)			0		(469,092)	0			0003
140841	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	63,218,624	4159.12000000	4,362,355		0	(1,673,232)			0		(1,673,232)	0			0003
140860	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	51,157,176	4159.12000000	3,530,064		0	(1,353,997)			0		(1,353,997)	0			0003
140893	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	97	42,838,936	4159.12000000	2,956,070		0	(1,133,835)			0		(1,133,835)	0			0003
141673	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2021	05/20/2022	05/20/2022	Expiry	ROMJUISFPURMFR08K9P83	31,326,762	175.96000000	2,033,106		0	(779,821)			0		(779,821)	0			0003
141794	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	KB1H1DSPPRFMMJCUFXOT9	45,297,614	4159.12000000	3,246,027		0	(1,245,051)			0		(1,245,051)	0			0003
141839	Call Options - S&P 500	Exhibit 5	Equity/Index	CITIBANK N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	E570DZIWZFF32TNEFA76	22,352,294	4159.12000000	377,754		0	(144,892)			0		(144,892)	0			0003
142163	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Maturity	KB1H1DSPPRFMMJCUFXOT9	42,341,894	4159.12000000	1,812,233		0	2,406,982			0		(695,103)	2,406,982			0003
142574	Call Options - iShares U.S. Real Estate	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	7H6QLXDRUGGFU57PNE97	17,725,462	98.48000000	1,068,841		0	(409,966)			0		(409,966)	0			0003
142585	Call Options - S&P Equal Weight Energy	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	7H6QLXDRUGGFU57PNE97	44,258,772	1142.96000000	1,903,127		0	(729,967)			0		(729,967)	0			0003
140273	Call Options - iShares U.S. Real Estate	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	06/04/2021	06/06/2022	06/06/2022	Expiry	7H6QLXDRUGGFU57PNE97	19,911,815	102.80000000	1,129,000		0	(482,978)			0		(482,978)	0			0003
140380	Call Options - iShares MSCI EAFE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/04/2021	06/06/2022	06/06/2022	Expiry	KB1H1DSPPRFMMJCUFXOT9	586,113	81.68000000	35,753		0	(15,295)			0		(15,295)	0			0003
140916	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/04/2021	06/06/2022	06/06/2022	Expiry	97	36,583,540	177.16000000	2,325,190		0	(994,700)			0		(994,700)	0			0003
140919	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/04/2021	12/06/2022	12/06/2022	Expiry	97	10,574,725	4229.89000000	848,075		0	(524,265)			0		(524,265)	0			0003
141237	Call Options - S&P U.S. Retiree Spending Index	Exhibit 5	Equity/Index	UBS AG	06/04/2021	06/06/2022	06/06/2022	Expiry	BFM8T610T2L10CEMIK50	11,335,939	528.82000000	331,009		0	(141,603)			0		(141,603)	0			0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)	
141307 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	54,611,278	4229.89000000	3,713,567			0	(1,588,638)			0	(1,588,638)	0				0003	
141308 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	54,764,189	4229.89000000	3,723,965			0	(1,593,086)			0	(1,593,086)	0					0003
141309 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	48,860,767	4229.89000000	3,322,532			0	(1,421,356)			0	(1,421,356)	0					0003
141310 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	48,928,974	4229.89000000	3,327,170			0	(1,423,340)			0	(1,423,340)	0					0003
141311 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	51,091,580	4229.89000000	3,474,227			0	(1,486,250)			0	(1,486,250)	0					0003
141312 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	54,489,912	4229.89000000	3,705,314			0	(1,585,107)			0	(1,585,107)	0					0003
141313 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	40,590,277	4229.89000000	2,760,139			0	(1,180,768)			0	(1,180,768)	0					0003
141314 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	51,827,018	4229.89000000	3,524,237			0	(1,507,644)			0	(1,507,644)	0					0003
141315 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	59,570,226	4229.89000000	4,050,775			0	(1,732,893)			0	(1,732,893)	0					0003
141316 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	44,428,998	4229.89000000	3,021,172			0	(1,292,436)			0	(1,292,436)	0					0003
141798 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCJFX09	06/04/2021	06/06/2022	06/06/2022	Expiry	77,993,028	4229.89000000	5,287,927			0	(2,262,138)			0	(2,262,138)	0					0003
141802 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCJFX09	06/04/2021	06/06/2022	06/06/2022	Expiry	74,123,591	4229.89000000	5,025,579			0	(2,149,907)			0	(2,149,907)	0					0003
141954 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZFF32IHEFA76	06/04/2021	06/06/2022	06/06/2022	Expiry	21,753,847	4229.89000000	389,420			0	(166,591)			0	(166,591)	0					0003
142174 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCJFX09	06/04/2021	06/06/2022	06/06/2022	Maturity	42,696,110	4229.89000000	1,626,722		2,070,033		1,374,133			0	(695,900)	2,070,033					0003
142640 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8K5P83	06/04/2021	06/06/2022	06/06/2022	Maturity	50,009,450	1156.95000000	2,136,652		3,458		(910,587)			0	(914,045)	3,458					0003
142175 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQF05RNE97	06/11/2021	06/10/2022	06/10/2022	Maturity	1,299,130	4219.05000000	51,943		50,147		27,173			0	(22,975)	50,147					0003
140295 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	06/18/2021	06/17/2022	06/17/2022	Expiry	21,071,342	101.41000000	1,232,676			0	(568,927)			0	(568,927)	0					0003
140386 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCJFX09	06/18/2021	06/17/2022	06/17/2022	Expiry	732,119	78.52000000	43,561			0	(20,105)			0	(20,105)	0					0003
140927 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	06/17/2022	Maturity	30,409,008	164.93000000	2,002,315		1,164,856		240,711			0	(924,145)	1,164,856					0003
141079 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	12/20/2022	Expiry	8,749,545	4166.45000000	751,590			0	(483,751)			0	(483,751)	0					0003
141085 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	06/17/2022	Expiry	30,831,730	4166.45000000	2,136,602			0	(986,124)			0	(986,124)	0					0003
141088 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	06/17/2022	Expiry	50,759,527	4166.45000000	3,517,574			0	(1,623,496)			0	(1,623,496)	0					0003
141089 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	06/17/2022	Expiry	49,967,402	4166.45000000	3,462,681			0	(1,598,161)			0	(1,598,161)	0					0003
141111 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	06/17/2022	Expiry	55,413,785	4166.45000000	3,840,109			0	(1,772,358)			0	(1,772,358)	0					0003
141113 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UJZ0078	06/18/2021	06/17/2022	Expiry	51,663,980	4166.45000000	3,580,252			0	(1,652,424)			0	(1,652,424)	0					0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141115 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry		46,664,240	4166.45000000	3,233,776		0	(1,492,512)			0		(1,492,512)	0			0003
141236 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	06/18/2021	06/17/2022	06/17/2022	Expiry		9,238,867	523.49000000	271,623		0	(125,364)			0		(125,364)	0			0003
141264 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry		68,097,377	4166.45000000	4,678,290		0	(2,159,211)			0		(2,159,211)	0			0003
141296 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/18/2021	06/17/2022	06/17/2022	Expiry		37,617,245	4166.45000000	2,588,066		0	(1,194,492)			0		(1,194,492)	0			0003
141811 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry		63,771,225	4166.45000000	4,342,821		0	(2,004,379)			0		(2,004,379)	0			0003
141812 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry		51,284,779	4166.45000000	3,497,622		0	(1,614,287)			0		(1,614,287)	0			0003
141813 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry		53,808,528	4166.45000000	3,675,123		0	(1,696,210)			0		(1,696,210)	0			0003
141814 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry		51,489,092	4166.45000000	3,516,705		0	(1,623,095)			0		(1,623,095)	0			0003
141955 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	06/18/2021	06/17/2022	06/17/2022	Expiry		24,377,059	4166.45000000	431,474		0	(199,142)			0		(199,142)	0			0003
142177 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/18/2021	06/21/2022	06/21/2022	Maturity		43,150,273	4166.45000000	1,786,853		2,026,054	1,190,894			0		(835,159)	2,026,054			0003
142641 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/18/2021	06/17/2022	06/17/2022	Expiry		43,021,149	1141.21000000	1,888,628		0	(871,674)			0		(871,674)	0			0003
140274 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry		23,344,886	103.46000000	1,320,152		0	(676,352)			0		(676,352)	0			0003
141073 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry		869,864	78.82000000	51,757		0	(26,516)			0		(26,516)	0			0003
141124 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Expiry		34,302,124	168.12000000	2,144,393		0	(1,098,634)			0		(1,098,634)	0			0003
141130 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Expiry		46,041,524	4343.54000000	3,140,038		0	(1,608,732)			0		(1,608,732)	0			0003
141131 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Expiry		52,556,834	4343.54000000	3,584,383		0	(1,836,383)			0		(1,836,383)	0			0003
141235 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	07/06/2021	07/06/2022	07/06/2022	Expiry		10,008,335	529.49000000	292,243		0	(149,724)			0		(149,724)	0			0003
141272 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry		30,619,327	4343.54000000	2,008,628		0	(1,029,078)			0		(1,029,078)	0			0003
141352 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		67,680,494	4343.54000000	4,737,635		0	(2,427,226)			0		(2,427,226)	0			0003
141353 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		53,458,767	4343.54000000	3,742,114		0	(1,917,192)			0		(1,917,192)	0			0003
141354 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		44,100,806	4343.54000000	3,087,056		0	(1,581,588)			0		(1,581,588)	0			0003
141355 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		56,620,350	4343.54000000	3,963,425		0	(2,030,576)			0		(2,030,576)	0			0003
141712 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		35,987,905	4343.54000000	2,366,989		0	(1,212,666)			0		(1,212,666)	0			0003
141713 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		47,125,935	4343.54000000	3,099,531		0	(1,587,979)			0		(1,587,979)	0			0003
141714 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		56,881,823	4343.54000000	3,741,188		0	(1,916,718)			0		(1,916,718)	0			0003
141715 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		43,530,532	4343.54000000	2,863,057		0	(1,466,826)			0		(1,466,826)	0			0003
141716 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2021	07/06/2022	07/06/2022	Expiry		59,000,065	4343.54000000	3,880,507		0	(1,988,096)			0		(1,988,096)	0			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141829 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry	49,390,750	4343.54000000	3,244,972				(1,662,493)			0		(1,662,493)	0			0003
141956 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry	20,048,908	4343.54000000	370,905				(190,025)			0		(190,025)	0			0003
142178 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Maturity	40,790,091	4343.54000000	1,631,604		468,508		(367,409)			0		(835,917)	468,508			0003
142642 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2021	07/06/2022	07/06/2022	Expiry	43,191,012	1183.48000000	1,878,810				(962,569)			0		(962,569)	0			0003
142906 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/16/2021	07/15/2022	07/15/2022	Expiry	1,532,732	4357.82000000	57,197				(30,798)			0		(30,798)	0			0003
140249 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	18,911,819	106.27000000	1,192,333				(656,600)			0		(656,600)	0			0003
140395 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/20/2021	07/20/2022	07/20/2022	Expiry	802,224	77.46000000	49,899				(27,478)			0		(27,478)	0			0003
141109 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	SOLIDIAN SACIS INTERNATIONAL	07/20/2021	07/20/2022	07/20/2022	Expiry	32,447,096	169.39000000	2,096,081				(1,154,280)			0		(1,154,280)	0			0003
141234 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	07/20/2021	07/20/2022	07/20/2022	Expiry	7,117,438	530.60000000	207,829				(114,448)			0		(114,448)	0			0003
141504 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	67,166,469	4323.06000000	4,701,653				(2,589,129)			0		(2,589,129)	0			0003
141506 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	60,277,038	4323.06000000	4,219,393				(2,323,556)			0		(2,323,556)	0			0003
141509 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	50,550,801	4323.06000000	3,538,556				(1,948,630)			0		(1,948,630)	0			0003
141510 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	53,565,028	4323.06000000	3,749,552				(2,064,822)			0		(2,064,822)	0			0003
141511 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	60,138,580	4323.06000000	4,209,701				(2,318,219)			0		(2,318,219)	0			0003
141515 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	57,519,126	4323.06000000	4,026,339				(2,217,244)			0		(2,217,244)	0			0003
141516 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	44,609,282	4323.06000000	3,122,650				(1,719,596)			0		(1,719,596)	0			0003
141517 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	50,370,731	4323.06000000	3,525,951				(1,941,688)			0		(1,941,688)	0			0003
141518 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	51,407,798	4323.06000000	3,598,546				(1,981,665)			0		(1,981,665)	0			0003
141519 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Expiry	50,358,196	4323.06000000	3,525,074				(1,941,205)			0		(1,941,205)	0			0003
141957 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	07/20/2021	07/20/2022	07/20/2022	Expiry	16,853,804	4323.06000000	306,739				(168,916)			0		(168,916)	0			0003
142181 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/20/2021	07/20/2022	07/20/2022	Maturity	35,801,167	4323.06000000	1,460,688		10,435		(793,944)			0		(804,379)	10,435			0003
142643 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/20/2021	07/20/2022	07/20/2022	Expiry	31,006,480	1177.30000000	1,323,977				(729,094)			0		(729,094)	0			0003
140278 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	08/06/2021	08/05/2022	08/05/2022	Expiry	20,808,098	107.08000000	1,186,061				(707,075)			0		(707,075)	0			0003
141083 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	08/06/2021	08/05/2022	08/05/2022	Expiry	857,135	80.31000000	52,799				(31,477)			0		(31,477)	0			0003
141169 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Maturity	38,665,915	164.64000000	2,529,348				(1,355,227)			0		(1,507,881)	152,653			0003
141173 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	58,118,412	4436.52000000	3,748,696				(2,234,800)			0		(2,234,800)	0			0003
141174 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	44,477,267	4436.52000000	2,868,828				(1,710,263)			0		(1,710,263)	0			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141187	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	63,087,314	4436.52000000	4,069,195		0	(2,425,866)				0		(2,425,866)	0			0003
141188	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	52,593,969	4436.52000000	3,392,364		0	(2,022,371)				0		(2,022,371)	0			0003
141191	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	52,988,020	4436.52000000	3,417,781		0	(2,037,523)				0		(2,037,523)	0			0003
141229	Call Options - S&P U.S. Retiree Spending Index	Exhibit 5	Equity/Index	UBS AG	08/06/2021	08/05/2022	08/05/2022	Expiry	10,326,029	532.82000000	317,947		0	(189,545)				0		(189,545)	0			0003
141333	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	71,206,545	4436.52000000	4,592,894		0	(2,738,071)				0		(2,738,071)	0			0003
141341	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	52,657,322	4436.52000000	3,396,450		0	(2,024,807)				0		(2,024,807)	0			0003
141343	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	55,900,152	4436.52000000	3,605,616		0	(2,149,502)				0		(2,149,502)	0			0003
141357	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	53,681,892	4436.52000000	3,462,536		0	(2,064,204)				0		(2,064,204)	0			0003
141358	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	55,456,500	4436.52000000	3,577,000		0	(2,132,442)				0		(2,132,442)	0			0003
141363	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	49,689,024	4436.52000000	3,204,992		0	(1,910,668)				0		(1,910,668)	0			0003
141749	Call Options - S&P 500	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	08/06/2021	08/05/2022	08/05/2022	Expiry	41,629,256	4436.52000000	2,814,994		0	(1,678,169)				0		(1,678,169)	0			0003
141958	Call Options - S&P 500	Exhibit 5	Equity/Index	CITIBANK N.A.	08/06/2021	08/05/2022	08/05/2022	Expiry	22,519,744	4436.52000000	407,607		0	(242,996)				0		(242,996)	0			0003
142182	Call Options - S&P 500	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/05/2022	08/05/2022	Expiry	47,595,049	4436.52000000	1,903,802		0	(1,134,959)				0		(1,134,959)	0			0003
142644	Call Options - S&P Equal Weight Energy	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	08/06/2021	08/05/2022	08/05/2022	Expiry	40,455,400	1205.77000000	1,735,537		0	(1,034,647)				0		(1,034,647)	0			0003
142905	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	08/13/2021	08/12/2022	08/12/2022	Expiry	1,447,976	4446.69000000	57,438		0	(35,347)				0		(35,347)	0			0003
140294	Call Options - iShares U.S. Real Estate	Exhibit 5	Equity/Index	UBS AG	08/20/2021	08/19/2022	08/19/2022	Expiry	17,748,540	107.00000000	1,075,562		0	(682,568)				0		(682,568)	0			0003
140877	Call Options - iShares MSCI EAFE	Exhibit 5	Equity/Index	UBS AG	08/20/2021	08/19/2022	08/19/2022	Expiry	736,102	79.45000000	53,073		0	(33,681)				0		(33,681)	0			0003
141230	Call Options - S&P U.S. Retiree Spending Index	Exhibit 5	Equity/Index	UBS AG	08/20/2021	08/19/2022	08/19/2022	Expiry	8,562,176	535.53000000	250,016		0	(158,664)				0		(158,664)	0			0003
141369	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/20/2021	08/19/2022	08/19/2022	Expiry	31,689,027	166.70000000	1,996,009		0	(1,266,698)				0		(1,266,698)	0			0003
141563	Call Options - S&P 500	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/19/2022	08/19/2022	Expiry	54,051,035	4441.67000000	3,816,003		0	(2,421,694)				0		(2,421,694)	0			0003
141567	Call Options - S&P 500	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/19/2022	08/19/2022	Expiry	55,429,435	4441.67000000	3,913,318		0	(2,483,452)				0		(2,483,452)	0			0003
141573	Call Options - S&P 500	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/19/2022	08/19/2022	Expiry	43,628,611	4441.67000000	3,080,180		0	(1,954,730)				0		(1,954,730)	0			0003
141762	Call Options - S&P 500	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/19/2022	08/19/2022	Expiry	78,893,954	4441.67000000	5,559,577		0	(3,528,193)				0		(3,528,193)	0			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141763 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	08/20/2021	08/19/2022	08/19/2022	Expiry	27,590,164	4441.67000000	1,944,251		0	(1,233,852)				0	(1,233,852)		0			0003
141764 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	08/20/2021	08/19/2022	08/19/2022	Expiry	37,897,981	4441.67000000	2,670,632		0	(1,694,824)				0	(1,694,824)		0			0003
141765 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	08/20/2021	08/19/2022	08/19/2022	Expiry	52,222,825	4441.67000000	3,680,090		0	(2,335,442)				0	(2,335,442)		0			0003
141766 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	08/20/2021	08/19/2022	08/19/2022	Expiry	52,546,622	4441.67000000	3,702,907		0	(2,349,922)				0	(2,349,922)		0			0003
141767 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	08/20/2021	08/19/2022	08/19/2022	Expiry	53,518,957	4441.67000000	3,771,427		0	(2,393,406)				0	(2,393,406)		0			0003
141768 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	08/20/2021	08/19/2022	08/19/2022	Expiry	53,659,851	4441.67000000	3,781,356		0	(2,399,706)				0	(2,399,706)		0			0003
141959 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	08/20/2021	08/19/2022	08/19/2022	Expiry	18,615,628	4517.17839000	346,251		0	(219,736)				0	(219,736)		0			0003
142183 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G56SEF7VJP5I70UK5573	08/20/2021	08/19/2022	08/19/2022	Expiry	39,561,479	4441.67000000	1,592,350		0	(1,010,530)				0	(1,010,530)		0			0003
142645 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRMMJCUFX09	08/20/2021	08/19/2022	08/19/2022	Expiry	33,096,297	1207.56000000	1,456,237		0	(924,150)				0	(924,150)		0			0003
140291 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	09/03/2021	09/06/2022	09/06/2022	Expiry	21,258,412	111.27000000	1,245,625		0	(842,827)				0	(842,827)		0			0003
141231 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	09/03/2021	09/06/2022	09/06/2022	Expiry	10,453,632	537.99000000	306,291		0	(207,246)				0	(207,246)		0			0003
141396 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	37,784,403	171.06000000	2,418,679		0	(1,636,552)				0	(1,636,552)		0			0003
141397 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	737,719	82.07000000	40,899		0	(27,674)				0	(27,674)		0			0003
141399 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	35,829,897	4535.43000000	2,382,719		0	(1,612,220)				0	(1,612,220)		0			0003
141400 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	46,998,666	4535.43000000	3,125,452		0	(2,114,776)				0	(2,114,776)		0			0003
141401 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	43,910,083	4535.43000000	2,920,058		0	(1,975,800)				0	(1,975,800)		0			0003
141402 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	61,160,954	4535.43000000	4,067,256		0	(2,752,029)				0	(2,752,029)		0			0003
141403 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	48,407,778	4535.43000000	3,219,159		0	(2,178,181)				0	(2,178,181)		0			0003
141404 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	49,824,873	4535.43000000	3,313,397		0	(2,241,945)				0	(2,241,945)		0			0003
141405 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	52,089,640	4535.43000000	3,464,006		0	(2,343,852)				0	(2,343,852)		0			0003
141406 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	61,669,512	4535.43000000	4,101,076		0	(2,774,913)				0	(2,774,913)		0			0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)	
141407 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry	58,960,590	4535.43000000	3,920,930		0	(2,653,021)				0	(2,653,021)	0				0003	
141408 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry	50,796,816	4535.43000000	3,378,032		0	(2,285,679)				0	(2,285,679)	0					0003
141409 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry	58,960,590	4535.43000000	3,920,930		0	(2,653,021)				0	(2,653,021)	0					0003
142017 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	09/03/2021	09/06/2022	09/06/2022	Expiry	18,192,397	4535.43000000	354,752		0	(240,036)				0	(240,036)	0					0003
142184 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2022	09/06/2022	Expiry	42,536,497	4535.43000000	1,644,036		0	(1,112,405)				0	(1,112,405)	0					0003
142646 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/03/2021	09/06/2022	09/06/2022	Expiry	38,088,582	1233.01000000	1,679,706		0	(1,136,540)				0	(1,136,540)	0					0003
142904 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/10/2021	09/09/2022	09/09/2022	Expiry	1,136,179	4506.68000000	43,839		0	(30,350)				0	(30,350)	0					0003
141556 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	829,558	79.01000000	50,922		0	(36,692)				0	(36,692)	0					0003
141560 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	71,466,772	4357.73000000	5,581,576		0	(4,021,793)				0	(4,021,793)	0					0003
141561 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	44,522,753	4357.73000000	3,477,240		0	(2,505,518)				0	(2,505,518)	0					0003
141562 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	49,908,428	4357.73000000	3,897,863		0	(2,808,597)				0	(2,808,597)	0					0003
141564 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	50,448,569	4357.73000000	3,940,048		0	(2,838,994)				0	(2,838,994)	0					0003
141565 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	50,975,244	4357.73000000	3,981,182		0	(2,868,632)				0	(2,868,632)	0					0003
141568 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	55,438,692	4357.73000000	4,329,778		0	(3,119,813)				0	(3,119,813)	0					0003
141569 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	47,063,484	4357.73000000	3,675,672		0	(2,648,498)				0	(2,648,498)	0					0003
141570 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	58,393,582	4357.73000000	4,560,556		0	(3,286,099)				0	(3,286,099)	0					0003
141571 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	53,600,079	4357.73000000	4,186,182		0	(3,016,345)				0	(3,016,345)	0					0003
142226 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2021	09/20/2022	09/20/2022	Expiry	40,601,826	4357.73000000	2,026,031		0	(1,459,853)				0	(1,459,853)	0					0003
142248 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2021	09/20/2022	09/20/2022	Expiry	19,024,317	4357.73000000	196,784		0	(141,792)				0	(141,792)	0					0003
142828 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2021	09/20/2022	09/20/2022	Expiry	30,769,406	1184.74000000	1,353,854		0	(975,517)				0	(975,517)	0					0003
142829 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	09/20/2021	09/20/2022	09/20/2022	Expiry	7,520,322	527.75000000	219,593		0	(158,228)				0	(158,228)	0					0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
142900 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	09/20/2021	09/20/2022	09/20/2022	Expiry	30,776,910	164.9400000	1,989,794		0	(1,433,742)				0		(1,433,742)	0			0003
142902 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	09/20/2021	09/20/2022	09/20/2022	Expiry	17,324,112	106.2300000	1,142,525		0	(823,244)				0		(823,244)	0			0003
141617 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	36,653,820	4363.5500000	2,954,280		0	(2,258,203)				0		(2,258,203)	0			0003
141619 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	52,931,869	4363.5500000	4,266,283		0	(3,261,076)				0		(3,261,076)	0			0003
141620 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	48,871,760	4363.5500000	3,939,040		0	(3,010,937)				0		(3,010,937)	0			0003
141622 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	61,888,055	4363.5500000	4,988,147		0	(3,812,858)				0		(3,812,858)	0			0003
141623 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	52,608,879	4363.5500000	4,240,250		0	(3,241,177)				0		(3,241,177)	0			0003
141625 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	53,671,665	4363.5500000	4,325,910		0	(3,306,654)				0		(3,306,654)	0			0003
142235 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TIEFA76	10/06/2021	10/06/2022	10/06/2022	Expiry	19,376,660	4363.5500000	346,842		0	(265,120)				0		(265,120)	0			0003
142236 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRIMMUCJFX09	10/06/2021	10/06/2022	10/06/2022	Expiry	46,350,195	4363.5500000	2,099,665		0	(1,604,949)				0		(1,604,949)	0			0003
142830 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	10/06/2021	10/06/2022	10/06/2022	Expiry	22,469,307	104.0500000	1,363,212		0	(1,042,017)				0		(1,042,017)	0			0003
142832 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	10/06/2021	10/06/2022	10/06/2022	Expiry	55,739,464	4363.5500000	4,236,200		0	(3,238,082)				0		(3,238,082)	0			0003
142834 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	10/06/2021	10/06/2022	10/06/2022	Expiry	36,489,647	165.0300000	2,321,845		0	(1,774,780)				0		(1,774,780)	0			0003
142836 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUG3U57RNE97	10/06/2021	10/06/2022	10/06/2022	Expiry	873,936	77.3900000	57,330		0	(43,822)				0		(43,822)	0			0003
142838 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B653	10/06/2021	10/06/2022	10/06/2022	Expiry	51,645,625	4363.5500000	3,906,368		0	(2,985,964)				0		(2,985,964)	0			0003
142845 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRIMMUCJFX09	10/06/2021	10/06/2022	10/06/2022	Expiry	53,594,517	4363.5500000	4,089,262		0	(3,125,765)				0		(3,125,765)	0			0003
142849 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRIMMUCJFX09	10/06/2021	10/06/2022	10/06/2022	Expiry	48,861,744	4363.5500000	3,728,152		0	(2,849,738)				0		(2,849,738)	0			0003
142853 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRIMMUCJFX09	10/06/2021	10/06/2022	10/06/2022	Expiry	78,214,714	4363.5500000	5,967,783		0	(4,561,675)				0		(4,561,675)	0			0003
142866 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSPPRIMMUCJFX09	10/06/2021	10/06/2022	10/06/2022	Expiry	35,375,815	1184.9400000	1,503,472		0	(1,149,229)				0		(1,149,229)	0			0003
142868 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFMBT61CT2L10CEMIK50	10/06/2021	10/06/2022	10/06/2022	Expiry	9,915,388	526.6000000	290,521		0	(222,070)				0		(222,070)	0			0003
142867 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB6K528	10/15/2021	10/14/2022	10/14/2022	Expiry	1,643,094	4365.7500000	89,325		0	(70,430)				0		(70,430)	0			0003
141913 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	54,662,859	4536.1900000	3,706,087		0	(2,975,032)				0		(2,975,032)	0			0003
141914 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	59,718,034	4536.1900000	4,048,834		0	(3,250,160)				0		(3,250,160)	0			0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141915 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	63,506,660	4536.19000000	4,305,700		0	(3,456,356)			0		(3,456,356)	0			0003
141916 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	57,609,613	4536.19000000	3,905,885		0	(3,135,409)			0		(3,135,409)	0			0003
142246 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	02RNE81BX4P40TD8PU41	10/20/2021	10/20/2022	10/20/2022	Expiry	35,772,893	4536.19000000	1,452,384		0	(1,165,886)			0		(1,165,886)	0			0003
142651 Call Options - IShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LROIW21HZNB86K528	10/20/2021	10/20/2022	10/20/2022	Expiry	17,734,511	109.26000000	1,027,324		0	(824,674)			0		(824,674)	0			0003
142654 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LROIW21HZNB86K528	10/20/2021	10/20/2022	10/20/2022	Expiry	29,071,988	166.90000000	1,843,774		0	(1,480,070)			0		(1,480,070)	0			0003
142664 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFG9NF388653	10/20/2021	10/20/2022	10/20/2022	Expiry	38,844,121	4536.19000000	2,697,394		0	(2,165,305)			0		(2,165,305)	0			0003
142665 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFG9NF388653	10/20/2021	10/20/2022	10/20/2022	Expiry	54,702,184	4536.19000000	3,798,605		0	(3,049,291)			0		(3,049,291)	0			0003
142666 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFG9NF388653	10/20/2021	10/20/2022	10/20/2022	Expiry	44,062,577	4536.19000000	3,059,773		0	(2,456,201)			0		(2,456,201)	0			0003
142667 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFG9NF388653	10/20/2021	10/20/2022	10/20/2022	Expiry	58,779,664	4536.19000000	4,081,708		0	(3,276,549)			0		(3,276,549)	0			0003
142668 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFG9NF388653	10/20/2021	10/20/2022	10/20/2022	Expiry	55,587,516	4536.19000000	3,860,082		0	(3,098,641)			0		(3,098,641)	0			0003
142686 Call Options - IShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPPRMVWJUCFXT09	10/20/2021	10/20/2022	10/20/2022	Expiry	576,911	80.40000000	33,519		0	(26,907)			0		(26,907)	0			0003
142702 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPPRMVWJUCFXT09	10/20/2021	10/20/2022	10/20/2022	Expiry	33,844,088	1215.52000000	1,465,449		0	(1,176,374)			0		(1,176,374)	0			0003
142703 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFBMT61CT2L10CEM1K50	10/20/2021	10/20/2022	10/20/2022	Expiry	8,275,184	529.46000000	244,118		0	(195,963)			0		(195,963)	0			0003
142873 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFG9NF388653	10/20/2021	10/20/2022	10/20/2022	Expiry	16,725,784	4536.19000000	346,224		0	(277,928)			0		(277,928)	0			0003
143631 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	33,095,887	169.84000000	2,104,543		0	(1,780,767)			0		(1,780,767)	0			0003
143673 Call Options - IShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LROIW21HZNB86K528	11/05/2021	11/04/2022	11/04/2022	Expiry	23,196,834	110.24000000	1,382,415		0	(1,169,736)			0		(1,169,736)	0			0003
143675 Call Options - IShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	884,225	81.83000000	49,959		0	(42,273)			0		(42,273)	0			0003
143687 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	60,598,137	4697.53000000	4,138,836		0	(3,502,092)			0		(3,502,092)	0			0003
143689 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	67,346,797	4697.53000000	4,599,788		0	(3,892,111)			0		(3,892,111)	0			0003
143691 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	65,719,384	4697.53000000	4,488,616		0	(3,798,060)			0		(3,798,060)	0			0003
143693 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	48,712,447	4697.53000000	3,327,047		0	(2,815,193)			0		(2,815,193)	0			0003
143695 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	55,430,854	4697.53000000	3,785,912		0	(3,203,464)			0		(3,203,464)	0			0003
143697 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	53,659,650	4697.53000000	3,664,939		0	(3,101,102)			0		(3,101,102)	0			0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
143699	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	53,665,052	4697.53000000	3,665,308		0	(3,101,415)			0		(3,101,415)	0			0003
143701	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	69,650,841	4697.53000000	4,757,133		0	(4,025,267)			0		(4,025,267)	0			0003
143703	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	69,523,444	4697.53000000	4,748,432		0	(4,017,904)			0		(4,017,904)	0			0003
143705	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	46,505,547	4697.53000000	3,176,316		0	(2,687,652)			0		(2,687,652)	0			0003
143707	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	61,067,890	4697.53000000	4,170,920		0	(3,529,240)			0		(3,529,240)	0			0003
143738	Call Options - S&P 500	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZVZ7FF321WFA76	11/05/2021	11/04/2022	11/04/2022	Expiry	22,480,734	4697.53000000	490,080		0	(414,683)			0		(414,683)	0			0003
143746	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPRPMVIMUFYX09	11/05/2021	11/04/2022	11/04/2022	Expiry	51,829,410	4697.53000000	2,052,445		0	(1,736,684)			0		(1,736,684)	0			0003
143749	Call Options - S&P U.S. Retiree Spending Index	Exhibit 5	Equity/Index	UBS AG	BFMBT61CT2L10CEMIK50	11/05/2021	11/04/2022	11/04/2022	Expiry	10,587,666	536.33000000	314,751		0	(266,327)			0		(266,327)	0			0003
143752	Call Options - S&P Equal Weight Energy	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	11/05/2021	11/04/2022	11/04/2022	Expiry	39,398,855	1248.08000000	1,753,249		0	(1,483,518)			0		(1,483,518)	0			0003
143915	Call Options - S&P 500	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISFPUBMPPRO8KSP83	11/12/2021	11/11/2022	11/11/2022	Expiry	1,293,367	4639.98000000	58,332		0	(50,479)			0		(50,479)	0			0003
143638	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	33,045,608	172.61000000	2,107,828		0	(1,864,617)			0		(1,864,617)	0			0003
143711	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	52,406,683	4697.96000000	3,809,947		0	(3,370,338)			0		(3,370,338)	0			0003
143713	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	74,881,724	4697.96000000	5,443,874		0	(4,815,735)			0		(4,815,735)	0			0003
143715	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	50,664,680	4697.96000000	3,683,304		0	(3,258,307)			0		(3,258,307)	0			0003
143717	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	54,662,456	4697.96000000	3,973,941		0	(3,515,409)			0		(3,515,409)	0			0003
143719	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	59,194,296	4697.96000000	4,303,404		0	(3,806,857)			0		(3,806,857)	0			0003
143721	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	51,677,560	4697.96000000	3,756,940		0	(3,323,447)			0		(3,323,447)	0			0003
143780	Call Options - iShares U.S. Real Estate	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0IP21HZNBB6K528	11/19/2021	11/18/2022	11/18/2022	Expiry	18,163,282	109.88000000	1,124,307		0	(994,579)			0		(994,579)	0			0003
143795	Call Options - iShares MSCI EAFE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	11/19/2021	11/18/2022	11/18/2022	Expiry	854,939	80.34000000	51,296		0	(45,378)			0		(45,378)	0			0003
143799	Call Options - S&P 500	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB69MZ0031MB27	11/19/2021	11/18/2022	11/18/2022	Expiry	45,015,628	4697.96000000	3,362,671		0	(2,974,671)			0		(2,974,671)	0			0003
143822	Call Options - S&P 500	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB69MZ0031MB27	11/19/2021	11/18/2022	11/18/2022	Expiry	53,560,437	4697.96000000	4,000,969		0	(3,539,319)			0		(3,539,319)	0			0003
143831	Call Options - S&P 500	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB69MZ0031MB27	11/19/2021	11/18/2022	11/18/2022	Expiry	38,106,882	4697.96000000	2,846,587		0	(2,518,135)			0		(2,518,135)	0			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
143837 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB69M20031M27	11/19/2021	11/18/2022	11/18/2022	Expiry	63,227,348	4697.96000000	4,723,088			0	(4,178,116)			0		(4,178,116)	0			0003
143866 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	11/19/2021	11/18/2022	11/18/2022	Expiry	10,537,559	531.19000000	318,234			0	(281,515)			0		(281,515)	0			0003
143869 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJSPUBR08K3P83	11/19/2021	11/18/2022	11/18/2022	Expiry	35,928,918	1248.41000000	1,652,730			0	(1,462,031)			0		(1,462,031)	0			0003
143907 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	11/19/2021	11/18/2022	11/18/2022	Expiry	40,137,982	4697.96000000	1,605,519			0	(1,420,267)			0		(1,420,267)	0			0003
143913 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	11/19/2021	11/18/2022	11/18/2022	Expiry	18,640,506	4697.96000000	397,043			0	(351,230)			0		(351,230)	0			0003
144151 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT07K3V3UJZ0078	12/06/2021	12/06/2022	12/06/2022	Expiry	33,004,643	166.22000000	2,202,030		(3,111)		(2,054,317)			0		(2,051,206)	(3,111)			0003
144158 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT07K3V3UJZ0078	12/06/2021	12/06/2022	12/06/2022	Expiry	42,702,531	4591.67000000	3,608,400		(356)		(3,361,605)			0		(3,361,249)	(356)			0003
144163 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT07K3V3UJZ0078	12/06/2021	12/06/2022	12/06/2022	Expiry	57,372,917	4591.67000000	4,848,060		(1,240)		(4,517,241)			0		(4,516,001)	(1,240)			0003
144165 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT07K3V3UJZ0078	12/06/2021	12/06/2022	12/06/2022	Expiry	48,350,469	4591.67000000	4,085,656		(403)		(3,806,219)			0		(3,805,816)	(403)			0003
144185 Call Options - S&P Equal Weight Energy	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUG0FU57RNE97	12/06/2021	12/06/2022	12/06/2022	Expiry	36,310,432	1221.41000000	1,633,969			0	(1,522,054)			0		(1,522,054)	0			0003
144186 Call Options - S&P U.S. Retiree Spending Index	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	12/06/2021	12/06/2022	12/06/2022	Expiry	10,814,639	527.81000000	330,928			0	(308,262)			0		(308,262)	0			0003
144187 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	12/06/2021	12/06/2022	12/06/2022	Expiry	55,212,723	4591.67000000	4,693,081			0	(4,371,638)			0		(4,371,638)	0			0003
144189 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	12/06/2021	12/06/2022	12/06/2022	Expiry	49,562,694	4591.67000000	4,212,829			0	(3,924,279)			0		(3,924,279)	0			0003
144202 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ROYAL BANK OF CANADA	12/06/2021	12/06/2022	12/06/2022	Expiry	50,578,788	4591.67000000	4,299,197			0	(4,004,731)			0		(4,004,731)	0			0003
144208 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	ES71P3U3RH16G71YBU11	12/06/2021	12/06/2022	12/06/2022	Expiry	842,450	77.77000000	55,097			0	(51,323)			0		(51,323)	0			0003
144220 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNB6K528	12/06/2021	12/06/2022	12/06/2022	Expiry	18,412,818	110.00000000	1,310,993			0	(1,221,199)			0		(1,221,199)	0			0003
144223 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	12/06/2021	12/06/2022	12/06/2022	Expiry	47,105,850	4591.67000000	4,003,997			0	(3,729,751)			0		(3,729,751)	0			0003
144227 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	12/06/2021	12/06/2022	12/06/2022	Expiry	80,473,969	4591.67000000	6,840,287			0	(6,371,775)			0		(6,371,775)	0			0003
144229 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	12/06/2021	12/06/2022	12/06/2022	Expiry	44,379,277	4591.67000000	3,772,239			0	(3,513,866)			0		(3,513,866)	0			0003
144231 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK573	12/06/2021	12/06/2022	12/06/2022	Expiry	54,617,129	4591.67000000	4,642,456			0	(4,324,480)			0		(4,324,480)	0			0003
144239 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	12/06/2021	12/06/2022	12/06/2022	Expiry	17,863,558	4591.67000000	385,853			0	(359,425)			0		(359,425)	0			0003
144243 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFXT09	12/06/2021	12/06/2022	12/06/2022	Expiry	34,429,808	4591.67000000	1,738,705			0	(1,619,616)			0		(1,619,616)	0			0003
144402 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFXT09	12/10/2021	12/09/2022	12/09/2022	Expiry	2,451,500	4698.61081376	103,171			0	(97,219)			0		(97,219)	0			0003
144667 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNB6K528	12/20/2021	12/20/2022	12/20/2022	Maturity	29,398,057	167.09000000	1,977,921		350,123		(1,568,189)			0		(1,918,313)	350,123			0003
144669 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNB6K528	12/20/2021	12/20/2022	12/20/2022	Expiry	17,770,187	110.32000000	1,209,263			0	(1,172,820)			0		(1,172,820)	0			0003
144673 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUG0FU57RNE97	12/20/2021	12/20/2022	12/20/2022	Expiry	912,277	76.48000000	61,066			0	(59,226)			0		(59,226)	0			0003
144679 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZFF32THEFA76	12/20/2021	12/20/2022	12/20/2022	Expiry	56,827,434	4568.02000000	4,717,477			0	(4,575,307)			0		(4,575,307)	0			0003

