

KPMG LLP Two Financial Center 60 South Street Boston, MA 02111

Report of Independent Registered Public Accounting Firm

The Board of Directors of C.M. Life Insurance Company and Policy Owners of C.M. Life Variable Life Separate Account I:

Opinion on the Financial Statements and Financial Highlights

We have audited the accompanying statements of assets and liabilities of C.M. Life Variable Life Separate Account I (comprised of the divisions/sub-accounts listed in Appendix A to the opinion) (collectively, "the Separate Account") as of December 31, 2020, the related statements of operations and changes in net assets for each of the years (as described in Appendix A) in the two-year period then ended, and the related notes (collectively, the "financial statements") and the financial highlights for each of the years in the five-year period then ended. In our opinion, the financial statements and financial highlights present fairly, in all material respects, the financial position of the Separate Account as of December 31, 2020, the results of its operations and the changes in its net assets for each of the years in the two-year period then ended, and the financial highlights for each of the years in the five-year period then ended, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements and financial highlights are the responsibility of the Separate Account's management. Our responsibility is to express an opinion on these financial statements and financial highlights based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Separate Account in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements and financial highlights are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements and financial highlights, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements and financial highlights. Such procedures also included confirmation of securities owned as of December 31, 2020, by correspondence with the underlying mutual funds or their transfer agent. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements and financial highlights. We believe that our audits provide a reasonable basis for our opinion.



We have served as the Separate Account's auditor since 2004.

Boston, Massachusetts March 10, 2021

Appendix A

C.M. Life Variable Life Separate Account I is comprised of the following divisions/sub-accounts and the activities of each division/sub-account have been included within the accompanying statements of assets and liabilities as of December 31, 2020 and the related statements of operations and changes in net assets for each of the years in the two-year period then ended.

Divisions/Sub-Accounts

Janus Henderson Balanced Division Janus Henderson Forty Division

Divisions/Sub-Accounts

Janus Henderson Global Research Division

MFS® Investors Trust Division MFS® New Discovery Division

MML Blend Division

MML Blue Chip Growth Division

MML Equity Division MML Equity Index Division

MML Inflation-Protected and Income Division

MML Managed Bond Division MML Managed Volatility Division MML Small Cap Equity Division MML Small Cap Growth Equity Division MML U.S. Government Money Market Division

T. Rowe Price Blue Chip Growth Division T. Rowe Price Equity Income Division T. Rowe Price Mid-Cap Growth Division

Templeton Foreign VIP Division

American Century VP Value Division American Funds® Asset Allocation Division American Funds® Growth-Income Division DWS Small Cap Index Division* Fidelity® VIP Contrafund® Division Fidelity® VIP Index 500 Sub-Account Franklin Small Cap Value VIP Division

American Century VP Disciplined Core Value Division*

Invesco Oppenheimer V.I. Capital Appreciation Division** Invesco Oppenheimer V.I. Conservative Balanced Division**

Invesco Oppenheimer V.I. Discovery Mid Cap Growth Division**

Invesco Oppenheimer V.I. Global Division**

Goldman Sachs Strategic Growth Division

Invesco Oppenheimer V.I. Global Strategic Income Division** Invesco Oppenheimer V.I. International Growth Division** Invesco Oppenheimer V.I. Main Street Division**

Invesco Oppenheimer V.I. Total Return Bond Division**

Invesco V.I. Diversified Dividend Division Invesco V.I. Health Care Division* Invesco V.I. Technology Division

^{*} See Note 2 to the financial statements for the previous name of this division.

^{**} See Note 2 to the financial statements for information regarding the merger of this division.