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25										
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)										
144680 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZ1Z7FF32TIEFA76	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	55,475,036	...4568.02000000	..... 4,605,209	.....	.....0	..... (4,466,422)	.....	.....	..... 0	.....	..... (4,466,422)	..... 0	.....	.....	..... 0003
144681 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZ1Z7FF32TIEFA76	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	49,191,525	...4568.02000000	..... 4,083,589	.....	.....0	..... (3,960,522)	.....	.....	..... 0	.....	..... (3,960,522)	..... 0	.....	.....	..... 0003
144690 Call Options - S&P Equal Weight Energy	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUG0F57RNE97	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	37,686,588	...1221.01000000	..... 1,692,128	.....	.....0	..... (1,641,132)	.....	.....	..... 0	.....	..... (1,641,132)	..... 0	.....	.....	..... 0003
144691 Call Options - S&P U.S. Retiree Spending Index	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BF18T61CT2L10CEM1K50	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	9,883,042	...531.16000000	..... 306,380	.....	.....0	..... (297,147)	.....	.....	..... 0	.....	..... (297,147)	..... 0	.....	.....	..... 0003
144706 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BX4P4R0TD8PU41	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	20,660,136	...4568.02000000	..... 458,655	.....	.....0	..... (444,833)	.....	.....	..... 0	.....	..... (444,833)	..... 0	.....	.....	..... 0003
144707 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	74,915,528	...4568.02000000	..... 6,165,580	.....	.....0	..... (5,979,768)	.....	.....	..... 0	.....	..... (5,979,768)	..... 0	.....	.....	..... 0003
144711 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	47,284,123	...4568.02000000	..... 3,891,504	.....	.....0	..... (3,774,225)	.....	.....	..... 0	.....	..... (3,774,225)	..... 0	.....	.....	..... 0003
144713 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BX4P4R0TD8PU41	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	34,967,588	...4568.02000000	..... 618,926	.....	.....0	..... (600,274)	.....	.....	..... 0	.....	..... (600,274)	..... 0	.....	.....	..... 0003
144714 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	48,421,012	...4568.02000000	..... 3,985,070	.....	.....0	..... (3,864,972)	.....	.....	..... 0	.....	..... (3,864,972)	..... 0	.....	.....	..... 0003
144716 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	46,534,877	...4568.02000000	..... 3,829,840	.....	.....0	..... (3,714,420)	.....	.....	..... 0	.....	..... (3,714,420)	..... 0	.....	.....	..... 0003
144719 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	46,593,804	...4568.02000000	..... 3,834,690	.....	.....0	..... (3,719,124)	.....	.....	..... 0	.....	..... (3,719,124)	..... 0	.....	.....	..... 0003
144721 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	47,507,408	...4568.02000000	..... 3,909,880	.....	.....0	..... (3,792,048)	.....	.....	..... 0	.....	..... (3,792,048)	..... 0	.....	.....	..... 0003
144725 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	.....	52,989,032	...4568.02000000	..... 4,361,020	.....	.....0	..... (4,229,592)	.....	.....	..... 0	.....	..... (4,229,592)	..... 0	.....	.....	..... 0003
0159999999. Subtotal - Purchased Options - Hedging Other - Call Options and Warrants																						1,218,711,130	0	817,323,094	234,291,557	0	XXX	0	0	(583,031,536)	817,323,094	0	0	XXX
0219999999. Subtotal - Purchased Options - Hedging Other																						1,218,711,130	0	817,323,094	234,291,557	0	XXX	0	0	(583,031,536)	817,323,094	0	0	XXX
0289999999. Subtotal - Purchased Options - Replications																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0359999999. Subtotal - Purchased Options - Income Generation																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0429999999. Subtotal - Purchased Options - Other																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0439999999. Total Purchased Options - Call Options and Warrants																						1,218,711,130	0	817,323,094	234,291,557	0	XXX	0	0	(583,031,536)	817,323,094	0	0	XXX
0449999999. Total Purchased Options - Put Options																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0459999999. Total Purchased Options - Caps																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0469999999. Total Purchased Options - Floors																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0479999999. Total Purchased Options - Collars																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0489999999. Total Purchased Options - Other																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0499999999. Total Purchased Options																						1,218,711,130	0	817,323,094	234,291,557	0	XXX	0	0	(583,031,536)	817,323,094	0	0	XXX
0569999999. Subtotal - Written Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
0639999999. Subtotal - Written Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108																						0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
140735 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	07/06/2020	01/06/2022	01/06/2022	Maturity	.....	6,471,461	...3367.32000000	..... (460,386)	.....	..... (2,657,460)	..... (2,652,428)	.....	.....	..... 0	.....	..... 5,032	..... (2,657,460)	.....	.....	..... 0003
140734 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507K3UJZ0078	07/20/2020	01/20/2022	01/20/2022	Maturity	4,224,592	...3446.95000000 (257,001) (1,346,514) (1,337,151) 0 9,363 (1,346,514) 0003										