STATEMENTS OF ASSETS AND LIABILITIES

	American Century VP Disciplined Core Value Division	American Century VP Value Division	American Funds® Asset Allocation Division	American Funds® Growth-Income Division	DWS Small Cap Index Division	Fidelity® VIP Contrafund® Division	Fidelity® VIP Index 500 Sub-Account	Franklin Small Cap Value VIP Division
ASSETS Investments Number of shares	2,801,650	208,672	396,620	211,619	283,925	1,567,288	2	292,535
Identified cost		\$ 1,885,110 \$ 2,330,864	\$ 88	\$ 9,580,553 \$ 11,567,114	8 8	\$ 45,760,722 \$ 75,496,263	\$ 709 \$ 741	\$ 4,589,746 \$ 4,241,751
receivable from C.M. Life insurance Company Total assets	28,800,968	2,330,864	10,395,401	11,567,114	4,937,452	75,496,263	741	4,241,751
LIABILITIES Payable to C.M. Life Insurance Company	.\$ 28,800,968	2 \$ 2,330,862	3 8 10,395,398	10 \$ 11,567,104	14 8 4,937,438	5 \$ 75,496,258	9	12 8 4,241,739
Outstanding Units Policy owners	8,760,196	590,772	2,612,782	2,310,967	1,145,219	12,860,701	93	833,367
UNIT VALUE Executive Benefit Variable Universal Life	3.78	- 4.09 3.88 4.09	- 4.09 3.88 4.09	. 5.16 5.16 4.89 5.16	- 4.61 4.18 4.45	7.20 5.92 5.22	S 7.87	5.25 4.98 5.25

See Notes to Financial Statements.

STATEMENTS OF ASSETS AND LIABILITIES (Continued)

	Goldman Sachs Strategic Growth	Opp A _J	Invesco Oppenheimer V.I. Capital Appreciation Division	Invesco Oppenheimer V.I. Discovery Mid Cap Growth		Invesco Oppenheimer V.I. Global Division	In Oppen G Strateg	Invesco Oppenheimer V.I. Global Strategic Income Division	Invesco Oppenheimer V.I. International Growth Division		Invesco Oppenheimer V.I. Main Street Division	In Oppenh Total B	Invesco Oppenheimer V.I. Total Return Bond Division
ASSETS Investments	051.308		021 520	3123	 	1 212 140		057 155 1	C 10 1	"	770 903		361 510
Number of shares Identified cost	5	S	43,679,991	\$ 43,896,326	&∥ 20∥49	42,221,952	S	8,933,397	\$ 4,557,172	172 \$	13,614,384	S	2,838,747
Value		s	58,489,827	\$ 71,808,371 59	\$71 \$9	63,229,251	⇔	8,573,914	\$ 5,653,510	510 \$	15,106,842	s	3,047,609
Total assets	6,575,800		58,489,827	71,808,430	30	63,229,251		8,573,918	5,653,510	510	15,106,842		3,047,609
LIABILITIES Payable to C.M. Life Insurance Company			52		' 6		6	1		20	2	€	20
NET ASSETS (For variable life insurance policies)	6,575,794	9	58,489,775	\$ 71,808,430	နှ∥	63,229,251	se.	8,573,918	\$ 5,653,505	\$02 	15,106,840	se l	3,047,589
Outstanding Units Policy owners	1,670,007		13,538,141	16,663,788	 ⊗	9,544,563		3,083,588	1,744,201	201	4,868,492		1,710,803
UNIT VALUE Everytive Banefit Veriable Universal 1 ife	,	¥	1	¥	9	,	¥	,	s	9	4 47	¥	,
Survivorship Variable Universal Life.	4.75	•	5.39		5.11	7.7.7	÷	2.90	÷	3.33	3.79	÷	1.66
Variable Universal Life	3.81		4.59	4	4.89	7.11		2.75		3.14	3.04		1.75
Survivorship Variable Universal Life II	4.06		3.27	2.	2.57	4.44		2.84		3.33	3.23		1.86

See Notes to Financial Statements.

STATEMENTS OF ASSETS AND LIABILITIES (Continued)