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140739	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	08/06/2020	02/04/2022	02/04/2022	Maturity	9,247,816	3553.46000000	(447,252)	(2,651,796)	(2,623,178)			0		28,618	(2,651,796)			0003
140738	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	08/20/2020	02/18/2022	02/18/2022	Maturity	7,848,355	3597.10000000	(499,084)	(1,729,071)	(1,684,363)			0		44,708	(1,729,071)			0003
140743	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	09/04/2020	03/04/2022	03/04/2022	Maturity	7,253,126	3637.72000000	(558,417)	(1,451,415)	(1,386,982)			0		64,433	(1,451,415)			0003
140742	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	09/18/2020	03/18/2022	03/18/2022	Maturity	10,223,312	3525.28000000	(660,339)	(2,719,736)	(2,626,611)			0		93,125	(2,719,736)			0003
140336	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	10/06/2020	04/06/2022	04/06/2022	Maturity	9,632,655	3567.65000000	(618,848)	(2,466,450)	(2,357,840)			0		108,610	(2,466,450)			0003
140332	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	10/20/2020	04/20/2022	04/20/2022	Maturity	8,398,289	3651.43000000	(533,722)	(1,858,446)	(1,751,116)			0		107,330	(1,858,446)			0003
143619	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	11/06/2020	05/06/2022	05/06/2022	Maturity	10,337,404	3691.93000000	(665,204)	(1,207,948)	(1,054,439)			0		153,509	(1,207,948)			0003
140339	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	11/20/2020	05/20/2022	05/20/2022	Maturity	8,245,314	3747.87000000	(488,340)	(337,678)	(212,462)			0		125,216	(337,678)			0003
140343	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	12/04/2020	06/06/2022	06/06/2022	Maturity	6,235,232	3897.02000000	(359,829)	(359,056)	(256,154)			0		102,902	(359,056)			0003
140341	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	12/18/2020	06/17/2022	06/17/2022	Expiry	7,435,517	3913.43000000	(434,118)		133,575			0		133,575	0			0003
140333	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	01/06/2021	01/06/2022	01/06/2022	Expiry	30,588,199	189.25000000	(1,878,479)		30,879			0		30,879	0			0003
140428	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	59,851,209	3935.55000000	(2,824,367)	(12,168,000)	(12,121,572)			0		46,428	(12,168,000)			0003
140493	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	58,577,088	3956.16000000	(2,595,886)	(11,542,284)	(11,499,612)			0		42,672	(11,542,284)			0003
140622	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEMIK50	01/06/2021	01/06/2022	01/06/2022	Maturity	16,570,930	87.24000000	(779,046)	(4,628,995)	(4,616,189)			0		12,806	(4,628,995)			0003
140685	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	56,024,303	3984.27000000	(2,278,254)	(10,605,522)	(10,568,071)			0		37,451	(10,605,522)			0003
140686	Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1D5PPFMMUJFX109	01/06/2021	01/06/2022	01/06/2022	Maturity	919,784	78.10000000	(39,721)	(5,182)	(4,529)			0		653	(5,182)			0003
140747	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	01/06/2021	07/06/2022	07/06/2022	Expiry	7,852,360	3926.18000000	(481,986)		165,076			0		165,076	0			0003
140759	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	53,813,989	3823.10000000	(3,405,498)	(12,570,480)	(12,514,499)			0		55,981	(12,570,480)			0003
140767	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507KV3UQJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	50,935,206	3856.84000000	(2,966,472)	(11,413,256)	(11,364,492)			0		48,764	(11,413,256)			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140827	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	54,260,591	3864.33000000	(3,103,043)	(12,059,940)	(12,008,931)			0		51,009	(12,059,940)			0003
140849	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	43,531,757	3879.32000000	(2,386,734)	(9,474,068)	(9,434,834)			0		39,234	(9,474,068)			0003
140883	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	58,122,154	3892.44000000	(3,078,811)	(12,455,955)	(12,405,344)			0		50,611	(12,455,955)			0003
140899	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/06/2021	01/06/2022	01/06/2022	Maturity	51,639,022	3907.44000000	(2,632,529)	(10,882,818)	(10,839,544)			0		43,274	(10,882,818)			0003
141707	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. ROYAL BANK OF CANADA	4PQUHNSJFFGFNF388653	01/06/2021	01/06/2022	01/06/2022	Maturity	48,141,055	3922.43000000	(2,541,966)	(9,494,850)	(9,453,064)			0		41,786	(9,494,850)			0003
142200	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ES71P3U39H1G071XB11		01/06/2021	01/06/2022	01/06/2022	Maturity	48,155,854	3873.70000000	(1,262,723)	(5,057,274)	(5,036,516)			0		20,757	(5,057,274)			0003
140331	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFM8T61CT2L10CEM1K50	01/20/2021	01/20/2022	01/20/2022	Expiry	23,247,336	184.77000000	(1,266,657)	0	69,406			0		69,406	0			0003
140427	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	48,105,350	4069.48000000	(2,147,162)	(5,165,625)	(5,047,972)			0		117,653	(5,165,625)			0003
140492	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	56,162,380	4094.52000000	(2,339,255)	(5,667,866)	(5,539,688)			0		128,178	(5,667,866)			0003
140616	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON CREDIT SUISSE INTERNATIONAL	ROMJWSFPU8MPP08K3P83	01/20/2021	01/20/2022	01/20/2022	Maturity	16,067,162	91.14000000	(656,931)	(2,553,127)	(2,517,131)			0		35,996	(2,553,127)			0003
140683	Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	412,249	78.39000000	(27,735)	0	1,520			0		1,520	0			0003
140746	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	07/20/2022	07/20/2022	Expiry	6,043,560	4029.04000000	(389,389)	0	143,347			0		143,347	0			0003
140758	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	58,334,231	3928.89000000	(3,698,940)	(8,362,984)	(8,160,302)			0		202,682	(8,362,984)			0003
140766	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	51,734,526	3963.55000000	(3,024,419)	(6,957,012)	(6,791,290)			0		165,722	(6,957,012)			0003
140826	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	50,523,898	3973.18000000	(2,891,078)	(6,675,105)	(6,516,690)			0		158,415	(6,675,105)			0003
140848	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	56,120,938	3990.52000000	(3,081,519)	(7,186,266)	(7,017,416)			0		168,850	(7,186,266)			0003
140882	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	52,531,700	4011.70000000	(2,723,848)	(6,406,008)	(6,256,756)			0		149,252	(6,406,008)			0003
140898	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	43,430,616	4030.96000000	(2,149,971)	(5,105,001)	(4,987,194)			0		117,807	(5,105,001)			0003
140912	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT07K3UJZ0078	01/20/2021	01/20/2022	01/20/2022	Maturity	65,576,821	4050.22000000	(3,077,390)	(7,352,670)	(7,184,046)			0		168,624	(7,352,670)			0003
142199	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81HDSPPFMMJCFXT09	01/20/2021	01/20/2022	01/20/2022	Maturity	39,549,371	3982.81000000	(1,059,496)	(3,222,258)	(3,164,204)			0		58,055	(3,222,258)			0003
140344	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	4PQUHNSJFFGFNF388653	02/05/2021	02/04/2022	02/04/2022	Maturity	52,861,505	4085.06000000	(2,697,628)	(5,376,266)	(5,116,879)			0		259,387	(5,376,266)			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140577 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMFR08K5P83	02/05/2021	02/04/2022	02/04/2022	Expiry	39,256,496	178.9800000	(2,104,355)		202,342	0				0	202,342	0				0003
140647 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	02/05/2021	02/04/2022	02/04/2022	Maturity	28,157,972	93.5300000	(1,229,976)		(3,492,275)	0	(3,374,008)			0	118,267	(3,492,275)				0003
140705 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity	76,715,434	4118.1000000	(3,593,903)		(7,124,228)	0	(6,778,660)			0	345,568	(7,124,228)				0003
140751 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	08/05/2022	08/05/2022	Maturity	9,738,840	4057.8500000	(678,127)		(209,616)	0	59,896			0	269,512	(209,616)				0003
140761 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	02/04/2022	02/04/2022	Maturity	69,944,588	3964.5700000	(4,722,173)		(9,647,280)	0	(9,193,225)			0	454,055	(9,647,280)				0003
140793 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	02/04/2022	02/04/2022	Maturity	86,459,552	4001.4900000	(5,375,351)		(11,078,688)	0	(10,561,827)			0	516,861	(11,078,688)				0003
140913 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/05/2021	02/04/2022	02/04/2022	Maturity	57,526,763	4075.3400000	(3,019,836)		(6,292,812)	0	(6,002,443)			0	290,369	(6,292,812)				0003
141658 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . WELLS FARGO BANK, N.A.	02/05/2021	02/04/2022	02/04/2022	Maturity	60,559,103	4063.6800000	(3,243,721)		(6,510,169)	0	(6,198,273)			0	311,896	(6,510,169)				0003
141660 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity	1,162,990	77.7400000	(49,177)		4,729	0				0	4,729	0				0003
141848 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity	70,051,072	4137.5300000	(3,114,930)		(6,145,826)	0	(5,846,313)			0	299,513	(6,145,826)				0003
142197 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity	47,951,914	4011.2100000	(2,947,492)		(5,849,564)	0	(5,566,152)			0	283,413	(5,849,564)				0003
142202 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . MORGAN STANLEY & CO. INTERNATIONAL PLC .	02/05/2021	02/04/2022	02/04/2022	Maturity	46,521,575	4015.1000000	(1,256,486)		(4,181,825)	0	(4,061,009)			0	120,816	(4,181,825)				0003
142390 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity	62,105,087	4026.7600000	(3,676,824)		(7,306,998)	0	(6,953,457)			0	353,541	(7,306,998)				0003
142414 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/05/2021	02/04/2022	02/04/2022	Maturity	56,745,756	4046.1900000	(3,201,673)		(6,371,887)	0	(6,064,034)			0	307,853	(6,371,887)				0003
140342 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. . E570DZVZ7FF32TIEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity	42,402,782	4115.7200000	(2,127,503)		(2,402,061)	0	(2,115,666)			0	286,395	(2,402,061)				0003
140575 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON JPMORGAN CHASE BANK, N.A.	02/19/2021	02/18/2022	02/18/2022	Maturity	31,449,789	175.8600000	(1,735,279)		(225,058)	0	8,538			0	233,595	(225,058)				0003
140644 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 7H6QLXDRUG9FU57HNE97	02/19/2021	02/18/2022	02/18/2022	Maturity	23,978,042	94.1200000	(1,273,802)		(1,882,679)	0	(1,711,206)			0	171,473	(1,882,679)				0003
140693 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. . E570DZVZ7FF32TIEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity	48,343,678	4135.2500000	(2,305,909)		(2,497,352)	0	(2,186,942)			0	310,411	(2,497,352)				0003
140750 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/19/2021	08/19/2022	08/19/2022	Maturity	6,103,260	4068.8400000	(447,094)		(239,460)	0	(50,305)			0	189,155	(239,460)				0003
140770 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/19/2021	02/18/2022	02/18/2022	Maturity	66,186,534	4021.9600000	(4,258,174)		(5,524,779)	0	(4,951,563)			0	573,216	(5,524,779)				0003
140830 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/19/2021	02/18/2022	02/18/2022	Maturity	48,830,869	4031.7200000	(3,081,162)		(3,964,375)	0	(3,549,603)			0	414,772	(3,964,375)				0003
140852 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/19/2021	02/18/2022	02/18/2022	Maturity	60,026,620	4049.3000000	(3,651,693)		(4,613,378)	0	(4,121,804)			0	491,574	(4,613,378)				0003
140902 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/19/2021	02/18/2022	02/18/2022	Maturity	55,284,088	4082.5100000	(3,128,586)		(3,782,312)	0	(3,361,156)			0	421,156	(3,782,312)				0003
141300 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMFR08K5P83	02/19/2021	02/18/2022	02/18/2022	Maturity	65,954,096	4094.2300000	(3,593,493)		(4,102,005)	0	(3,618,265)			0	483,739	(4,102,005)				0003
141642 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	02/19/2021	02/18/2022	02/18/2022	Expiry	849,903	79.1500000	(38,318)		5,158	0				0	5,158	0				0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141845 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TIEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity	54,023,252	4152.83000000	2,460,405		(2,550,241)	(2,219,033)				0		331,208	(2,550,241)			0003
141876 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMR08K5P83	02/19/2021	02/18/2022	02/18/2022	Maturity	65,655,369	3984.84000000	4,621,628		(5,997,863)	(5,375,721)				0		622,142	(5,997,863)			0003
142201 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFT09	02/19/2021	02/18/2022	02/18/2022	Maturity	37,907,679	4035.63000000	1,137,598		(2,898,037)	(2,744,899)				0		153,138	(2,898,037)			0003
142413 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TIEFA76	02/19/2021	02/18/2022	02/18/2022	Maturity	49,744,865	4068.84000000	2,808,891		(3,423,594)	(3,045,474)				0		378,120	(3,423,594)			0003
140356 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	03/05/2021	03/04/2022	03/04/2022	Maturity	54,840,964	4026.35000000	2,858,744		(4,120,478)	(3,625,696)				0		494,783	(4,120,478)			0003
140526 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/05/2021	03/04/2022	03/04/2022	Maturity	51,270,311	4047.48000000	2,656,847		(3,742,487)	(3,282,648)				0		459,839	(3,742,487)			0003
140601 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMR08K5P83	03/05/2021	03/04/2022	03/04/2022	Maturity	36,568,842	167.42000000	2,005,668		(3,552,634)	(3,205,499)				0		347,135	(3,552,634)			0003
140666 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT210CEMIK50	03/05/2021	03/04/2022	03/04/2022	Maturity	28,214,413	91.38000000	1,252,790		(4,063,271)	(3,846,442)				0		216,829	(4,063,271)			0003
140755 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/05/2021	09/06/2022	09/06/2022	Expiry	6,022,245	4014.83000000	(421,819)		190,969	0				0		190,969	0			0003
140801 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/05/2021	03/04/2022	03/04/2022	Maturity	70,391,319	3955.28000000	(4,513,383)		(6,836,697)	(6,055,535)				0		781,162	(6,836,697)			0003
141655 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G56SEF7VJP5I70UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	46,977,065	4005.22000000	2,586,106		(3,796,078)	(3,348,483)				0		447,595	(3,796,078)			0003
141656 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G56SEF7VJP5I70UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	53,153,205	4014.83000000	2,854,503		(4,157,644)	(3,663,595)				0		494,049	(4,157,644)			0003
141666 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFT09	03/05/2021	03/04/2022	03/04/2022	Expiry	939,173	77.58000000	(40,294)		6,974	0				0		6,974	0			0003
141852 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GMZ0031MB27	03/05/2021	03/04/2022	03/04/2022	Maturity	57,742,569	4068.61000000	2,697,928		(3,693,665)	(3,226,716)				0		466,949	(3,693,665)			0003
141858 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GMZ0031MB27	03/05/2021	03/04/2022	03/04/2022	Maturity	75,167,756	4083.98000000	(3,371,580)		(4,507,327)	(3,923,782)				0		583,544	(4,507,327)			0003
141877 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	03/05/2021	03/04/2022	03/04/2022	Maturity	79,415,630	3918.78000000	(5,316,292)		(8,310,636)	(7,390,509)				0		920,128	(8,310,636)			0003
142204 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G56SEF7VJP5I70UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	45,479,398	3970.64000000	(1,416,970)		(5,107,933)	(4,862,688)				0		245,245	(5,107,933)			0003
142221 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	03/05/2021	03/04/2022	03/04/2022	Maturity	30,196,628	3966.80000000	(1,798,098)		(2,756,200)	(2,444,990)				0		311,209	(2,756,200)			0003
142410 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G56SEF7VJP5I70UK5573	03/05/2021	03/04/2022	03/04/2022	Maturity	70,760,580	3976.41000000	(4,188,204)		(6,272,058)	(5,547,177)				0		724,881	(6,272,058)			0003
142416 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	03/05/2021	03/04/2022	03/04/2022	Maturity	49,494,238	3989.85000000	(2,832,399)		(4,205,556)	(3,715,333)				0		490,223	(4,205,556)			0003
140431 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	64,157,652	4112.67000000	(2,880,430)		(5,467,020)	(4,857,698)				0		609,322	(5,467,020)			0003
140596 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMR08K5P83	03/19/2021	03/18/2022	03/18/2022	Maturity	35,235,950	171.48000000	(1,824,728)		(1,606,121)	(1,220,121)				0		386,000	(1,606,121)			0003
140659 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRIMMUCUFT09	03/19/2021	03/18/2022	03/18/2022	Maturity	25,130,461	95.22000000	(1,097,868)		(2,800,191)	(2,567,950)				0		232,241	(2,800,191)			0003
140704 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32TIEFA76	03/19/2021	03/18/2022	03/18/2022	Maturity	57,292,421	4140.06000000	(2,445,067)		(4,470,681)	(3,953,456)				0		517,226	(4,470,681)			0003
140754 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/19/2021	09/20/2022	09/20/2022	Expiry	9,382,643	4079.41000000	(623,215)		298,010	0				0		298,010	0			0003
140764 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO 9R7GPTS07KV3UQJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	94,994,368	3991.36000000	(5,891,998)		(11,227,888)	(9,981,504)				0		1,246,384	(11,227,888)			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)	
140800	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	78,153,676	4028.54000000	(4,411,035)	(8,430,852)	(7,497,748)				0		933,104	(8,430,852)			0003
140832	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	30,316,725	4042.23000000	(1,650,097)	(3,156,675)	(2,807,616)				0		349,059	(3,156,675)			0003
140854	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	53,460,792	4050.06000000	(2,850,975)	(5,452,392)	(4,849,301)				0		603,091	(5,452,392)			0003
140887	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	65,426,375	4063.75000000	(3,362,693)	(6,429,857)	(5,718,518)				0		711,339	(6,429,857)			0003
140904	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	03/19/2021	03/18/2022	03/18/2022	Maturity	52,191,360	4077.45000000	(2,583,846)	(4,936,576)	(4,389,993)				0		546,583	(4,936,576)			0003
141664	Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6QLXDRUG5U57RNE97	03/19/2021	03/18/2022	03/18/2022	Expiry	671,468	78.99000000	(25,502)		5,395				0		5,395	0			0003
141796	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPPRMMJUCFX09	03/19/2021	03/18/2022	03/18/2022	Maturity	56,208,091	4091.15000000	(2,822,498)	(5,110,476)	(4,513,409)				0		597,067	(5,110,476)			0003
141849	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIZ7FF32TIEFA76	03/19/2021	03/18/2022	03/18/2022	Maturity	76,839,059	4159.63000000	(3,104,803)	(5,606,240)	(4,949,455)				0		656,785	(5,606,240)			0003
142203	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G56SEF7VJPS170UK5573	03/19/2021	03/18/2022	03/18/2022	Maturity	42,899,209	4044.19000000	(2,469,482)	(3,668,094)	(3,141,473)				0		526,621	(3,668,094)			0003
142203	Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPPRMMJUCFX09	04/06/2021	04/06/2022	04/06/2022	Expiry	310,926	80.04000000	(11,718)		3,082				0		3,082	0			0003
140349	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	31,062,960	4314.30000000	(1,070,805)	(1,201,320)	(919,684)				0		281,636	(1,201,320)			0003
140354	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	91,332,616	4328.56000000	(3,014,197)	(3,219,649)	(2,426,874)				0		792,775	(3,219,649)			0003
140413	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	71,248,296	4240.97000000	(3,054,290)	(4,035,024)	(3,231,704)				0		803,320	(4,035,024)			0003
140434	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	50,989,440	4249.12000000	(2,134,235)	(2,784,360)	(2,223,027)				0		561,333	(2,784,360)			0003
140531	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	44,317,936	4261.34000000	(1,789,871)	(2,286,024)	(1,815,263)				0		470,761	(2,286,024)			0003
140688	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	63,218,644	4271.53000000	(2,477,268)	(3,102,376)	(2,450,821)				0		651,555	(3,102,376)			0003
140719	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	64,961,408	4302.08000000	(2,324,388)	(2,703,957)	(2,092,611)				0		611,346	(2,703,957)			0003
140835	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	95,159,118	4155.42000000	(5,173,636)	(7,459,217)	(6,098,480)				0		1,360,737	(7,459,217)			0003
140857	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	04/06/2021	04/06/2022	04/06/2022	Maturity	99,820,056	4194.12000000	(4,886,448)	(6,831,314)	(5,546,111)				0		1,285,203	(6,831,314)			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140891 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2021	04/06/2022	04/06/2022	Maturity	83,348,523	4212.45000000	(3,876,973)		(5,316,561)	(4,296,864)				0		1,019,697	(5,316,561)			0003
140907 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2021	04/06/2022	04/06/2022	Maturity	52,411,204	4226.71000000	(2,341,281)		(3,155,056)	(2,539,267)				0		615,789	(3,155,056)			0003
141671 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2021	04/06/2022	04/06/2022	Maturity	38,652,665	171.70744000	(1,789,312)		(1,790,156)	(1,319,542)				0		470,614	(1,790,156)			0003
142195 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	04/06/2021	10/06/2022	10/06/2022	Expiry	8,326,191	4247.08000000	(509,142)		0	259,217				0		259,217	0			0003
142206 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/06/2021	04/06/2022	04/06/2022	Maturity	55,958,813	4206.34000000	(1,263,884)		(3,248,558)	(2,916,140)				0		332,419	(3,248,558)			0003
142572 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/06/2021	04/06/2022	04/06/2022	Maturity	28,094,497	99.71000000	(921,007)		(3,054,301)	(2,812,063)				0		242,237	(3,054,301)			0003
140202 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Expiry	392,268	80.61000000	(14,752)		0	4,446				0		4,446	0			0003
140348 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	04/20/2022	04/20/2022	Maturity	69,008,408	4395.44000000	(2,379,695)		(1,004,957)	(287,789)				0		717,168	(1,004,957)			0003
140412 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	04/20/2022	04/20/2022	Maturity	45,561,662	4298.27000000	(2,082,189)		(1,708,508)	(1,080,999)				0		627,509	(1,708,508)			0003
140433 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	04/20/2022	04/20/2022	Maturity	50,410,737	4308.61000000	(2,236,373)		(1,764,828)	(1,090,853)				0		673,975	(1,764,828)			0003
140708 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Maturity	48,716,826	4323.08000000	(2,134,128)		(1,536,755)	(893,593)				0		643,162	(1,536,755)			0003
140820 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	10/20/2022	10/20/2022	Expiry	8,704,040	4352.02000000	(468,946)		0	250,732				0		250,732	0			0003
140856 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	04/20/2022	04/20/2022	Maturity	34,957,584	4263.12000000	(1,758,268)		(1,609,906)	(1,080,017)				0		529,889	(1,609,906)			0003
140890 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	04/20/2022	04/20/2022	Maturity	51,355,920	4279.66000000	(2,471,315)		(2,157,480)	(1,412,700)				0		744,780	(2,157,480)			0003
140906 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2021	04/20/2022	04/20/2022	Maturity	66,066,000	4290.00000000	(3,089,439)		(2,609,530)	(1,678,466)				0		931,064	(2,609,530)			0003
141670 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2021	04/20/2022	04/20/2022	Maturity	30,866,182	175.30344000	(1,278,055)		(1,304,120)	(918,953)				0		385,167	(1,304,120)			0003
141853 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Maturity	63,734,464	4339.62000000	(2,665,977)		(1,759,901)	(956,456)				0		803,445	(1,759,901)			0003
141859 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2021	04/20/2022	04/20/2022	Maturity	63,007,688	4368.56411000	(2,397,455)		(1,310,846)	(588,325)				0		722,521	(1,310,846)			0003
142205 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Maturity	39,563,482	4273.46000000	(907,261)		(1,329,172)	(1,055,750)				0		273,421	(1,329,172)			0003
142227 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2021	04/20/2022	04/20/2022	Maturity	73,791,120	4217.64000000	(4,261,074)		(4,230,667)	(2,946,508)				0		1,284,159	(4,230,667)			0003
142571 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2021	04/20/2022	04/20/2022	Maturity	19,319,463	103.26726000	(553,013)		(1,704,786)	(1,538,125)				0		166,661	(1,704,786)			0003
140207 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	552,843	83.13000000	(18,771)		0	6,480				0		6,480	0			0003
140209 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	47,417,246	4441.11000000	(1,771,979)		0	611,697				0		611,697	0			0003
140213 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	79,225,838	4466.32000000	(2,750,174)		0	949,375				0		949,375	0			0003