1	60,430	159	187	187	8	179	887		8.54	8.09	8.54
MFS® New Discovery Division	60,	1,138,159	1,629,187	1,629,187		1,629,179	198,887				
Z Nig G		\$	se.			59		€			
į	6,253	185,194	228,683	228,683	24	228,659	45,535		5.16	4.89	5.16
MFS® Investors Trust Division	9	185	228	228		228	45				
		S	es.			9		↔			
g _q _	189,357	3,201	5,902	5,902	14	888,9	6,895,680	•	•	1.71	1.82
Janus Henderson Global Research Division	18	6,868,201	12,046,902	12,046,902		12,046,888	6,89				
# #		S	S			∞		€			
uo u	398,781	14,852,966	22,730,495 2	22,730,497	•	22,730,497	4,684,583		•	4.74	5.05
Janus Henderson Forty Division	35	14,85	22,73	22,73		22,73	4,68				
=		S	æ			∞		€			
s son ed	89,310	3,099,779	4,117,203	4,117,203	13	4,117,190	971,923		4.41	4.18	4.41
Janus Henderson Balanced Division		3,0	4,1	4,1		4,1	6				
_ [S	se.		ļ	€		€			
V.I. logy on	36,669	884,769	,340,243	1,340,243	21	,340,222	421,186		3.30	3.12	3.30
Invesco V.I. Technology Division		×	1,3	1,3		1,3	4				
		\$	∞	 	61	8	~II	↔	- +	~	4
o V.I. ifh ion	30,329	818,394	.,021,774	1,021,774	12	1,021,762	206,043		5.14	4.88	5.14
Invesco V.I. Health Care Division			1,	1,		1,					
1	4 	\$		 	3	& &	=	∻	1.78	86	1.78
Invesco V.I. Diversified Dividend Division	45,984	1,187,201	1,182,711	1,182,711	1	1,182,698	675,691			1.68	
Inves Dive Div			- 					€			
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			pany .			policie					
			ce Con		mpany	surance		Life		:	::: п
			Insuran		nce Co	e life in		Jniversal	rsal Life		rsal Life
			4. Life		e Insura	variabl		ariable U	le Unive	ife	le Unive
	fshares	cost	rom C.1	ssets	ES .M. Lif	rs (For	g Units	E kenefit V	p Variab	iversal l	p Variab
	ASSETS Investments Number of shares	Identified cost	Value	Total assets	LIABILITIES Payable to C.M. Life Insurance Company	NET ASSETS (For variable life insurance policies)	Outstanding Units Policy owners	UNIT VALUE Executive Benefit Variable Universal Life	Survivorship Variable Universal Life	Variable Universal Life	Survivorship Variable Universal Life II
	ASSETS Investmer Numbe	Ιď	V _E Rece		LIAI Payal	NET	Outs Po	UNII	Suı	Va	Sun

See Notes to Financial Statements.

STATEMENTS OF ASSETS AND LIABILITIES (Continued)

	MML Blend Division	MML Blue Chip Growth Division	MML Equity Division	MML Equity Index Division	MML Inflation- Protected and Income Division	-	MML Managed Bond Division	MML Managed Volatility Division	 	MML Small Cap Equity Division
ASSETS Investments Number of shares	800,797	338,315	1,490,490	1,839,161	137,365	8	712,256	177,771	771	1,439,143
Identified cost	16,850,752	5,486,027	\$ 35,144,888	\$ 43,349,165	\$ 1,402,471	1	8,982,431	\$ 2,243,588	\$ 885	13,121,035
Value	19,854,863 \$	6,938,842	\$ 37,318,494	\$ 53,409,241	\$ 1,567,332	8 -	9,681,425	\$ 2,450,342 1	342 \$	15,989,557 14
Total assets	19,854,871	6,938,842	37,318,494	53,409,241	1,567,332	2	9,681,425	2,450,343	343	15,989,571
LIABILITIES Payable to C.M. Life Insurance Company	•	10	99	19	15	5	4		1	ı
NET ASSETS (For variable life insurance policies) 8 19,854,871	19,854,871	6,938,832	\$ 37,318,429	\$ 53,409,222	\$ 1,567,317	s	9,681,421	\$ 2,450,343	343 \$	15,989,571
Outstanding Units Policy owners	5,888,589	2,293,703	14,662,278	14,122,463	809,571	_	3,648,610	1,103,239	239	3,051,892
UNIT VALUE Executive Benefit Variable Universal Life	· · · · · · · · · · · · · · · · · · ·		· ·	8	↔	<i>\$</i>		s	·	
Survivorship Variable Universal Life	3.60	4.20	2.74	4.49	2.02	2	2.85		2.26	4.66
Variable Universal Life	3.27	2.94	2.51	3.83	1.91	1	2.58		2.13	5.39
Survivorship Variable Universal Life II	3.45	3.13	2.73	3.45	2.02	2	2.75		2.26	5.15

See Notes to Financial Statements.