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140424	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	42,802,284	4.367	58000000	(1,882,805)		0	649,955			0		649,955	0			0003
140489	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	61,760,679	4.380	19000000	(2,621,232)		0	904,864			0		904,864	0			0003
140537	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	68,462,004	4.388	59000000	(2,835,814)		0	978,939			0		978,939	0			0003
140823	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	11/04/2022	11/04/2022	Expiry	12,346,880	4.409	60000000	(662,180)		0	372,855			0		372,855	0			0003
140863	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	73,066,643	4.323	47000000	(3,631,015)		0	1,253,446			0		1,253,446	0			0003
140895	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	45,204,432	4.346	58000000	(2,108,631)		0	727,911			0		727,911	0			0003
140909	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2021	05/06/2022	05/06/2022	Expiry	41,412,210	4.359	18000000	(1,865,448)		0	643,963			0		643,963	0			0003
141675	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPRO8K5P83	05/06/2021	05/06/2022	05/06/2022	Expiry	40,451,755	178	90312000	(1,641,939)		0	566,806			0		566,806	0			0003
141856	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	58,816,683	4.403	30000000	(2,488,555)		0	859,063			0		859,063	0			0003
141862	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Expiry	51,079,351	4.422	21000000	(2,014,053)		0	695,262			0		695,262	0			0003
142208	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/06/2021	05/06/2022	05/06/2022	Maturity	51,904,900	4.340	27000000	(1,180,800)		0	(832,949)		1,240,567	0		407,619	(1,240,567)			0003
142252	Call Options - S&P 500	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/06/2021	05/06/2022	05/06/2022	Expiry	99,109,841	4.285	65000000	(5,625,653)		0	1,942,006			0		1,942,006	0			0003
142576	Call Options - iShares U.S. Real Estate	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPRO8K5P83	05/06/2021	05/06/2022	05/06/2022	Expiry	23,679,421	102	72349500	(737,416)		0	254,560			0		254,560	0			0003
140208	Call Options - iShares MSCI EAFE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	731,397	83	56000000	(27,422)		0	10,518			0		10,518	0			0003
140352	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	59,986,200	4.410	75000000	(2,102,192)		0	806,320			0		806,320	0			0003
140355	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	42,542,784	4.431	54000000	(1,398,940)		0	536,580			0		536,580	0			0003
140362	Call Options - S&P 500	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/20/2022	05/20/2022	Expiry	58,194,814	4.340	04000000	(2,660,176)		0	1,020,341			0		1,020,341	0			0003
140423	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	65,778,912	4.327	56000000	(2,940,637)		0	1,127,916			0		1,127,916	0			0003
140535	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	47,007,216	4.352	52000000	(1,956,884)		0	750,586			0		750,586	0			0003
140715	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	51,531,544	4.367	08000000	(2,057,129)		0	789,036			0		789,036	0			0003
140720	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2021	05/20/2022	05/20/2022	Expiry	50,899,292	4.387	87000000	(1,910,786)		0	732,904			0		732,904	0			0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)	
140822	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	05/20/2021	11/18/2022	11/18/2022	Expiry	10,087,317	4385.79000000	(521,384)	0	306,927	0	0	0	0	306,927	0	0	0	0003	
140842	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	05/20/2021	05/20/2022	05/20/2022	Expiry	64,514,576	4244.38000000	(3,607,005)	0	1,383,509	0	0	0	0	1,383,509	0	0	0	0	0003
140861	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	05/20/2021	05/20/2022	05/20/2022	Expiry	52,640,679	4279.73000000	(2,682,420)	0	1,028,874	0	0	0	0	1,028,874	0	0	0	0	0003
140894	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	05/20/2021	05/20/2022	05/20/2022	Expiry	44,316,883	4302.61000000	(2,123,375)	0	814,445	0	0	0	0	814,445	0	0	0	0	0003
141674	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISPUBMPRO8K5P83	05/20/2021	05/20/2022	05/20/2022	Expiry	32,987,814	185.28588000	(1,403,439)	0	538,305	0	0	0	0	538,305	0	0	0	0	0003
141795	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMMJCFXT09	05/20/2021	05/20/2022	05/20/2022	Expiry	46,996,307	4315.09000000	(2,296,589)	0	880,883	0	0	0	0	880,883	0	0	0	0	0003
142207	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMMJCFXT09	05/20/2021	05/20/2022	05/20/2022	Maturity	43,781,518	4300.53000000	(1,041,611)	(967,359)	(567,837)	0	0	0	0	399,522	(967,359)	0	0	0	0003
142575	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	05/20/2021	05/20/2022	05/20/2022	Expiry	18,780,207	104.34000000	(602,666)	0	231,160	0	0	0	0	231,160	0	0	0	0	0003
142722	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	06/04/2021	06/06/2022	06/06/2022	Expiry	21,086,612	108.87000000	(617,266)	0	264,062	0	0	0	0	264,062	0	0	0	0	0003
143279	Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMMJCFXT09	06/04/2021	06/06/2022	06/06/2022	Expiry	611,902	85.27000000	(21,100)	0	9,026	0	0	0	0	9,026	0	0	0	0	0003
140918	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	06/04/2021	06/06/2022	06/06/2022	Expiry	38,485,884	186.37000000	(1,623,090)	0	694,346	0	0	0	0	694,346	0	0	0	0	0003
140920	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	97GPTS07KV3UJZ0078	06/04/2021	12/06/2022	12/06/2022	Expiry	11,177,484	4470.99000000	(528,725)	0	326,848	0	0	0	0	326,848	0	0	0	0	0003
141322	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	56,195,005	4352.56000000	(2,803,197)	0	1,199,188	0	0	0	0	1,199,188	0	0	0	0	0003
141323	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	56,626,171	4373.71000000	(2,667,564)	0	1,141,165	0	0	0	0	1,141,165	0	0	0	0	0003
141324	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	50,693,046	4388.51000000	(2,293,036)	0	980,944	0	0	0	0	980,944	0	0	0	0	0003
141325	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	50,861,668	4396.97000000	(2,246,819)	0	961,173	0	0	0	0	961,173	0	0	0	0	0003
141326	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	53,237,426	4407.55000000	(2,283,283)	0	976,772	0	0	0	0	976,772	0	0	0	0	0003
141327	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	56,914,713	4418.12000000	(2,368,677)	0	1,013,303	0	0	0	0	1,013,303	0	0	0	0	0003
141328	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	42,477,725	4426.58000000	(1,725,493)	0	738,154	0	0	0	0	738,154	0	0	0	0	0003
141329	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	54,418,369	4441.38000000	(2,118,170)	0	906,138	0	0	0	0	906,138	0	0	0	0	0003
141330	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	62,727,448	4454.07000000	(2,352,428)	0	1,006,352	0	0	0	0	1,006,352	0	0	0	0	0003
141331	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	06/04/2021	06/06/2022	06/06/2022	Expiry	47,316,883	4504.83000000	(1,519,916)	0	650,209	0	0	0	0	650,209	0	0	0	0	0003
141803	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMMJCFXT09	06/04/2021	06/06/2022	06/06/2022	Expiry	78,571,006	4483.68000000	(2,683,274)	0	1,147,886	0	0	0	0	1,147,886	0	0	0	0	0003
141806	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMMJCFXT09	06/04/2021	06/06/2022	06/06/2022	Expiry	79,591,885	4316.60000000	(4,344,212)	0	1,858,423	0	0	0	0	1,858,423	0	0	0	0	0003
142209	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMMJCFXT09	06/04/2021	06/06/2022	06/06/2022	Maturity	44,126,430	4371.59000000	(879,540)	(639,713)	(263,452)	0	0	0	0	376,261	(639,713)	0	0	0	0003
140299	Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	BFMBT610T2L10CEMIK50	06/18/2021	06/17/2022	06/17/2022	Expiry	22,325,086	107.44000000	(680,585)	0	314,121	0	0	0	0	314,121	0	0	0	0	0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
140385 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	764,332	81.9700000	(25,990)			0	11,995			0		11,995	0			0003
140928 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	31,975,072	173.4200000	(1,404,939)			0	648,434			0		648,434	0			0003
141082 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	12/20/2022	12/20/2022	Expiry	9,226,395	4393.5200000	(493,395)			0	317,567			0		317,567	0			0003
141084 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	31,448,365	4249.7800000	(1,766,676)			0	815,389			0		815,389	0			0003
141087 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	52,688,389	4324.7800000	(2,405,518)			0	1,110,239			0		1,110,239	0			0003
141092 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	51,941,114	4331.0200000	(2,329,002)			0	1,074,924			0		1,074,924	0			0003
141110 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	57,768,871	4343.5200000	(2,498,006)			0	1,152,926			0		1,152,926	0			0003
141112 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	54,402,171	4387.2700000	(2,060,880)			0	951,175			0		951,175	0			0003
141114 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/18/2021	06/17/2022	06/17/2022	Expiry	49,674,083	4435.1900000	(1,616,496)			0	746,075			0		746,075	0			0003
141263 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	72,149,171	4414.3500000	(2,465,806)			0	1,138,064			0		1,138,064	0			0003
141298 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/18/2021	06/17/2022	06/17/2022	Expiry	38,933,849	4312.2757500	(1,824,436)			0	842,048			0		842,048	0			0003
141818 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	54,012,058	4370.6100000	(2,100,755)			0	969,579			0		969,579	0			0003
141820 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	56,256,816	4356.0200000	(2,286,863)			0	1,055,475			0		1,055,475	0			0003
141821 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	52,874,607	4295.6100000	(2,564,239)			0	1,183,495			0		1,183,495	0			0003
141822 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	65,110,422	4253.9500000	(3,539,303)			0	1,633,525			0		1,633,525	0			0003
142210 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	44,595,807	4306.0300000	(991,162)			(580,479)	(117,219)			0		463,260	(580,479)			0003
140276 Call Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	JP MORGAN CHASE BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry	24,675,544	109.3600000	(737,687)			0	377,943			0		377,943	0			0003
141080 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JP MORGAN CHASE BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry	908,573	82.3300000	(31,315)			0	16,044			0		16,044	0			0003
141125 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Expiry	36,085,834	176.8600000	(1,464,961)			0	750,542			0		750,542	0			0003
141128 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Expiry	48,182,455	4545.5100000	(1,956,336)			0	1,002,287			0		1,002,287	0			0003
141132 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Expiry	55,105,840	4554.2000000	(2,186,349)			0	1,120,129			0		1,120,129	0			0003
141275 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry	32,640,203	4630.2100000	(953,792)			0	488,655			0		488,655	0			0003
141364 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	07/06/2021	07/06/2022	07/06/2022	Expiry	70,286,193	4510.7700000	(3,257,462)			0	1,668,892			0		1,668,892	0			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141366 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/06/2021	07/06/2022	07/06/2022	Expiry	55,623,847	4519.45000000	(2,518,977)			0	1,290,544			0		1,290,544	0			0003
141367 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/06/2021	07/06/2022	07/06/2022	Expiry	45,953,040	4525.97000000	(2,045,385)			0	1,047,915			0		1,047,915	0			0003
141368 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/06/2021	07/06/2022	07/06/2022	Expiry	59,111,645	4534.66000000	(2,570,564)			0	1,316,974			0		1,316,974	0			0003
141741 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	07/06/2021	07/06/2022	07/06/2022	Expiry	36,707,663	4430.41000000	(1,938,713)			0	993,258			0		993,258	0			0003
141742 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	07/06/2021	07/06/2022	07/06/2022	Expiry	48,115,580	4434.75000000	(2,510,457)			0	1,286,179			0		1,286,179	0			0003
141743 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	07/06/2021	07/06/2022	07/06/2022	Expiry	58,673,601	4480.36000000	(2,705,939)			0	1,386,330			0		1,386,330	0			0003
141744 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	07/06/2021	07/06/2022	07/06/2022	Expiry	45,990,007	4588.95000000	(1,539,729)			0	788,847			0		788,847	0			0003
141745 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	07/06/2021	07/06/2022	07/06/2022	Expiry	62,658,069	4612.84000000	(1,945,305)			0	996,636			0		996,636	0			0003
141828 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMMUCJFX09	07/06/2021	07/06/2022	07/06/2022	Expiry	51,144,121	4497.74000000	(2,242,340)			0	1,148,815			0		1,148,815	0			0003
142211 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/06/2021	07/06/2022	07/06/2022	Expiry	42,197,349	4493.39000000	(888,000)			0	454,948			0		454,948	0			0003
140255 Call Options - IShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF388653	07/20/2021	07/20/2022	07/20/2022	Expiry	19,961,783	112.17000000	(719,550)			0	396,245			0		396,245	0			0003
140395 Call Options - IShares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMMUCJFX09	07/20/2021	07/20/2022	07/20/2022	Expiry	835,917	80.71000000	(33,282)			0	18,334			0		18,334	0			0003
141108 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LPOW21HZNB86K528	07/20/2021	07/20/2022	07/20/2022	Expiry	34,084,871	177.94000000	(1,466,575)			0	807,621			0		807,621	0			0003
141520 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	53,581,121	4599.74000000	(1,801,816)			0	992,233			0		992,233	0			0003
141521 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	54,286,635	4565.15000000	(2,023,411)			0	1,114,262			0		1,114,262	0			0003
141522 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	52,788,526	4530.57000000	(2,172,983)			0	1,196,635			0		1,196,635	0			0003
141523 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	46,594,395	4515.44000000	(2,001,172)			0	1,102,015			0		1,102,015	0			0003
141524 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	59,934,929	4504.63000000	(2,652,207)			0	1,460,530			0		1,460,530	0			0003
141525 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	62,514,054	4493.82000000	(2,852,974)			0	1,571,090			0		1,571,090	0			0003
141526 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	55,600,499	4487.34000000	(2,582,370)			0	1,422,072			0		1,422,072	0			0003
141528 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	52,320,079	4474.37000000	(2,515,913)			0	1,385,476			0		1,385,476	0			0003
141529 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	62,145,626	4457.07000000	(3,128,378)			0	1,722,751			0		1,722,751	0			0003
141531 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	07/20/2021	07/20/2022	07/20/2022	Expiry	68,543,382	4411.68000000	(3,880,207)			0	2,136,772			0		2,136,772	0			0003
142212 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL . 02RNE81BX4R0TD8PU41	07/20/2021	07/20/2022	07/20/2022	Expiry	37,054,208	4474.37000000	(769,725)			0	423,876			0		423,876	0			0003
140277 Call Options - IShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6QLXDRUG0FU57RNE97	08/06/2021	08/05/2022	08/05/2022	Expiry	21,952,543	112.97000000	(676,263)			0	403,157			0		403,157	0			0003
141081 Call Options - IShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	892,706	83.64000000	(33,085)			0	19,724			0		19,724	0			0003
141168 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	40,599,210	172.87000000	(1,782,521)			0	1,062,657			0		1,062,657	0			0003
141172 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	59,309,839	4527.47000000	(3,041,296)			0	1,813,080			0		1,813,080	0			0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141175 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	45,789,346	4567.40000000	(2,107,310)		0	1,256,281			0		1,256,281	0			0003
141186 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	65,137,652	4580.71000000	(2,888,793)		0	1,722,165			0		1,722,165	0			0003
141189 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	54,434,757	4591.80000000	(2,338,830)		0	1,394,302			0		1,394,302	0			0003
141190 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	54,975,071	4602.89000000	(2,288,513)		0	1,364,306			0		1,364,306	0			0003
141335 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	74,019,204	4611.76000000	(3,003,453)		0	1,790,520			0		1,790,520	0			0003
141339 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	54,842,601	4620.64000000	(2,168,477)		0	1,292,746			0		1,292,746	0			0003
141345 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	58,387,709	4633.95000000	(2,219,238)		0	1,323,007			0		1,323,007	0			0003
141356 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	56,258,623	4649.47000000	(2,039,334)		0	1,215,757			0		1,215,757	0			0003
141360 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	58,617,521	4689.40000000	(1,878,250)		0	1,119,726			0		1,119,726	0			0003
141361 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/06/2021	08/05/2022	08/05/2022	Expiry	97	52,844,277	4718.24000000	(1,543,808)		0	920,347			0		920,347	0			0003
141752 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	08/06/2021	08/05/2022	08/05/2022	Expiry	4	42,461,841	4525.25000000	(2,319,606)		0	1,382,842			0		1,382,842	0			0003
142213 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC.	08/06/2021	08/05/2022	08/05/2022	Expiry	65	49,237,078	4589.58000000	(1,030,909)		0	614,580			0		614,580	0			0003
140289 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG	08/20/2021	08/19/2022	08/19/2022	Expiry	6	18,751,333	113.05000000	(621,199)		0	394,222			0		394,222	0			0003
140876 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/20/2021	08/19/2022	08/19/2022	Expiry	65	769,227	83.03000000	(35,848)		0	22,750			0		22,750	0			0003
141365 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/20/2021	08/19/2022	08/19/2022	Expiry	97	33,257,633	174.95000000	(1,378,197)		0	874,625			0		874,625	0			0003
141598 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	65	55,834,719	4588.25000000	(2,775,521)		0	1,761,388			0		1,761,388	0			0003
141601 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	65	57,812,901	4632.66000000	(2,555,297)		0	1,621,631			0		1,621,631	0			0003
141606 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	65	45,679,156	4650.43000000	(1,924,022)		0	1,221,014			0		1,221,014	0			0003
141773 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	4	80,511,280	4532.72000000	(4,589,182)		0	2,912,365			0		2,912,365	0			0003
141774 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	4	28,390,279	4570.48000000	(1,475,218)		0	936,196			0		936,196	0			0003
141775 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	4	39,224,410	4597.13000000	(1,901,303)		0	1,206,596			0		1,206,596	0			0003
141776 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	4	54,207,293	4610.45000000	(2,536,410)		0	1,609,645			0		1,609,645	0			0003
141777 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	08/20/2021	08/19/2022	08/19/2022	Expiry	4	54,648,487	4619.34000000	(2,499,580)		0	1,586,278			0		1,586,278	0			0003