STATEMENTS OF ASSETS AND LIABILITIES (Continued)

5 1	MML Small Cap Growth Equity Division	A G Mon	MML U.S. Government Money Market Division	F. T	T. Rowe Price Blue Chip Growth Division	T.] Eqt	T. Rowe Price Equity Income Division	H	T. Rowe Price Mid-Cap Growth Division	E	Templeton Foreign VIP Division
ASSETS Investments Number of shares	476.850		8.882.968		132.357		229.817		2.064.204		295.788
Identified cost	9	S	8,882,244	S	3,650,010	S	6,196,086	S	54,012,889	S	4,161,941
Value	8,040,815	s	8,882,968	S	6,711,839	s	6,023,504	S	69,088,910	S	3,928,068
Total assets	8,040,815		8,882,968		6,711,839		6,023,504		616'88'0'69		3,928,068
LIABILITIES Payable to C.M. Life Insurance Company	6		106		9		11				∞
NET ASSETS (For variable life insurance policies)	8,040,806	se	8,882,862	∞	6,711,833	%	6,023,493	S	616,889,69	∞	3,928,060
Outstanding Units Policy owners	1,763,635		7,052,178		885,192		1,625,637		7,370,682		2,227,458
UNIT VALUE Fveenitive Renefit Variable Universal Life		¥	,	¥	•	¥		¥		€	
	5.93	÷	1.37	÷	7.85	÷	3.85	•	10.67	÷	1.94
Variable Universal Life	4.45		1.24		7.44		3.65		9.65		1.71
Survivorship Variable Universal Life II	4.74		1.26		7.85		3.85		7.74		1.82

See Notes to Financial Statements.

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS For The Year Ended December 31, 2020

	American Century VP Disciplined Core Value Division	American Century VP Value Division	American Funds® Asset Allocation Division	American Funds® Growth-Income Division	DWS Small Cap Index Division	Fidelity® VIP Contrafund® Division	Fidelity® VIP Index 500 Sub-Account	Franklin Small Cap Value VIP Division
Investment income Dividends	495,912	\$ 47,544	\$ 157,724	\$ 140,647	\$ 42,687	\$ 162,524	\$ 25	\$ 49,003
Expenses Mortality and expense risk fees and administrative charges	122,636	9,104	37,954	42,776	16,113	307,238	4	14,359
Net investment income (loss)	373,276	38,440	119,770	97,871	26,574	(144,714)	21	34,644
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares. Realized gain distribution Realized gain (loss).	583,707 1,277,120 1,860,827	63,099 49,861 112,960	105,019 42,473 147,492	151,475 269,684 421,159	37,786 395,026 432,812	1,630,116 331,698 1,961,814	100	(171,196) 208,423 37,227
Change in net unrealized appreciation/ depreciation of investments	574,417	(98,665)	845,432	818,227	346,832	15,857,500	29	180,991
Net gain (loss) on investments	2,435,244	14,295	992,924	1,239,386	779,644	17,819,314	129	218,218
Net increase (decrease) in net assets resulting from operations	2,808,520	52,735	1,112,694	1,337,257	806,218	17,674,600	150	252,862
Capital transactions: Transfer of net premiums	970,607 (176,628)	71,838	334,378 (37,466)	260,099 (10,825)	106,473 (357)	1,884,740 (364,326)	5,204	156,056 (2,195)
Transfers due to withdrawal of funds	(588,771) (254,584)	(48,799) (15,714)	(119,633)	(168,183) (41,810)	(35,967)	(1,576,126) (588,985)	5 (843)	(90,810) (29,553)
Transfers due to charges for administrative and insurance costs	(937,787)	(61,735)	(286,902)	(251,310)	(91,235)	(2,190,820)	(5,322)	(99,116)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	(17,514)	68,291	139,339	11,732	(6,978)	(149,282)	1,358	160,124
Net increase (decrease) in net assets resulting from capital transactions	(1,004,677) 1,803,843	13,881	4,144	(200,297)	(62,733) 743,485	(2,984,799) 14,689,801	402	94,506
NET ASSETS, at beginning of the year	26,997,125	2,264,246	9,278,560	10,430,144	4,193,953	60,806,457	180	3,894,371
NET ASSETS, at end of the year	28,800,968	\$ 2,330,862	\$ 10,395,398	\$ 11,567,104	\$ 4,937,438	\$ 75,496,258	\$ 732	\$ 4,241,739

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued)