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141779 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFF9FNF388653	08/20/2021	08/19/2022	08/19/2022	Expiry		56,435,740	4683.74000000	(2,160,506)		0	1,371,090			0		1,371,090	0			0003
141780 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFF9FNF388653	08/20/2021	08/19/2022	08/19/2022	Expiry		57,040,422	4721.50000000	(1,962,287)		0	1,245,297			0		1,245,297	0			0003
142214 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Expiry		40,906,569	4592.68678000	(872,331)		0	553,594			0		553,594	0			0003
140290 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG . BFM8T61CT2L10CEMIK50	09/03/2021	09/06/2022	09/06/2022	Expiry		22,470,142	117.61239000	(709,970)		0	480,387			0		480,387	0			0003
141395 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		39,749,192	179.96000000	(1,647,794)		0	1,114,948			0		1,114,948	0			0003
141398 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		768,703	85.52000000	(24,450)		0	16,543			0		16,543	0			0003
141412 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		36,546,495	4626.13860000	(1,954,855)		0	1,322,714			0		1,322,714	0			0003
141413 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		47,985,637	4630.67000000	(2,537,895)		0	1,717,217			0		1,717,217	0			0003
141414 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		45,183,475	4666.96000000	(2,176,223)		0	1,472,499			0		1,472,499	0			0003
141415 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		63,271,007	4691.90000000	(2,851,974)		0	1,929,733			0		1,929,733	0			0003
141416 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		50,223,070	4705.51000000	(2,181,282)		0	1,475,929			0		1,475,929	0			0003
141417 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		51,792,956	4714.58000000	(2,193,734)		0	1,484,347			0		1,484,347	0			0003
141418 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		54,303,450	4728.19000000	(2,214,318)		0	1,498,275			0		1,498,275	0			0003
141419 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		64,444,640	4739.52000000	(2,544,459)		0	1,721,658			0		1,721,658	0			0003
141420 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		61,879,139	4759.93000000	(2,303,600)		0	1,558,686			0		1,558,686	0			0003
141421 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		53,682,235	4793.95000000	(1,807,904)		0	1,223,283			0		1,223,283	0			0003
141422 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry		62,704,587	4823.43000000	(1,928,550)		0	1,304,916			0		1,304,916	0			0003
142215 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	09/03/2021	09/06/2022	09/06/2022	Expiry		44,004,006	4691.90233500	(854,558)		0	578,220			0		578,220	0			0003
141586 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry		867,302	82.60495500	(30,028)		0	21,637			0		21,637	0			0003

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141588 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	72,931,841	4447.06346500	(4,698,272)		0	3,385,330				0		3,385,330	0			0003
141589 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	45,813,913	4484.10417000	(2,710,559)		0	1,953,088				0		1,953,088	0			0003
141590 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	51,605,315	4505.89282000	(2,899,174)		0	2,088,994				0		2,088,994	0			0003
141591 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	52,340,390	4521.14487500	(2,832,727)		0	2,041,116				0		2,041,116	0			0003
141592 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	53,014,254	4532.03920000	(2,792,933)		0	2,012,442				0		2,012,442	0			0003
141593 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	57,822,556	4545.11239000	(2,947,669)		0	2,123,937				0		2,123,937	0			0003
141594 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	49,251,936	4560.36444500	(2,414,880)		0	1,740,037				0		1,740,037	0			0003
141595 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	61,663,623	4601.76288000	(2,710,686)		0	1,953,179				0		1,953,179	0			0003
141596 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	57,003,684	4634.44585500	(2,290,383)		0	1,650,331				0		1,650,331	0			0003
142229 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2021	09/20/2022	09/20/2022	Expiry	41,961,987	4503.71395500	(1,238,356)		0	892,295				0		892,295	0			0003
142901 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2021	09/20/2022	09/20/2022	Expiry	32,300,367	173.10000000	(1,394,115)		0	1,004,527				0		1,004,527	0			0003
142903 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2021	09/20/2022	09/20/2022	Expiry	18,276,938	112.07265000	(704,745)		0	507,803				0		507,803	0			0003
141626 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	37,386,888	4450.82100000	(2,519,244)		0	1,925,669				0		1,925,669	0			0003
141628 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	54,043,383	4455.18455000	(3,607,841)		0	2,757,775				0		2,757,775	0			0003
141630 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	50,777,776	4533.72845000	(2,846,816)		0	2,176,059				0		2,176,059	0			0003
141631 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	64,487,366	4546.81910000	(3,506,585)		0	2,680,384				0		2,680,384	0			0003
141633 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	54,949,998	4557.72797500	(2,912,474)		0	2,226,247				0		2,226,247	0			0003
141635 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	56,757,735	4614.45412500	(2,623,959)		0	2,005,711				0		2,005,711	0			0003
142237 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2021	10/06/2022	10/06/2022	Expiry	47,879,782	4507.55000000	(1,242,186)		0	949,507				0		949,507	0			0003
142931 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	10/06/2021	10/06/2022	10/06/2022	Expiry	23,739,077	109.93000000	(799,242)		0	610,927				0		610,927	0			0003

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
142833 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB66K528	10/06/2021	10/06/2022	10/06/2022	Expiry	59,278,978	4640.63542500	2,313,188		0	1,768,163				0	1,768,163	0				0003
142835 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB66K528	10/06/2021	10/06/2022	10/06/2022	Expiry	38,313,798	173.28000000	1,613,937		0	1,233,667				0	1,233,667	0				0003
142837 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6QLXDRUGU5U7RNE97	10/06/2021	10/06/2022	10/06/2022	Expiry	908,040	80.41000000	38,366		0	29,326				0	29,326	0				0003
142839 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B6653	10/06/2021	10/06/2022	10/06/2022	Expiry	54,202,134	4579.55000000	2,470,620		0	1,888,502				0	1,888,502	0				0003
142846 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	10/06/2021	10/06/2022	10/06/2022	Expiry	55,175,497	4492.27000000	3,167,437		0	2,421,137				0	2,421,137	0				0003
142850 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	10/06/2021	10/06/2022	10/06/2022	Expiry	50,498,624	4509.73000000	2,780,233		0	2,125,165				0	2,125,165	0				0003
142854 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	10/06/2021	10/06/2022	10/06/2022	Expiry	81,147,710	4527.18312500	4,286,166		0	3,276,275				0	3,276,275	0				0003
141917 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	56,958,699	4726.70998000	2,395,377		0	1,922,864				0	1,922,864	0				0003
141918 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	62,471,057	4745.30835900	2,496,178		0	2,003,781				0	2,003,781	0				0003
141919 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	67,012,260	4786.58768800	2,373,840		0	1,905,576				0	1,905,576	0				0003
141920 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	61,262,006	4823.78444600	1,938,528		0	1,556,133				0	1,556,133	0				0003
142247 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BX4P40TD8P41	10/20/2021	10/20/2022	10/20/2022	Expiry	36,917,641	4681.35000000	829,934		0	666,221				0	666,221	0				0003
142652 Call Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB66K528	10/20/2021	10/20/2022	10/20/2022	Expiry	18,713,268	115.29000000	599,959		0	481,611				0	481,611	0				0003
142653 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB66K528	10/20/2021	10/20/2022	10/20/2022	Expiry	30,563,038	175.46000000	1,268,121		0	1,017,971				0	1,017,971	0				0003
142669 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B6653	10/20/2021	10/20/2022	10/20/2022	Expiry	57,733,231	4711.28693400	2,626,039		0	2,108,026				0	2,108,026	0				0003
142670 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B6653	10/20/2021	10/20/2022	10/20/2022	Expiry	60,848,037	4695.86000000	2,882,615		0	2,313,990				0	2,313,990	0				0003
142672 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B6653	10/20/2021	10/20/2022	10/20/2022	Expiry	45,384,496	4672.28000000	2,284,272		0	1,833,676				0	1,833,676	0				0003
142673 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B6653	10/20/2021	10/20/2022	10/20/2022	Expiry	55,932,932	4638.25000000	3,065,585		0	2,460,875				0	2,460,875	0				0003
142674 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC. 4PQUHNSJFFGFNF38B6653	10/20/2021	10/20/2022	10/20/2022	Expiry	39,613,264	4626.00652000	2,235,149		0	1,794,243				0	1,794,243	0				0003
142685 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	10/20/2021	10/20/2022	10/20/2022	Expiry	602,958	84.03000000	19,615		0	15,746				0	15,746	0				0003
143633 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	34,787,087	178.51882400	1,463,437		0	1,238,293				0	1,238,293	0				0003
143674 Call Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIIP21HZNB66K528	11/05/2021	11/04/2022	11/04/2022	Expiry	24,495,856	116.41344000	809,570		0	685,021				0	685,021	0				0003
143676 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	920,213	85.16048100	30,152		0	25,513				0	25,513	0				0003
143688 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	61,804,040	4791.01084700	3,420,177		0	2,893,996				0	2,893,996	0				0003
143690 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	68,868,834	4803.69417800	3,697,993		0	3,129,071				0	3,129,071	0				0003

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
143692 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	67,690,966	4838.45590000	(3,340,580)		0	2,826,645			0		2,826,645	0			0003
143694 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	50,368,670	4857.24602000	(2,371,366)		0	2,006,540			0		2,006,540	0			0003
143696 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	57,498,425	4872.74786900	(2,601,428)		0	2,201,208			0		2,201,208	0			0003
143698 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	55,800,670	4884.96144700	(2,445,768)		0	2,069,496			0		2,069,496	0			0003
143700 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	55,940,451	4896.70527200	(2,377,926)		0	2,012,092			0		2,012,092	0			0003
143702 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	72,826,919	4911.73736800	(2,974,024)		0	2,516,482			0		2,516,482	0			0003
143704 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	73,291,615	4952.13612600	(2,679,382)		0	2,267,178			0		2,267,178	0			0003
143706 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	49,314,482	4981.26081200	(1,658,844)		0	1,403,637			0		1,403,637	0			0003
143708 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	64,976,235	4998.17192000	(2,080,520)		0	1,760,440			0		1,760,440	0			0003
143740 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	KB1H1DSRPFMIMUCJFX09	11/05/2021	11/04/2022	11/04/2022	Expiry	53,513,866	4850.19972500	(1,129,881)		0	956,053			0		956,053	0			0003
143643 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	34,717,716	181.34406600	(1,474,139)		0	1,304,046			0		1,304,046	0			0003
143712 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	54,471,507	4883.05962400	(2,625,599)		0	2,322,646			0		2,322,646	0			0003
143714 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	78,131,591	4901.85146400	(3,596,521)		0	3,181,538			0		3,181,538	0			0003
143716 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	52,959,790	4910.77758800	(2,384,323)		0	2,109,209			0		2,109,209	0			0003
143718 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	57,444,775	4937.08616400	(2,419,922)		0	2,140,700			0		2,140,700	0			0003
143720 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	62,663,082	4973.26045600	(2,402,684)		0	2,125,460			0		2,125,460	0			0003
143722 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	54,979,756	4998.15964400	(1,973,070)		0	1,745,408			0		1,745,408	0			0003
143783 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0IP21HZNB6K528	11/19/2021	11/18/2022	11/18/2022	Expiry	19,158,630	115.90142400	(677,490)		0	599,318			0		599,318	0			0003
143796 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUG5FU7PNE97	11/19/2021	11/18/2022	11/18/2022	Expiry	893,154	83.93198000	(31,803)		0	28,134			0		28,134	0			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
143816 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/19/2021	11/18/2022	11/18/2022	Expiry	45,911,439	4791.45000000	(2,826,532)			0	2,500,394			0		2,500,394	0			0003
143824 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/19/2021	11/18/2022	11/18/2022	Expiry	54,701,274	4798.03000000	(3,320,217)			0	2,937,115			0		2,937,115	0			0003
143833 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/19/2021	11/18/2022	11/18/2022	Expiry	39,215,792	4834.67000000	(2,196,485)			0	1,943,045			0		1,943,045	0			0003
143838 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/19/2021	11/18/2022	11/18/2022	Expiry	65,275,914	4850.17000000	(3,530,614)			0	3,123,235			0		3,123,235	0			0003
143908 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	11/19/2021	11/18/2022	11/18/2022	Expiry	41,418,383	4847.82492400	(914,343)			0	808,842			0		808,842	0			0003
144154 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO	12/06/2021	12/06/2022	12/06/2022	Expiry	34,704,382	174.78033000	(1,526,926)		(3,070)		1,419,272			0		1,422,342	(3,070)			0003
144161 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO	12/06/2021	12/06/2022	12/06/2022	Expiry	43,530,960	4680.74839800	(3,112,617)		(326)		2,899,098			0		2,899,424	(326)			0003
144164 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO	12/06/2021	12/06/2022	12/06/2022	Expiry	58,669,545	4695.44174200	(4,075,744)		(432)		3,796,152			0		3,796,584	(432)			0003
144166 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	THROUGH CBO	12/06/2021	12/06/2022	12/06/2022	Expiry	49,810,653	4730.33843400	(3,226,404)		(352)		3,005,066			0		3,005,418	(352)			0003
144188 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC .	12/06/2021	12/06/2022	12/06/2022	Expiry	58,735,295	4884.62000000	(2,750,698)			0	2,562,294			0		2,562,294	0			0003
144196 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . ROYAL BANK OF CANADA	12/06/2021	12/06/2022	12/06/2022	Expiry	52,457,155	4859.82000000	(2,598,572)			0	2,420,588			0		2,420,588	0			0003
144209 Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	ES71P3U3RH1G671XBU11	12/06/2021	12/06/2022	12/06/2022	Expiry	877,833	81.03634000	(37,236)			0	34,686			0		34,686	0			0003
144212 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC .	12/06/2021	12/06/2022	12/06/2022	Expiry	53,239,232	4833.19000000	(2,797,513)			0	2,605,902			0		2,605,902	0			0003
144221 Call Options - IShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	12/06/2021	12/06/2022	12/06/2022	Expiry	19,425,523	116.05000000	(835,942)			0	778,686			0		778,686	0			0003
144224 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC .	12/06/2021	12/06/2022	12/06/2022	Expiry	49,315,115	4807.01930000	(2,742,974)			0	2,555,099			0		2,555,099	0			0003
144228 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC .	12/06/2021	12/06/2022	12/06/2022	Expiry	83,982,634	4791.87000000	(4,824,415)			0	4,493,975			0		4,493,975	0			0003
144230 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC .	12/06/2021	12/06/2022	12/06/2022	Expiry	46,167,762	4776.71430100	(2,738,645)			0	2,551,067			0		2,551,067	0			0003
144232 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC .	12/06/2021	12/06/2022	12/06/2022	Expiry	56,534,190	4752.84000000	(3,523,351)			0	3,282,026			0		3,282,026	0			0003
144244 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	12/06/2021	12/06/2022	12/06/2022	Expiry	35,486,803	4732.63426900	(1,122,412)			0	1,045,534			0		1,045,534	0			0003
144668 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	12/20/2021	12/20/2022	12/20/2022	Expiry	30,882,659	175.52804500	(1,381,140)			0	1,339,517			0		1,339,517	0			0003
144672 Call Options - IShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	12/20/2021	12/20/2022	12/20/2022	Expiry	18,770,648	116.53101600	(749,015)			0	726,442			0		726,442	0			0003
144675 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	12/20/2021	12/20/2022	12/20/2022	Expiry	953,968	79.97513600	(40,175)			0	38,964			0		38,964	0			0003
144684 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	12/20/2021	12/20/2022	12/20/2022	Expiry	58,674,326	4716.48065000	(3,637,756)			0	3,528,125			0		3,528,125	0			0003
144685 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	12/20/2021	12/20/2022	12/20/2022	Expiry	57,738,418	4754.39521600	(3,295,999)			0	3,196,667			0		3,196,667	0			0003
144686 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	12/20/2021	12/20/2022	12/20/2022	Expiry	51,331,356	4766.72887000	(2,853,801)			0	2,767,796			0		2,767,796	0			0003
144709 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	12/20/2021	12/20/2022	12/20/2022	Expiry	76,413,839	4659.38040000	(5,270,304)			0	5,111,473			0		5,111,473	0			0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25												
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)												
144712	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K13UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	48,660,091	4700.94938200	(3,081,528)	0	0	2,988,660	0	0	0	0	2,988,660	0	0	0	0003												
144715	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K13UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	50,270,695	4742.51836400	(2,911,608)	0	0	2,823,861	0	0	0	0	2,823,861	0	0	0	0003												
144717	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02RNE81BX4P4ROTDBPU41	12/20/2021	12/20/2022	12/20/2022	Expiry	36,041,093	4708.25821400	0	0	0	0	0	0	0	0	0	0	0	0	0003												
144718	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K13UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	48,735,976	4784.08734600	(2,571,020)	0	0	2,493,538	0	0	0	0	2,493,538	0	0	0	0003												
144720	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K13UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	49,044,638	4808.29785200	(2,445,756)	0	0	2,372,048	0	0	0	0	2,372,048	0	0	0	0003												
144724	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K13UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	50,272,339	4833.87876400	(2,359,240)	0	0	2,288,140	0	0	0	0	2,288,140	0	0	0	0003												
144726	Call Options - S&P 500	LIABILITY HEDGE	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPT507K13UJZ0078	12/20/2021	12/20/2022	12/20/2022	Expiry	56,364,433	4859.00287400	(2,487,272)	0	0	2,412,313	0	0	0	0	2,412,313	0	0	0	0003												
0649999999. Subtotal - Written Options - Hedging Other - Call Options and Warrants																						(786,397,299)	0	(540,626,096)	(165,564,734)	0	XXX	0	0	375,061,362	(540,626,096)	0	0	XXX		
0709999999. Subtotal - Written Options - Hedging Other																						(786,397,299)	0	(540,626,096)	(165,564,734)	0	XXX	0	0	375,061,362	(540,626,096)	0	0	XXX		
0779999999. Subtotal - Written Options - Replications																						0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	
0849999999. Subtotal - Written Options - Income Generation																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0919999999. Subtotal - Written Options - Other																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0929999999. Total Written Options - Call Options and Warrants																						(786,397,299)	0	(540,626,096)	(165,564,734)	0	XXX	0	0	375,061,362	(540,626,096)	0	0	0	XXX	
0939999999. Total Written Options - Put Options																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0949999999. Total Written Options - Caps																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0959999999. Total Written Options - Floors																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0969999999. Total Written Options - Collars																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0979999999. Total Written Options - Other																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0989999999. Total Written Options																						(786,397,299)	0	(540,626,096)	(165,564,734)	0	XXX	0	0	375,061,362	(540,626,096)	0	0	0	XXX	
1049999999. Subtotal - Swaps - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1109999999. Subtotal - Swaps - Hedging Effective Variable Annuity Guarantees Under SSAP No.108																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1169999999. Subtotal - Swaps - Hedging Other																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1229999999. Subtotal - Swaps - Replication																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1289999999. Subtotal - Swaps - Income Generation																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1349999999. Subtotal - Swaps - Other																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1359999999. Total Swaps - Interest Rate																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1369999999. Total Swaps - Credit Default																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1379999999. Total Swaps - Foreign Exchange																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1389999999. Total Swaps - Total Return																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1399999999. Total Swaps - Other																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
1409999999. Total Swaps																						0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
REC 2000000.00 GBP PAY [2474820.00] USD /152057	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	ES71P3U3RH16C71XB11	06/16/2022	06/17/2022	06/17/2022	Expiry	2,474,820	1.23741000	0	0	0	(37,020)	0	0	0	0	0	0	0	0	0	0002											
REC 2475800.00 USD PAY [2000000.00] GBP /152058	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	ES71P3U3RH16C71XB11	06/16/2022	07/15/2022	07/15/2022	Expiry	2,475,800	1.23790000	0	0	0	104,800	0	0	0	0	0	0	104,800	0	0	0002											
REC 2000000.00 GBP PAY [2372560.00] USD /154028	Asset Hedge	Schedule D	Currency	BARCLAYS BANK PLC	G56SEF7VJP5170UK5573	07/13/2022	07/15/2022	07/15/2022	Expiry	2,372,560	1.18628000	0	0	0	(1,560)	0	0	0	0	0	0	(1,560)	0	0	0002											
REC 2398980.04 USD PAY [2018000.00] GBP /154029	Asset Hedge	Schedule D	Currency	BARCLAYS BANK PLC	G56SEF7VJP5170UK5573	07/13/2022	10/13/2022	10/13/2022	Expiry	2,398,980	1.18879090	0	0	0	115,209	0	0	0	0	0	0	115,209	0	0	0002											
REC 201000.00 EUR PAY [203716.17] USD /154719	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	I7331LYCZKQKX517XV54	07/26/2022	07/27/2022	07/27/2022	Expiry	203,716	1.01351328	0	0	0	1,264	0	0	0	0	0	0	1,264	0	0	0002											
REC 1234000.00 GBP PAY [1483979.85] USD /154725	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	B4TYDEB6GQMZ0031MB27	07/26/2022	07/27/2022	07/27/2022	Expiry	1,483,980	1.20257670	0	0	0	14,837	0	0	0	0	0	0	14,837	0	0	0002											

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
REC 204966.25 USD PAY [201000.00] EUR /154728	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES ... 17331LVCZKQKXST7XV54	07/26/2022	10/19/2022	10/19/2022	Expiry	204,966	1.01973259		0	8,529					0			8,529			0002
REC 5554068.20 USD PAY [5448000.00] EUR /154730	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES ... 17331LVCZKQKXST7XV54	07/26/2022	10/20/2022	10/20/2022	Expiry	5,554,068	1.01946920		0	223,745					0			223,745			0002
REC 5448000.00 EUR PAY [5519767.59] USD /154731	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES ... 17331LVCZKQKXST7XV54	07/26/2022	07/27/2022	07/27/2022	Expiry	5,519,768	1.01317320		0	36,103					0			36,103			0002
REC 1486842.65 USD PAY [1234000.00] GBP /154732	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A. B4TYDEB6GQZ0031MB27	07/26/2022	10/13/2022	10/13/2022	Expiry	1,486,843	1.20489680		0	90,325					0			90,325			0002
REC 183000.00 GBP PAY [220644.58] USD /154740	Asset Hedge	Schedule D	Currency	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	07/27/2022	07/28/2022	07/28/2022	Expiry	220,645	1.20570809		0	2,140					0			2,140			0002
REC 221068.68 USD PAY [183000.00] GBP /154756	Asset Hedge	Schedule D	Currency	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	07/27/2022	10/13/2022	10/13/2022	Expiry	221,069	1.20802557		0	13,968					0			13,968			0002
REC 3468890.45 USD PAY [3404000.00] EUR /154758	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	07/27/2022	10/20/2022	10/20/2022	Expiry	3,468,890	1.01906300		0	138,417					0			138,417			0002
REC 3404000.00 EUR PAY [3447744.80] USD /154761	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	07/27/2022	07/28/2022	07/28/2022	Expiry	3,447,745	1.01285100		0	21,952					0			21,952			0002
REC 102991.06 USD PAY [101000.00] EUR /154778	Asset Hedge	Schedule D	Currency	BNP PARIBAS LONDON ROMJUISFPUBMROK5P83	07/28/2022	10/20/2022	10/20/2022	Expiry	102,991	1.01971347		0	4,173					0			4,173			0002
REC 101000.00 EUR PAY [102376.77] USD /154781	Asset Hedge	Schedule D	Currency	BNP PARIBAS LONDON ROMJUISFPUBMROK5P83	07/28/2022	07/28/2022	07/28/2022	Expiry	102,377	1.01363139		0	573					0			573			0002
REC 200000.00 GBP PAY [241471.92] USD /154812	Asset Hedge	Schedule D	Currency	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	07/29/2022	08/01/2022	08/01/2022	Expiry	241,472	1.20735960		0	3,348					0			3,348			0002
REC 403000.00 EUR PAY [408444.78] USD /154815	Asset Hedge	Schedule D	Currency	BARCLAYS BANK PLC ... G5GSEF7VJP5170UK5573	07/29/2022	07/29/2022	07/29/2022	Expiry	409,445	1.01599201		0	1,494					0			1,494			0002
REC 411857.38 USD PAY [403000.00] EUR /154816	Asset Hedge	Schedule D	Currency	BARCLAYS BANK PLC ... G5GSEF7VJP5170UK5573	07/29/2022	10/20/2022	10/20/2022	Expiry	411,857	1.02197861		0	17,562					0			17,562			0002
REC 244306.48 USD PAY [202000.00] GBP /154819	Asset Hedge	Schedule D	Currency	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	07/29/2022	10/13/2022	10/13/2022	Expiry	244,306	1.20943802		0	15,703					0			15,703			0002
REC 900000.00 EUR PAY [914123.70] USD /155412	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	08/17/2022	08/18/2022	08/18/2022	Expiry	914,124	1.01569300		0	(6,294)					0			(6,294)			0002
REC 925335.91 USD PAY [907000.00] EUR /155434	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	08/17/2022	10/20/2022	10/20/2022	Expiry	925,336	1.02021600		0	37,927					0			37,927			0002
REC 476604.16 USD PAY [403000.00] GBP /155661	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES ... 17331LVCZKQKXST7XV54	08/19/2022	10/13/2022	10/13/2022	Expiry	476,604	1.18264060		0	20,529					0			20,529			0002
REC 400000.00 GBP PAY [472579.88] USD /155663	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES ... 17331LVCZKQKXST7XV54	08/19/2022	08/22/2022	08/22/2022	Expiry	472,580	1.18144970		0	(2,100)					0			(2,100)			0002
REC 5000000.00 GBP PAY [5693703.00] USD /156886	Asset Hedge	Schedule D	Currency	WELLS FARGO BANK, N.A. KB1H1DSPPRMMJCUFX09	09/16/2022	09/20/2022	09/20/2022	Expiry	5,693,703	1.13874060		0	(6,703)					0			(6,703)			0002
REC 5696929.20 USD PAY [5000000.00] GBP /156887	Asset Hedge	Schedule D	Currency	WELLS FARGO BANK, N.A. KB1H1DSPPRMMJCUFX09	09/16/2022	10/13/2022	10/13/2022	Expiry	5,696,928	1.13938560		0	38,428					0			38,428			0002
REC 200000.00 EUR PAY [196400.00] USD /157645	Asset Hedge	Schedule BA	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/03/2022	12/20/2022	12/20/2022	Expiry	196,400	98200000		0	16,000					0			16,000			0002
REC 750000.00 GBP PAY [848599.75] USD /157654	Asset Hedge	Schedule BA	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/03/2022	12/20/2022	12/20/2022	Expiry	848,599	1.13146500		0	64,376					0			64,376			0002
REC 150000.00 GBP PAY [169119.45] USD /157771	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	10/05/2022	10/06/2022	10/06/2022	Expiry	169,119	1.12746300		0	(1,899)					0			(1,899)			0002
REC 150000.00 GBP PAY [168347.85] USD /157832	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	10/06/2022	10/07/2022	10/07/2022	Expiry	168,348	1.12231900		0	(1,878)					0			(1,878)			0002
REC 75000.00 GBP PAY [83966.25] USD /157918	Asset Hedge	Schedule BA	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/06/2022	12/20/2022	12/20/2022	Expiry	83,966	1.11955000		0	7,331					0			7,331			0002
REC 100000.00 EUR PAY [98095.00] USD /157942	Asset Hedge	Schedule BA	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/07/2022	12/20/2022	12/20/2022	Expiry	98,095	98095000		0	8,105					0			8,105			0002
REC 75000.00 GBP PAY [83463.00] USD /157943	Asset Hedge	Schedule BA	Currency	GOLDMAN SACHS INTERNATIONAL W2LROIP21HZNBB6K528	10/07/2022	12/20/2022	12/20/2022	Expiry	83,463	1.11284000		0	7,835					0			7,835			0002
REC 200000.00 EUR PAY [195070.60] USD /158168	Asset Hedge	Schedule BA	Currency	GOLDMAN SACHS INTERNATIONAL W2LROIP21HZNBB6K528	10/10/2022	12/20/2022	12/20/2022	Expiry	195,071	97535300		0	17,329					0			17,329			0002
REC 972522.40 USD PAY [1000000.00] EUR /158169	Asset Hedge	Schedule D	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/10/2022	11/14/2022	11/14/2022	Expiry	972,522	97252240		0	(60,178)					0			(60,178)			0002
REC 1000000.00 EUR PAY [970214.50] USD /158170	Asset Hedge	Schedule D	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/10/2022	10/11/2022	10/11/2022	Expiry	970,215	97021450		0	86					0			86			0002
REC 90000.00 GBP PAY [99477.90] USD /158183	Asset Hedge	Schedule D	Currency	CITIBANK N.A. ES70DZIZ7FF32WIEFA76	10/10/2022	12/20/2022	12/20/2022	Expiry	99,478	1.10531000		0	10,079					0			10,079			0002