For The Year Ended December 31, 2020

	Goldman Sachs Strategic Growth Division	Invesco Oppenheimer V.I. Capital Appreciation Division	Invesco Oppenheimer V.I. Discovery Mid Cap Growth Division	Invesco Oppenheimer V.I. Global Division	Invesco Oppenheimer V.I. Global Strategic Income Division	Invesco Oppenheimer V.I. International Growth Division	Invesco Oppenheimer V.I. Main Street Division	Invesco Oppenheimer V.I. Total Return Bond Division
Investment income Dividends	5,024	· · · · · · · · · · · · · · · · · · ·	\$ 22,010	\$ 366,834	\$ 475,209	\$ 45,250	\$ 203,501	\$ 93,977
Expenses Mortality and expense risk fees and administrative charges	22,608	225,753	273,356	252,505	35,951	17,695	60,948	12,347
Net investment income (loss)	(17,584)	(225,753)	(251,346)	114,329	439,258	27,555	142,553	81,630
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares	(139,447)	2,171,631	1,596,243	1,376,969	(80,836)	95,417	512,922	11,137
Realized gain distribution	492,458 353,011	9,724,742	4,588,296 6,184,539	3,288,283	(80,836)	06,833 162,250	1,340,172	11,137
Change in net unrealized appreciation/ depreciation of investments	1,580,141	6,316,364	14,836,782	10,118,642	(122,842)	757,797	(208,192)	162,933
Net gain (loss) on investments	1,933,152	16,041,106	21,021,321	13,406,925	(203,678)	920,047	1,644,902	174,070
Net increase (decrease) in net assets resulting from operations	1,915,568	15,815,353	20,769,975	13,521,254	235,580	947,602	1,787,455	255,700
Capital transactions: Transfer of net premiums	121,849	1,603,587	1,711,133	1,807,817	410,641	119,972	515,970	139,184
Transfers due to death benefits	(3,529)	(245,460)	(592,249)	(267,366)	(32,676)	(88,293)	(94,337)	(4,203)
Transfers due to policy loans, net of repayments	(10,446)	(523,085)	(877,856)	(528,381)	(37,375)	(30,345)	(151,928)	(25,800)
I rans ters due to charges for administrative and insurance costs	(155,214)	(1,696,858)	(1,641,061)	(1,730,580)	(349,540)	(128,040)	(473,601)	(124,050)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	(264,288)	(336,740)	60,814	(544,993)	215,149	388,712	47,962	99,335
Net increase (decrease) in net assets resulting from capital transactions	(475,971)	(2,803,298)	(3,013,224)	(2,626,308)	46,537	201,942	(648,044)	29,944
Total increase (decrease)	1,439,597	13,012,055	17,756,751	10,894,946	282,117	1,149,544	1,139,411	285,643
NET ASSETS, at beginning of the year	5,136,197	45,477,720	54,051,679	52,334,305	8,291,801	4,503,961	13,967,429	2,761,946
NET ASSETS, at end of the year	6,575,794	\$ 58,489,775	\$ 71,808,430	\$ 63,229,251	\$ 8,573,918	\$ 5,653,505	\$ 15,106,840	\$ 3,047,589

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued)

For The Year Ended December 31, 2020

	Invesco V.I. Diversified Dividend Division	Invesco V.I. Health Care Division	Invesco V.I. Technology Division	Janus Henderson Balanced Division	Janus Henderson Forty Division	Janus Henderson Global Research Division	MFS® Investors Trust Division	MFS® New Discovery Division
Investment income Dividends	31,080	\$ 2,884		\$ 57,705	\$ 51,923	\$ 75,232	\$ 1,346	· · · · · · · · · · · · · · · · · · ·
Expenses Mortality and expense risk fees and administrative charges	3,576	3,854	4,824	18,196	83,077	46,178	857	5,733
Net investment income (loss)	27,504	(970)	(4,824)	39,509	(31,154)	29,054	489	(5,733)
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares Realized gain distribution	(17,637) 25,847	(3,655)	58,757 104,838	79,370	283,703	278,488 542,903	17,864 6,439	35,453 104,724
Realized gain (1088) Change in net unrealized appreciation/ depreciation of investments	(60,655)	10,237	268,526	312,160	4,878,668	1,105,234	3,337	364,697
Net gain (loss) on investments	(52,445)	135,955	432,121	450,537	6,506,174	1,926,625	27,640	504,874
Net increase (decrease) in net assets resulting from operations	(24,941)	134,985	427,297	490,046	6,475,020	1,955,679	28,129	499,141
Capital transactions: Transfer of net premiums	15,850	25,456 (2,880)	41,546 (40,461)	81,045 (2,757)	449,557 (55,722)	360,386 (75,221)	11,354 (2,770)	20,719 (6,059)
Transfers due to withdrawal of funds	(115,485) (3,286)	(6,726) (4,679)	(8,227) (18,540)	(235,909) (12,795)	(729,223) (108,737)	(272,374) (107,174)	(10,589) $(1,542)$	(41,794) (13,273)
Transfers due to charges for administrative and insurance costs	(28,593)	(35,173)	(68,948)	(118,510)	(515,325)	(242,107)	(10,955)	(30,665)
I ransters between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	106,028	134,632	55,012	21,536	(182,656)	(65,659)	(22,048)	136,088
Net increase (decrease) in net assets resulting from capital transactions Total increase (decrease)	(50,427)	110,630 245,615	(39,618)	(267,390)	(1,142,106) 5,332,914	(402,149) 1,553,530	(36,550)	65,016
NET ASSETS, at beginning of the year	1,233,125	776,147	952,543	3,894,534	17,397,583	10,493,358	237,080	1,065,022
NET ASSETS, at end of the year	1,182,698	\$ 1,021,762	\$ 1,340,222	\$ 4,117,190	\$ 22,730,497	\$ 12,046,888	\$ 228,659	\$ 1,629,179

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued)

For The Year Ended December 31, 2020

	MML Blend Division	MML Blue Chip Growth Division	MML Equity Division	MML Equity Index Division	MML Inflation- Protected and Income Division	MML Managed Bond Division	MML Managed Volatility Division	MML Small Cap Equity Division
Investment income Dividends	€	9	774,138	\$ 869,613	\$ 1,687 \$	8,921	\$ 31,301	\$ 68,575
Expenses Mortality and expense risk fees and administrative charges	717,717	25,251	164,976	204,291	7,202	39,627	7,963	57,362
Net investment income (loss)	(717,717)	(25,251)	609,162	665,322	(5,515)	(30,706)	23,338	11,213
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares Realized on distribution	534,266	105,693	595,337	1,922,790	12,536	(14,953)	19,692	107,593
Realized gain (loss)	1,325,822	608,276	4,354,453	13,283,145	12,536	(14,953)	19,692	230,651
Change in net unrealized appreciation/ depreciation of investments	913,132	1,208,710	(4,269,427)	(5,935,632)	143,944	688,496	94,713	2,419,287
Net gain (loss) on investments	2,238,954	1,816,986	85,026	7,347,513	156,480	673,543	114,405	2,649,938
Net increase (decrease) in net assets resulting from operations	2,161,237	1,791,735	694,188	8,012,835	150,965	642,837	137,743	2,661,151
Capital transactions: Transfer of net premiums	668,627	138,422	1,641,501	1,242,343	78,433	308,925	85,948	435,414
Transfers due to death benefits	(328,286)	(110,453)	(308,403)	(354,171)	(12,572)	(172,534)	(3,003)	(129,845)
Transfers due to withdrawal of funds	(492,115)	(197,669)	(1,512,795)	(1,261,467)	(62,055)	(282,976)	(142,216)	(355,290)
Transfers due to charges for administrative and insurance costs	(871,038)	(175,832)	(1,592,858)	(1,255,858)	(54,510)	(421,033)	(88,238)	(363,850)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	377,557	14,615	(61,424)	(577,682)	54,003	592,527	24,360	(173,199)
Net increase (decrease) in net assets resulting from capital transactions	(749,719)	(383,507)	(2,298,252)	(2,692,268)	(9,856)	(13,463)	(138,038)	(716,365)
Total increase (decrease)	1,411,518	1,408,228	(1,604,064)	5,320,567	141,109	629,374	(295)	1,944,786
NET ASSETS, at beginning of the year	18,443,353	5,530,604	38,922,493	48,088,655	1,426,208	9,052,047	2,450,638	14,044,785
NET ASSETS, at end of the year	19,854,871	\$ 6,938,832	37,318,429	\$ 53,409,222	\$ 1,567,317	9,681,421	\$ 2,450,343	\$ 15,989,571

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued) For The Year Ended December 31, 2020