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SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
REC 925000.00 EUR PAY [897481.44] USD /158191	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	10/11/2022	10/11/2022	10/11/2022	Expiry	897,481	97025021			0	46				0			46			0002
REC 899354.01 USD PAY [925000.00] EUR /158193	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	10/11/2022	11/10/2022	11/10/2022	Expiry	899,354	97227461			0	(44,146)				0			(44,146)			0002
REC 100000.00 EUR PAY [97480.00] USD /158205	Asset Hedge	Schedule BA	Currency	CITIBANK N.A.	10/11/2022	12/20/2022	12/20/2022	Expiry	97,480	97480000			0	8,720				0			8,720			0002
REC 4000000.00 GBP PAY [4427440.00] USD /158214	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	10/11/2022	10/13/2022	10/13/2022	Expiry	4,427,440	1.10686000			0	99,360				0			99,360			0002
REC 100000.00 EUR PAY [97888.50] USD /158273	Asset Hedge	Schedule BA	Currency	GOLDMAN SACHS INTERNATIONAL	10/11/2022	12/20/2022	12/20/2022	Expiry	97,889	97688500			0	8,512				0			8,512			0002
REC 100000.00 EUR PAY [97741.84] USD /158274	Asset Hedge	Schedule BA	Currency	CITIBANK N.A.	10/11/2022	12/20/2022	12/20/2022	Expiry	97,742	97741840			0	8,458				0			8,458			0002
REC 200000.00 EUR PAY [194080.00] USD /158380	Asset Hedge	Schedule BA	Currency	JPMORGAN CHASE BANK, N.A.	10/13/2022	12/20/2022	12/20/2022	Expiry	194,080	97040000			0	18,320				0			18,320			0002
REC 5000000.00 GBP PAY [5590729.50] USD /158399	Asset Hedge	Schedule D	Currency	BNP PARIBAS LONDON	10/14/2022	10/17/2022	10/17/2022	Expiry	5,590,730	1.11814590			0	85,771				0			85,771			0002
REC 5655158.94 USD PAY [5053000.00] GBP /158400	Asset Hedge	Schedule D	Currency	BNP PARIBAS LONDON	10/14/2022	12/01/2022	12/01/2022	Expiry	5,655,159	1.11916860			0	(537,798)				0			(537,798)			0002
REC 3000000.00 EUR PAY [2918204.70] USD /158402	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	10/14/2022	10/17/2022	10/17/2022	Expiry	2,918,205	97273490			0	34,395				0			34,395			0002
REC 2921595.60 USD PAY [3000000.00] EUR /158403	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	10/14/2022	11/03/2022	11/03/2022	Expiry	2,921,596	97386520			0	(2,204)				0			(2,204)			0002
REC 201000.00 EUR PAY [196766.94] USD /158412	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	10/17/2022	10/19/2022	10/19/2022	Expiry	196,767	97894000			0	(330)				0			(330)			0002
REC 10464000.00 EUR PAY [10287263.04] USD /158442	Asset Hedge	Schedule D	Currency	WELLS FARGO BANK, N.A.	10/18/2022	10/20/2022	10/20/2022	Expiry	10,287,263	98311000			0	(49,285)				0			(49,285)			0002
REC 5000000.00 GBP PAY [5780500.00] USD /159144	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	10/28/2022	11/01/2022	11/01/2022	Expiry	5,780,500	1.15610000			0	(39,500)				0			(39,500)			0002
REC 3940000.00 EUR PAY [3894690.00] USD /159329	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	11/01/2022	11/03/2022	11/03/2022	Expiry	3,894,690	98850000			0	(54,766)				0			(54,766)			0002
REC 925000.00 EUR PAY [925989.75] USD /159962	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	11/08/2022	11/10/2022	11/10/2022	Expiry	925,990	1.00107000			0	17,510				0			17,510			0002
REC 1000000.00 EUR PAY [1003230.00] USD /160137	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	11/09/2022	11/14/2022	11/14/2022	Expiry	1,003,230	1.00323000			0	29,470				0			29,470			0002
REC 357921.00 USD PAY [300000.00] GBP /160357	Asset Hedge	Schedule BA	Currency	CITIBANK N.A.	11/15/2022	12/20/2022	12/20/2022	Expiry	357,921	1.19307000			0	(7,269)				0			(7,269)			0002
REC 354219.00 USD PAY [300000.00] GBP /160647	Asset Hedge	Schedule BA	Currency	CITIBANK N.A.	11/17/2022	12/20/2022	12/20/2022	Expiry	354,219	1.18073000			0	(10,971)				0			(10,971)			0002
REC 5053000.00 GBP PAY [6101960.86] USD /161254	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	11/23/2022	12/01/2022	12/01/2022	Expiry	6,101,961	1.20759170			0	90,996				0			90,996			0002
REC 6250000.00 EUR PAY [6476912.50] USD /161343	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	11/23/2022	11/28/2022	11/28/2022	Expiry	6,476,913	1.03630600			0	(15,038)				0			(15,038)			0002
REC 6481290.00 USD PAY [6250000.00] EUR /161344	Asset Hedge	Schedule D	Currency	MORGAN STANLEY CAPITAL SERVICES	11/23/2022	12/08/2022	12/08/2022	Expiry	6,481,290	1.03700640			0	(113,710)				0			(113,710)			0002
REC 15000000.00 EUR PAY [15540900.00] USD /161414	Asset Hedge	Schedule D	Currency	ROYAL BANK OF CANADA	11/29/2022	11/30/2022	11/30/2022	Expiry	15,540,900	1.03606000			0	63,600				0			63,600			0002
REC 10000000.00 EUR PAY [10364523.00] USD /161430	Asset Hedge	Schedule D	Currency	BANK OF AMERICA, N.A.	11/30/2022	12/01/2022	12/01/2022	Expiry	10,364,523	1.03645230			0	156,477				0			156,477			0002
REC 6541875.00 USD PAY [6250000.00] EUR /161707	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	12/06/2022	12/08/2022	12/08/2022	Expiry	6,541,875	1.04670000			0	(53,125)				0			(53,125)			0002
REC 6250000.00 EUR PAY [6541875.00] USD /161708	ASSET HEDGE	Schedule D	Currency	WELLS FARGO BANK, N.A.	12/06/2022	12/08/2022	12/08/2022	Expiry	6,541,875	1.04670000			0	53,125				0			53,125			0002
REC 1062784.50 USD PAY [1000000.00] EUR /162231	Asset Hedge	Schedule BA	Currency	WELLS FARGO BANK, N.A.	12/13/2022	12/20/2022	12/20/2022	Expiry	1,062,785	1.06278450			0	785				0			785			0002
REC 482655.89 USD PAY [390000.00] GBP /162250	Asset Hedge	Schedule BA	Currency	BANK OF AMERICA, N.A.	12/13/2022	12/20/2022	12/20/2022	Expiry	482,656	1.23757921			0	7,909				0			7,909			0002
143999999. Subtotal - Forwards - Hedging Other												0	0	679,846	0	0	XXX	0	0	0	679,846	0	0	XXX
147999999. Subtotal - Forwards												0	0	679,846	0	0	XXX	0	0	0	679,846	0	0	XXX
150999999. Subtotal - SSAP No. 108 Adjustments												0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
168999999. Subtotal - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108												0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
169999999. Subtotal - Hedging Effective Variable Annuity Guarantees Under SSAP No.108												0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
170999999. Subtotal - Hedging Other											432,313,830	0	277,376,843	68,726,824	0	XXX	0	0	(207,970,174)	277,376,843	0	0	0	XXX
171999999. Subtotal - Replication											0	0	0	0	0	0	XXX	0	0	0	0	0	0	XXX

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule / Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)			
1729999999	Subtotal - Income Generation											0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	
1739999999	Subtotal - Other											0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	0	XXX
1749999999	Subtotal - Adjustments for SSAP No. 108 Derivatives											0	0	0	0	0	0	XXX	0	0	0	0	0	0	0	0	XXX
1759999999	Totals											432,313,830	0	277,376,843	68,726,824	0	XXX	0	0	(207,970,174)	277,376,843	0	0	0	0	XXX	

(a)

Code	Description of Hedged Risk(s)

(b)

Code	Financial or Economic Impact of the Hedge at the End of the Reporting Period
0002	Currency derivatives hedging foreign investments or liabilities back to USD
0003	Equity derivatives hedging portfolio's exposure to equity markets

Schedule DB - Part B - Section 1 - Futures Contracts Open

N O N E

Schedule DB - Part B - Section 1B - Brokers with whom cash deposits have been made

N O N E

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART B - SECTION 2

Future Contracts Terminated December 31 of Current Year

1 Ticker Symbol	2 Number of Contracts	3 Notional Amount	4 Description	5 Description of Item(s) Hedged, Used for Income Generation or Replicated	6 Schedule/ Exhibit Identifier	7 Type(s) of Risk(s) (a)	8 Date of Maturity or Expiration	9 Exchange	10 Trade Date	11 Transaction Price	12 Termination Date	13 Termination Price	14 Indicate Exercise, Expiration, Maturity or Sale	15 Cumulative Variation Margin at Termination	Change in Variation Margin			19 Hedge Effectiveness at Inception and at Termination (b)	20 Value of One (1) Point
															16 Gain (Loss) Recognized in Current Year	17 Gain (Loss) Used to Adjust Basis of Hedged Item	18 Deferred		
TYZ2	421	42,100,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	10/25/2022	110.9219		58,334	58,334		0001	1,000	
FVZ2	842	84,200,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	10/25/2022	106.8140		152,032	152,032		0001	1,000	
FVZ2	263	26,300,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	10/27/2022	107.0312		104,611	104,611		0001	1,000	
TYZ2	337	33,700,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	10/31/2022	110.6563		(42,812)	(42,812)		0001	1,000	
TUZ2	83	16,600,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	10/31/2022	102.2109		(13,400)	(13,400)		0001	1,000	
FVZ2	673	67,300,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	10/31/2022	106.6212		(8,238)	(8,238)		0001	1,000	
TYZ2	178	17,800,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	11/01/2022	110.8100		4,745	4,745		0001	1,000	
FVZ2	53	5,300,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/01/2022	106.7031		3,692	3,692		0001	1,000	
UXY2	172	17,200,000	US ULTRA BOND 10Y /158534	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	MARKET_EXCHANGE	10/18/2022	116.5462	11/01/2022	116.3662		(31,896)	(31,896)		0001	1,000	
TUZ2	44	8,800,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	11/02/2022	102.0938		(17,408)	(17,408)		0001	1,000	
FVZ2	95	9,500,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/02/2022	106.6094		(2,284)	(2,284)		0001	1,000	
UXY2	129	12,900,000	US ULTRA BOND 10Y /158534	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	MARKET_EXCHANGE	10/18/2022	116.5462	11/02/2022	116.4368		(14,814)	(14,814)		0001	1,000	
TYZ2	673	67,300,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	11/07/2022	109.8750		(611,313)	(611,313)		0001	1,000	
TUZ2	239	47,800,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	11/07/2022	101.7335		(266,781)	(266,781)		0001	1,000	
FVZ2	337	33,700,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/07/2022	106.0234		(205,583)	(205,583)		0001	1,000	
TYZ2	65	6,500,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	11/09/2022	110.1250		(42,792)	(42,792)		0001	1,000	
FVZ2	116	11,600,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/09/2022	106.2188		(48,098)	(48,098)		0001	1,000	
UXY2	129	12,900,000	US ULTRA BOND 10Y /158534	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	MARKET_EXCHANGE	10/18/2022	116.5462	11/09/2022	115.2813		(163,874)	(163,874)		0001	1,000	
TUZ2	167	33,400,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	11/10/2022	102.3508		19,766	19,766		0001	1,000	
TUZ2	61	12,200,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	11/10/2022	102.4414		18,273	18,273		0001	1,000	
UXY2	125	12,500,000	US ULTRA BOND 10Y /158534	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	MARKET_EXCHANGE	10/18/2022	116.5462	11/10/2022	117.3087		94,633	94,633		0001	1,000	
TYZ2	206	20,600,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	11/16/2022	112.9688		450,205	450,205		0001	1,000	
TUZ2	39	7,800,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	11/16/2022	102.4141		9,553	9,553		0001	1,000	
FVZ2	873	87,300,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/16/2022	108.2188		1,384,019	1,384,019		0001	1,000	
TUZ2	1,067	213,400,000	US 2YR NOTE FUTURE II /158503	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	102.2891	11/21/2022	102.1602		(280,450)	(280,450)		0001	1,000	
TUH3	161	32,200,000	US 5YR NOTE FUTURE II /160789	Portfolio Hedge	Schedule BA, D	Interest	03/31/2023	CBOT	11/21/2022	102.4469	11/21/2022	102.4336		(5,500)	(5,500)		0001	1,000	
FVZ2	105	10,500,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/21/2022	107.7266		114,782	114,782		0001	1,000	
TYZ2	520	52,000,000	US 10Y NOTE FUTURE II /158502	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	110.7780	11/22/2022	112.3125		795,163	795,163		0001	1,000	
FVZ2	603	60,300,000	US 5YR NOTE FUTURE II /158501	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	CBOT	10/18/2022	106.6283	11/22/2022	107.5625		560,223	560,223		0001	1,000	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART B - SECTION 2

Future Contracts Terminated December 31 of Current Year

1 Ticker Symbol	2 Number of Contracts	3 Notional Amount	4 Description	5 Description of Item(s) Hedged, Used for Income Generation or Replicated	6 Schedule/ Exhibit Identifier	7 Type(s) of Risk(s) (a)	8 Date of Maturity or Expiration	9 Exchange	10 Trade Date	11 Transaction Price	12 Termination Date	13 Termination Price	14 Indicate Exercise, Expiration, Maturity or Sale	15 Cumulative Variation Margin at Termination	Change in Variation Margin			19 Hedge Effectiveness at Inception and at Termination (b)	20 Value of One (1) Point
															16 Gain (Loss) Recognized in Current Year	17 Gain (Loss) Used to Adjust Basis of Hedged Item	18 Deferred		
TUH3	906	181,200,000	US 2YR NOTE FUTURE II /160789	Portfolio Hedge	Schedule BA, D	Interest	03/31/2023	CBOT	11/21/2022	102.4469	11/28/2022	102.4792		53,961	53,961			0001	1,000
FVH3	603	60,300,000	US 5YR NOTE FUTURE II /161161	Portfolio Hedge	Schedule BA, D	Interest	03/31/2023	CBOT	11/22/2022	107.9141	11/30/2022	108.1327		128,716	128,716			0001	1,000
TYH3	187	18,700,000	US 10Y NOTE FUTURE II /161145	Portfolio Hedge	Schedule BA, D	Interest	03/31/2023	CBOT	11/22/2022	112.6048	12/01/2022	114.2096		299,099	299,099			0001	1,000
TYH3	333	33,300,000	US 10Y NOTE FUTURE II /161145	Portfolio Hedge	Schedule BA, D	Interest	03/31/2023	CBOT	11/22/2022	112.6048	12/05/2022	114.4756		621,198	621,198			0001	1,000
1539999999. Subtotal - Long Futures - Hedging Other														3,117,763	3,117,763	0	0	XXX	XXX
1579999999. Subtotal - Long Futures														3,117,763	3,117,763	0	0	XXX	XXX
UXY2	56	5,600,000	US ULTRA BOND 10Y /160237	Portfolio Hedge	Schedule BA, D	Interest	12/30/2022	MARKET_EXCHANGE	11/10/2022	117.3087	11/10/2022	118.0781		(43,397)	(43,397)			0001	1,000
1609999999. Subtotal - Short Futures - Hedging Other														(43,397)	(43,397)	0	0	XXX	XXX
1649999999. Subtotal - Short Futures														(43,397)	(43,397)	0	0	XXX	XXX
1679999999. Subtotal - SSAP No. 108 Adjustments														0	0	0	0	XXX	XXX
1689999999. Subtotal - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108														0	0	0	0	XXX	XXX
1699999999. Subtotal - Hedging Effective Variable Annuity Guarantees Under SSAP No.108														0	0	0	0	XXX	XXX
1709999999. Subtotal - Hedging Other														3,074,366	3,074,366	0	0	XXX	XXX
1719999999. Subtotal - Replication														0	0	0	0	XXX	XXX
1729999999. Subtotal - Income Generation														0	0	0	0	XXX	XXX
1739999999. Subtotal - Other														0	0	0	0	XXX	XXX
1749999999. Subtotal - Adjustments for SSAP No. 108 Derivatives														0	0	0	0	XXX	XXX
1759999999 - Totals														3,074,366	3,074,366	0	0	XXX	XXX

(a)	Code	Description of Hedged Risk(s)
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(b)	Code	Financial or Economic Impact of the Hedge at the End of the Reporting Period
	0001	Interest rate hedges reduced the portfolio's interest rate risk (duration, convexity, volatility, yield curve)

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART D - SECTION 1

Counterparty Exposure for Derivative Instruments Open December 31 of Current Year

1 Description of Exchange, Counterparty or Central Clearinghouse	2 Master Agreement (Y or N)	3 Credit Support Annex (Y or N)	Counterparty Offset		Book/Adjusted Carrying Value			Fair Value			12 Potential Exposure	13 Off-Balance Sheet Exposure
			4 Fair Value of Acceptable Collateral	5 Present Value of Financing Premium	6 Contracts With Book/Adjusted Carrying Value >0	7 Contracts With Book/Adjusted Carrying Value <0	8 Exposure Net of Collateral	9 Contracts With Fair Value >0	10 Contracts With Fair Value <0	11 Exposure Net of Collateral		
0199999999 - Aggregate Sum of Exchange Traded Derivatives			XXX	XXX	XXX			0			0	0
Bank Of America NA	84TYDEB6GKMZ0031MB27	Y	15,640,000		17,280,337	(10,062,923)		8,405,380			19,158	0
Barclays Bank PLC	G5GSEF7VJP5170UK5573	Y	57,440,000		166,667,837	(116,000,792)		56,667,980			0	0
BNP Paribas London	ROMUWSFUBMIPROBK5P83	Y	18,810,000		36,455,161	(23,776,767)		9,548,517			0	0
Citibank N.A.	E570DZVZ7FF321WEFA76	Y	35,888,721		121,473,747	(92,066,158)		34,563,835			53,622	0
Credit Suisse International	E58DKGMJYYJLN8C3868	Y	0		0	0		0			0	0
Goldman Sachs International	W22LROWP21HZNB8K528	Y	10,490,000		14,765,921	(10,127,063)		7,260,962			0	0
JPMorgan Chase Bank, N.A.	7H6GLXDRUGOFU57RNE97	Y	14,800,000		24,358,407	(8,560,171)	998,236	15,147,720		347,720	674,991	674,991
Morgan Stanley & Co International PLC	4PQUHNSJPFQFN38B653	Y	22,615,000		66,818,982	(50,893,487)		21,916,071			0	0
Morgan Stanley Capital Services	17331LVCZKQKX5T7XV54	Y	310,000		388,988	(3,866)	75,121	385,121		75,121	278,870	278,870
MORGAN STANLEYCBO	4PQUHNSJPFQFN38B653	Y	0		344,021,525	(266,110,606)	77,910,920	102,595,762		102,595,762	0	0
Royal Bank of Canada	ES71P3U3RH1GC71XBU11	Y	0		16,701,898	(15,299,973)	1,401,924	720,751		720,751	631,195	631,195
Societe Generale	O2RNEB1BXP4ROTDBPU41	Y	8,930,000		6,611,082	(4,522,091)		1,009,346			0	0
UBS AG	BFM8T61CT2L1QCEM1K50	Y	9,450,000		10,069,486	(708,919)		9,051,124			0	0
Wells Fargo Bank, N.A.	KB1H1DSPRFMYMCFXT09	Y	14,360,000		22,185,416	(7,778,024)	47,392	13,834,847			897,784	897,784
0299999999 - Total NAIC 1 Designation			208,733,721	0	847,798,787	(605,910,842)	80,433,593	281,107,417	0	103,739,355	2,555,620	2,482,840
0899999999 - Aggregate Sum of Central Clearinghouses (Excluding Exchange Traded)					25,166,766	(94,964,522)	0		(69,797,756)	0	55,104,141	
0999999999 - Gross Totals			208,733,721	0	872,965,553	(700,875,364)	80,433,593	281,107,417	(69,797,756)	103,739,355	57,659,761	2,482,840
1. Offset per SSAP No. 64												
2. Net after right of offset per SSAP No. 64					872,965,553	(700,875,364)						

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
SCHEDULE DB - PART D - SECTION 2
 Collateral for Derivative Instruments Open December 31 of Current Year

Collateral Pledged by Reporting Entity

1	2	3	4	5	6	7	8	9
Exchange, Counterparty or Central Clearinghouse	Type of Asset Pledged	CUSIP Identification	Description	Fair Value	Par Value	Book/Adjusted Carrying Value	Maturity Date	Type of Margin (I, V or IV)
Morgan Stanley & Co. LLC	Cash	9R7GPTS07K3UJZ0078	Cash Collateral	67,734,307		67,734,307		I
Morgan Stanley & Co. LLC	Corporate	9R7GPTS07K3UJZ0078	COMCAST CORP	31,819,490	38,000,000	22,273,643	04/01/2040	I
Morgan Stanley & Co. LLC CME	Cash	17331LVCZKQKX5T7XV54	Cash Collateral	70,837,960		70,837,960		V
Royal Bank of Canada	Cash	E571P3U3RH1G671XBUI1	Cash Collateral	6,780,000	6,780,000	6,780,000		V
0199999999 - Total				177,171,756	44,780,000	167,625,909	XXX	XXX

Collateral Pledged to Reporting Entity

1	2	3	4	5	6	7	8	9
Exchange, Counterparty or Central Clearinghouse	Type of Asset Pledged	CUSIP Identification	Description	Fair Value	Par Value	Book/Adjusted Carrying Value	Maturity Date	Type of Margin (I, V or IV)
Goldman Sachs International	Cash	W22LR0WP21HZNB6K528	Cash Collateral	10,490,000	10,490,000	XXX		V
Bank Of America NA	Cash	B4TYDEB6GKMZ0031MB27	Cash Collateral	15,640,000	15,640,000	XXX		V
Barclays Bank Plc	Cash	G5GSEF7VJP5170UK5573	Cash Collateral	57,440,000	57,440,000	XXX		V
BNP Paribas	Cash	ROMUWSPU8MPRO8K9P83	Cash Collateral	18,810,000	18,810,000	XXX		V
Citibank NA	Cash	E570DZVZ7FF32TIEFA76	Cash Collateral	35,888,721	35,888,721	XXX		V
Morgan Stanley Capital Services	Cash	17331LVCZKQKX5T7XV54	Cash Collateral	310,000	310,000	XXX		V
Morgan Stanley & Co International PLC	Cash	4PQUH3JPF6FNF3BB653	Cash Collateral	22,615,000	22,615,000	XXX		V
Societe Generale	Cash	02PNE81BXP4R0TD8PU41	Cash Collateral	8,930,000	8,930,000	XXX		V
UBS AG	Cash	BFM0T61CT2L1QCEM1K50	Cash Collateral	9,450,000	9,450,000	XXX		V
JPMorgan Chase Bank, N.A.	Cash	7H6GLXDRUGOFU57RNE97	Cash Collateral	14,800,000	14,800,000	XXX		V
Wells Fargo Bank NA	Cash	KB1H1DSPRFMYMCFXT09	Cash Collateral	14,360,000	14,360,000	XXX		V
0299999999 - Total				208,733,721	208,733,721	XXX	XXX	XXX

Schedule DB - Part E - Derivatives Hedging Variable Annuity Guarantees as of December 31 of
Current Year

N O N E

Schedule DL - Part 1 - Reinvested Collateral Assets Owned

N O N E

Schedule DL - Part 2 - Reinvested Collateral Assets Owned

N O N E

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE E - PART 1 - CASH

1	2	3	4	5	6	7
Depository	Code	Rate of Interest	Amount of Interest Received During Year	Amount of Interest Accrued December 31 of Current Year	Balance	*
Bank of New York Mellon New York, NY					71,022,471	.XXX.
PNC Bank Pittsburgh, PA					(37,685,229)	.XXX.
Wells Fargo Bank / Norwest Bank Phoenix, AZ					266,379	.XXX.
Huntington Bank Columbus, OH					28,819	.XXX.
FHLB Cincinnati, OH		3.750	289,751		21,056,570	.XXX.
State Street Global Services Kansas City, MO					11,036,224	.XXX.
Morgan Stanley New York, NY					135,769	.XXX.
0199998 Deposits in ... depositories which do not exceed the allowable limit in any one depository (See instructions) - open depositories	XXX	XXX				XXX
0199999. Totals - Open Depositories	XXX	XXX	289,751	0	65,861,003	XXX
0299998 Deposits in ... depositories which do not exceed the allowable limit in any one depository (See instructions) - suspended depositories	XXX	XXX				XXX
0299999. Totals - Suspended Depositories	XXX	XXX	0	0	0	XXX
0399999. Total Cash on Deposit	XXX	XXX	289,751	0	65,861,003	XXX
0499999. Cash in Company's Office	XXX	XXX	XXX	XXX		XXX
.....						
.....						
.....						
.....						
0599999 Total - Cash	XXX	XXX	289,751	0	65,861,003	XXX

TOTALS OF DEPOSITORY BALANCES ON THE LAST DAY OF EACH MONTH DURING THE CURRENT YEAR

1. January.....	624,846,335	4. April.....	263,466,407	7. July.....	237,987,201	10. October.....	651,439,802
2. February.....	814,047,666	5. May.....	278,211,079	8. August.....	155,323,851	11. November...	172,289,643
3. March.....	374,131,527	6. June.....	320,606,225	9. September.....	227,941,486	12. December.....	65,861,003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned December 31 of Current Year

1	2	3	4	5	6	7	8	9
CUSIP	Description	Code	Date Acquired	Rate of Interest	Maturity Date	Book/Adjusted Carrying Value	Amount of Interest Due and Accrued	Amount Received During Year
0109999999	Total - U.S. Government Bonds					0	0	0
0309999999	Total - All Other Government Bonds					0	0	0
0509999999	Total - U.S. States, Territories and Possessions Bonds					0	0	0
0709999999	Total - U.S. Political Subdivisions Bonds					0	0	0
0909999999	Total - U.S. Special Revenues Bonds					0	0	0
	AMCOR FLEXIBLES NORTH AMERICA INC COMMER		12/16/2022	0.000	02/02/2023	9,956,349	0	21,683
	AMEREN CORP FIXED COUPON 0 MATURITY 201		12/14/2022	0.000	01/05/2023	9,994,710	0	22,419
	AMERICAN HONDA FINANCE CORP COMMERCIAL P		12/09/2022	0.000	03/08/2023	34,680,854	0	95,565
	AMPHENOL CORP COMMERCIAL PAPER		12/16/2022	0.000	02/01/2023	19,916,326	0	34,881
	AVANGRID INC COMMERCIAL PAPER		12/27/2022	0.000	02/02/2023	29,877,271	0	15,271
	BECTON DICKINSON AND CO COMMERCIAL PAPER		12/13/2022	0.000	01/17/2023	19,958,118	0	49,507
	CENTERPOINT ENER FIXED COUPON 0 MATURIT		12/14/2022	0.000	01/27/2023	9,965,400	0	22,494
	CENTERPOINT ENERGY INC COMMERCIAL PAPER		12/09/2022	0.000	01/30/2023	8,467,377	0	25,696
	CENTERPOINT ENERGY INC COMMERCIAL PAPER		12/12/2022	0.000	02/01/2023	19,918,129	0	57,707
	COMMONWEALTH EDISON CO COMMERCIAL PAPER		12/20/2022	0.000	01/03/2023	19,994,825	0	30,992
	DOLLAR GENERAL CORP COMMERCIAL PAPER		12/16/2022	0.000	01/05/2023	10,994,121	0	23,454
	DOMINION ENERGY INC COMMERCIAL PAPER		12/16/2022	0.000	02/07/2023	14,925,842	0	31,842
	DOVER CORP COMMERCIAL PAPER		12/09/2022	0.000	01/18/2023	26,940,151	0	80,551
	DUKE ENERGY CORP COMMERCIAL PAPER		12/20/2022	0.000	01/10/2023	17,979,268	0	27,568
	ENTERPRISE PRODUCTS OPERATING LLC COMMER		12/30/2022	0.000	01/03/2023	39,989,998	0	9,998
	EQUIFAX INC COMMERCIAL PAPER		12/15/2022	0.000	01/17/2023	11,899,768	0	26,692
	EVERGY KANSAS CENTRAL INC COMMERCIAL PAP		12/13/2022	0.000	02/02/2023	28,570,825	0	76,149
	EXELON CORP COMMERCIAL PAPER		12/21/2022	0.000	01/12/2023	24,963,284	0	33,284
	FISERV INC COMMERCIAL PAPER		12/29/2022	0.000	02/06/2023	19,903,761	0	7,978
	GENERAL MILLS INC COMMERCIAL PAPER		12/21/2022	0.000	01/09/2023	19,979,839	0	27,655
	HP INC COMMERCIAL PAPER		12/16/2022	0.000	01/11/2023	19,973,555	0	42,166
	HP INC COMMERCIAL PAPER		12/27/2022	0.000	01/23/2023	9,970,769	0	6,619
	MARRIOTT INTERNATIONAL INC/MD COMMERCIAL		12/27/2022	0.000	01/19/2023	7,981,188	0	5,210
	MCCORMICK & CO INC/MD COMMERCIAL PAPER		12/29/2022	0.000	01/03/2023	34,991,345	0	8,651
	MERCEDES-BENZ FINANCE NORTH AMERICA LLC		12/15/2022	0.000	01/31/2023	34,859,701	0	74,367
	MOHAWK INDUSTR FIXED COUPON 0 MATURITY		12/15/2022	0.000	01/12/2023	14,977,950	0	33,950
	MONDELEZ INTERNATIONAL INC COMMERCIAL PA		12/20/2022	0.000	02/06/2023	9,952,425	0	15,758
	MOSAIC CO/THE COMMERCIAL PAPER		12/28/2022	0.000	01/11/2023	10,985,937	0	5,615
	NASDAQ INC COMMERCIAL PAPER		12/15/2022	0.000	01/18/2023	19,955,512	0	44,290
	NATIONAL RURAL UTILITIES COOPERATIVE FIN		12/21/2022	0.000	01/23/2023	10,969,102	0	15,384
	ORACLE CORP COMMERCIAL PAPER		12/15/2022	0.000	01/26/2023	14,452,568	0	32,077
	PARKER-HANNIFIN CORP COMMERCIAL PAPER		12/20/2022	0.000	03/20/2023	8,507,986	0	13,981
	PENSKE TRUCK LEASING CO LP COMMERCIAL PA		12/28/2022	0.000	01/04/2023	14,994,310	0	7,580
	PENSKE TRUCK LEASING CO LP COMMERCIAL PA		12/20/2022	0.000	01/10/2023	19,976,463	0	31,296
	RYDER SYSTEM INC COMMERCIAL PAPER		12/21/2022	0.000	01/23/2023	9,970,938	0	11,840
	SEMPRA ENERGY COMMERCIAL PAPER		12/19/2022	0.000	01/04/2023	19,992,154	0	31,321
	SHERWIN-WILLIAMS CO/THE COMMERCIAL PAPER		12/20/2022	0.000	01/26/2023	14,950,971	0	21,471
	SOUTHERN CO GAS CAPITAL CORP COMMERCIAL		12/13/2022	0.000	01/17/2023	17,961,100	0	45,975
	SPIRE INC COMMERCIAL PAPER		12/07/2022	0.000	01/20/2023	24,937,119	0	82,258
	SPIRE INC COMMERCIAL PAPER		12/20/2022	0.000	02/06/2023	9,951,522	0	16,055
	VF CORP COMMERCIAL PAPER		12/30/2022	0.000	01/03/2023	9,997,499	0	2,499
	VF CORP COMMERCIAL PAPER		12/09/2022	0.000	02/06/2023	24,878,422	0	67,034
	VII CREDIT INC COMMERCIAL PAPER		12/27/2022	0.000	01/10/2023	9,988,242	0	6,520
	VII CREDIT INC COMMERCIAL PAPER		12/21/2022	0.000	02/22/2023	14,893,906	0	20,231
	WALGREENS BOOTS ALLIANCE INC COMMERCIAL		12/14/2022	0.000	01/25/2023	9,967,592	0	22,829
	WALGREENS BOOTS ALLIANCE INC COMMERCIAL		12/15/2022	0.000	02/03/2023	34,842,449	0	75,879
	WALGREENS BOOTS ALLIANCE INC COMMERCIAL		12/29/2022	0.000	02/06/2023	34,824,927	0	14,510
	WASTE MANAGEMENT INC COMMERCIAL PAPER		12/16/2022	0.000	02/14/2023	49,799,302	0	108,452
	WILLIAMS COS INC/THE COMMERCIAL PAPER		12/21/2022	0.000	01/09/2023	21,976,744	0	31,897
	WISCONSIN GAS LLC COMMERCIAL PAPER		12/27/2022	0.000	01/05/2023	29,984,824	0	18,949
	ALIMENTATION COUCHE-TARD INC COMMERCIAL		12/07/2022	0.000	01/05/2023	9,994,873	0	31,928

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned December 31 of Current Year

1 CUSIP	2 Description	3 Code	4 Date Acquired	5 Rate of Interest	6 Maturity Date	7 Book/Adjusted Carrying Value	8 Amount of Interest Due and Accrued	9 Amount Received During Year
	ALIMENTATION COUCHE-TARD INC COMMERCIAL		12/08/2022	0.000	01/23/2023	29,912,640	0	94,723
	ROGERS COMMUNICATIONS INC COMMERCIAL PAP		12/08/2022	0.000	01/26/2023	24,910,807	0	85,029
	SUNCOR ENERGY INC COMMERCIAL PAPER		11/29/2022	0.000	02/27/2023	19,836,167	0	90,806
	SUNCOR ENERGY INC COMMERCIAL PAPER		12/08/2022	0.000	03/07/2023	16,346,044	0	56,121
	TELUS CORP COMMERCIAL PAPER		12/13/2022	0.000	03/13/2023	14,453,331	0	38,751
	THOMSON REUTERS CORP COMMERCIAL PAPER		12/20/2022	0.000	01/18/2023	9,977,537	0	14,481
	TORONTO-DOMINION BANK/THE COMMERCIAL PAP		12/29/2022	0.000	02/01/2023	7,970,781	0	2,816
	TRANSCANADA PIPELINES LTD COMMERCIAL PAP		12/01/2022	0.000	02/24/2023	9,923,163	0	43,579
	TRANSCANADA PIPELINES LTD COMMERCIAL PAP		12/01/2022	0.000	03/01/2023	14,871,582	0	66,582
	TRANSCANADA PIPELINES LTD COMMERCIAL PAP		12/09/2022	0.000	03/09/2023	14,854,349	0	49,349
	RECKITT BENCKISER TREASURY SERVICES PLC		12/29/2022	0.000	02/28/2023	49,617,210	0	19,640
	VODAFONE GROUP PLC COMMERCIAL PAPER		12/15/2022	0.000	01/04/2023	34,986,468	0	71,994
1019999999	Subtotal - Bonds - Industrial and Miscellaneous (Unaffiliated) - Issuer Obligations					1,227,997,700	0	2,301,859
1109999999	Total - Industrial and Miscellaneous (Unaffiliated) Bonds					1,227,997,700	0	2,301,859
1309999999	Total - Hybrid Securities					0	0	0
1509999999	Total - Parent, Subsidiaries and Affiliates Bonds					0	0	0
1909999999	Subtotal - Unaffiliated Bank Loans					0	0	0
2419999999	Total - Issuer Obligations					1,227,997,700	0	2,301,859
2429999999	Total - Residential Mortgage-Backed Securities					0	0	0
2439999999	Total - Commercial Mortgage-Backed Securities					0	0	0
2449999999	Total - Other Loan-Backed and Structured Securities					0	0	0
2459999999	Total - SVO Identified Funds					0	0	0
2469999999	Total - Affiliated Bank Loans					0	0	0
2479999999	Total - Unaffiliated Bank Loans					0	0	0
2509999999	Total Bonds					1,227,997,700	0	2,301,859
09248U-71-8	BLACKROCK LIQUIDITY FUND-EXEMPT MONEY MA		12/30/2022	0.000		275,000,000	0	0
825252-40-6	INVESCO ADVISERS TREASURY PORT INSTL CL		12/29/2022	0.000		32,694,074	0	225,761
8209999999	Subtotal - Exempt Money Market Mutual Funds - as Identified by the SVO					307,694,074	0	225,761
8609999999	Total Cash Equivalents					1,535,691,774	0	2,527,620

1. Line Book/Adjusted Carrying Value by NAIC Designation Category Footnote:

Number	1A	1B	1C	1D	1E	1F	1G
1A	1A ..\$	1B ..\$	1C ..\$	1D ..\$	1E ..\$	1F ..\$	1G ..\$
1B	2A ..\$	2B ..\$	2C ..\$				
1C	3A ..\$	3B ..\$	3C ..\$				
1D	4A ..\$	4B ..\$	4C ..\$				
1E	5A ..\$	5B ..\$	5C ..\$				
1F	6 ..\$						

18,939,883

E28.1

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE E - PART 3 - SPECIAL DEPOSITS

States, Etc.	1 Type of Deposit	2 Purpose of Deposit	Deposits For the Benefit of All Policyholders		All Other Special Deposits	
			3 Book/Adjusted Carrying Value	4 Fair Value	5 Book/Adjusted Carrying Value	6 Fair Value
1. Alabama	AL		0	0	0	0
2. Alaska	AK		0	0	0	0
3. Arizona	AZ		0	0	0	0
4. Arkansas	AR	B LIFE INSURANCE	124,547	122,657	0	0
5. California	CA		0	0	0	0
6. Colorado	CO		0	0	0	0
7. Connecticut	CT		0	0	0	0
8. Delaware	DE		0	0	0	0
9. District of Columbia	DC		0	0	0	0
10. Florida	FL	B LIFE INSURANCE	2,006,766	2,171,086	0	0
11. Georgia	GA	B LIFE INSURANCE	113,000	113,000	0	0
12. Hawaii	HI		0	0	0	0
13. Idaho	ID		0	0	0	0
14. Illinois	IL		0	0	0	0
15. Indiana	IN		0	0	0	0
16. Iowa	IA		0	0	0	0
17. Kansas	KS		0	0	0	0
18. Kentucky	KY		0	0	0	0
19. Louisiana	LA		0	0	0	0
20. Maine	ME		0	0	0	0
21. Maryland	MD		0	0	0	0
22. Massachusetts	MA	B LIFE INSURANCE	174,366	171,719	0	0
23. Michigan	MI		0	0	0	0
24. Minnesota	MN		0	0	0	0
25. Mississippi	MS		0	0	0	0
26. Missouri	MO		0	0	0	0
27. Montana	MT		0	0	0	0
28. Nebraska	NE		0	0	0	0
29. Nevada	NV	B LIFE INSURANCE	240,992	214,442	0	0
30. New Hampshire	NH		0	0	0	0
31. New Jersey	NJ	B LIFE INSURANCE	627,358	678,728	0	0
32. New Mexico	NM	B LIFE INSURANCE	215,000	209,369	0	0
33. New York	NY		0	0	0	0
34. North Carolina	NC	B LIFE INSURANCE	413,000	413,000	0	0
35. North Dakota	ND		0	0	0	0
36. Ohio	OH	B LIFE INSURANCE	2,285,643	2,463,133	0	0
37. Oklahoma	OK		0	0	0	0
38. Oregon	OR		0	0	0	0
39. Pennsylvania	PA		0	0	0	0
40. Rhode Island	RI		0	0	0	0
41. South Carolina	SC		0	0	0	0
42. South Dakota	SD		0	0	0	0
43. Tennessee	TN		0	0	0	0
44. Texas	TX		0	0	0	0
45. Utah	UT		0	0	0	0
46. Vermont	VT		0	0	0	0
47. Virginia	VA	B LIFE INSURANCE	96,000	95,982	0	0
48. Washington	WA		0	0	0	0
49. West Virginia	WV		0	0	0	0
50. Wisconsin	WI		0	0	0	0
51. Wyoming	WY		0	0	0	0
52. American Samoa	AS		0	0	0	0
53. Guam	GU		0	0	0	0
54. Puerto Rico	PR		0	0	0	0
55. U.S. Virgin Islands	VI		0	0	0	0
56. Northern Mariana Islands	MP		0	0	0	0
57. Canada	CAN		0	0	0	0
58. Aggregate Alien and Other	OT	XXX	XXX			
59. Subtotal	XXX	XXX	6,296,672	6,653,116	0	0
DETAILS OF WRITE-INS						
5801.						
5802.						
5803.						
5898. Summary of remaining write-ins for Line 58 from overflow page	XXX	XXX				
5899. Totals (Lines 5801 thru 5803 plus 5898)(Line 58 above)	XXX	XXX				