	MML Small Cap Growth Equity Division	MML U.S. Government Money Market Division	T. Rowe Price Blue Chip Growth Division	T. Rowe Price Equity Income Division	T. Rowe Price Mid-Cap Growth Division	Templeton Foreign VIP Division
Investment income Dividends		\$ 16,643	ss.	\$ 121,173	<i>S</i> 9	117,859
Expenses Mortality and expense risk fees and administrative charges	27,847	31,959	25,218	23,503	277,554	14,713
Net investment income (loss)	(27,847)	(15,316)	(25,218)	97,670	(277,554)	103,146
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares Realized gain distribution Realized gain (loss)	(217,443) 777,378 559,935	13	395,796 211,546 607,342	6,214 127,178 133,392	986,693 4,415,964 5,402,657	(58,857)
Change in net unrealized appreciation/ depreciation of investments	1,577,919	(14)	1,176,535	(168,441)	7,896,773	(131,634)
Net gain (loss) on investments	2,137,854	(1)	1,783,877	(35,049)	13,299,430	(190,491)
Net increase (decrease) in net assets resulting from operations	2,110,007	(15,317)	1,758,659	62,621	13,021,876	(87,345)
Capital transactions: Transfer of net premiums Transfers due to death benefits	158,748 (105,313)	593,170 (7,713)	106,653 (17,893)	200,960 (19,430)	1,390,704 (307,874)	151,828 (99,117)
Transfers due to withdrawal of funds	(243,720) (45,059)	(1,337,077) (76,298)	(55,805) (67,195)	(93,968) (44,848)	(1,865,517) (676,167)	(182,519) (31,986)
Transfers due to charges for administrative and insurance costs	(176,260)	(562,471)	(147,385)	(181,293)	(1,831,061)	(122,204)
Guaranteed Principal Account/Fixed Account	(110,251)	3,069,754	96,736	179,434	(686,783)	(23,479)
resulting from capital transactions	(521,855) 1,588,152	1,679,365	(84,889)	40,855	(3,976,698) 9,045,178	(307,477) (394,822)
NET ASSETS, at beginning of the year	6,452,654	7,218,814	5,038,063	5,920,017	60,043,741	4,322,882
NET ASSETS, at end of the year	.\$ 8,040,806	\$ 8,882,862	\$ 6,711,833	\$ 6,023,493	\$ 616,889,919	3,928,060

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS For The Year Ended December 31, 2019

	American Century VP Income & Growth Division	American Century VP Value Division	American Funds® Asset Allocation Division	American Funds® Growth-Income Division	DWS Small Cap Index Division	Fidelity® VIP Contrafund® Division	Fidelity® VIP Index 500 Sub-Account	Franklin Small Cap Value VIP Division
Investment income Dividends	534,810 \$	44,555 \$	170,600 \$	161,528 \$	42,405 \$	260,543 \$	\$ 9	38,632
Expenses Mortality and expense risk fees and administrative charges	124,120	9,620	36,086	39,829	17,036	266,415	3	15,724
Net investment income (loss)	410,690	34,935	134,514	121,699	25,369	(5,872)	(3)	22,908
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares	937,382	137,013	218,538	209,788	86,733	1,025,265	22	(181,444)
Realized gain distributionRealized gain (loss)	2,190,973 3,128,355	121,350 258,363	449,973	948,219	349,102 435,835	6,297,909	22	615,429 433,985
Change in net unrealized appreciation/ depreciation of investments	1,789,271	204,204	809,888	852,313	395,516	7,638,967	89	385,747
Net gain (loss) on investments	4,917,626	462,567	1,478,399	2,010,320	831,351	14,962,141	06	819,732
Net increase (decrease) in net assets resulting from operations	5,328,316	497,502	1,612,913	2,132,019	856,720	14,956,269	87	842,640
Capital transactions: Transfer of net premiums	987,753	71,117	307,648	256,348	117,806	1,854,927	4,528	140,954
Transfers due to death benefits	(121,150)	(64,006)	1 6	(13,458)	(12,212)	(113,730)	1 ((109,439)
Transfers due to withdrawal of funds	(1,386,033) $(292,202)$	(58,522) (9,659)	(487,820) (206,302)	(260,698) $(100,815)$	(60,916) $(57,772)$	(2,182,649) $(891,095)$	(2) (806)	(249,701) $(19,476)$
Transfers due to charges for administrative and insurance costs	(983,499)	(66,215)	(312,120)	(242,211)	(95,965)	(1,992,595)	(4,904)	(108,415)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	(100,858)	(92,123)	674,055	216,673	(82,731)	(445,176)	631	(33,619)
Net increase (decrease) in net assets resulting from capital transactions	(1,895,989)	(219,408)	(24,539)	(144,161)	(191,790)	(3,770,318)	(553)	(379,696)
Total increase (decrease)	3,432,327	278,094	1,588,374	1,987,858	664,930	11,185,951	(466)	462,944
NET ASSETS, at beginning of the year	23,564,798	1,986,152	7,690,186	8,442,286	3,529,023	49,620,506	646	3,431,427
NET ASSETS, at end of the year	26,997,125 \$	2,264,246 \$	9,278,560 \$	10,430,144 \$	4,193,953 \$	60,806,457 \$	180 \$	3,894,371

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued)

For The Year Ended December 31, 2019

Capital Discovery Oppenheimer V.I. Appreciation Mid Cap Growth Global Division Division Division \$ 25,041 \$\$\$ - \$\$\$ 440,819 \$ 25,041 \$\$\$ - \$\$\$ 440,819 \$ 25,041 \$\$\$ - \$\$\$ 440,819 \$ 238,721 237,598 \$ 3,943,121 6,38,721 203,221 \$ 3,943,121 6,351,004 6,963,034 \$ 4,905,247 7,703,026 7,883,179 \$ 7,596,673 8,144,124 4,876,415 \$ 12,335,926 15,608,429 12,759,594 \$ (6,627) (12,8597) (1,864,414) (2,093,510) \$ (604,171) (644,728) (1,718,578) \$ (1,597,305) (1,559,452) (1,7170) \$ (2,367,840) (2,335,946) (3,282,756) \$ 9,68,086 13,072,483 9,680,059 \$ 9,564,246 9,654,246<	Ğ		r V.I.	V.I.		r V.I.	Ξ		Invesco Oppenheimer V.I.
risk fees and ges. risk fees and [19,185] [19,1035] [238,721] [237,598] realized gain (loss) on sale of fund shares. (5,357) (165,994) (238,721) 203,221 calized gain (loss) on sale of fund shares. (53,478) 962,126 [1,332,022 920,145 500,933 3,943,121 6,351,004 6,963,034 447,455 4,905,247 7,703,026 7,883,179 ced appreciation/ restments. (1,498) (1,501,920 15,847,150 12,759,591 (12,8597) (128,997 (128,997) (14,898) (16,677) (128,997 (14,988) (16,677) (128,997 (14,988) (16,677) (128,997 (14,988) (16,677) (14,988) (16,677) (14,988) (15,919) (16,677) (14,898) (15,919) (16,677) (14,816) (16,917) (14,578) (14,578) (14,578) (14,578) (14,578) (14,578) (14,578) (14,578) (14,578) (14,578) (14,528) (14,528) (14,7770) (14,6816) (14,5914) (15,59452) (14,7770) (14,6816) (14,5914) (15,59452) (14,7770) (14,6816) (14,5814) (14,778) (14,7770) (14,6816) (14,6816) (14,5914) (14,778) (14,7770) (14,6816) (14,6816) (14,5914) (14,7770) (14,7770) (14,6816) (14,7818) (14,7770) (14,770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,7770) (14,77	2 G a	rategic rowth ivision		_	÷	Global Strategic Income Division	International Op Growth Division	Oppenheimer V.I. Main Street Division	I otal Keturn Bond Division
(5,357) (165,994) (238,721) (5,357) (165,994) (238,721) (53,478) 962,126 1,352,022 500,933 3,943,121 6,351,004 447,455 4,905,247 7,703,026 907,474 7,596,673 8,144,124 1,349,572 12,335,926 15,608,429 1,349,572 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,14) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) (1,194,281) 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	<u>~</u>	828		,	440,819 \$	309,685 \$	44,990 \$	140,318 \$	84,479
(5,357) (165,994) (238,721) (53,478) 962,126 1,352,022 500,933 3,943,121 6,351,004 447,455 4,905,247 7,703,026 907,474 7,596,673 8,144,124 1,354,929 12,501,920 15,847,150 1,349,572 12,335,926 15,608,429 1,499,572 1,698,479 1,835,792 (1,498) (37,991) (61,627) (180,199) (1,601,584) (1,864,414) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) 1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	sk fees and	19,185	191,035	238,721	237,598	37,538	17,571	59,272	11,126
(53,478) 962,126 1,352,022 500,933 3,943,121 6,351,004 447,455 4,905,247 7,703,026 907,474 7,596,673 8,144,124 1,354,929 12,501,920 15,847,150 1,349,572 12,335,926 15,608,429 1,349,572 12,335,926 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,14) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) (1,194,281) 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	(loss)	(5,357)	(165,994)	(238,721)	203,221	272,147	27,419	81,046	73,353
(53,478) 962,126 1,352,022 500,933 3,943,121 6,351,004 447,455 4,905,247 7,703,026 1,349,572 12,501,920 15,847,150 1,349,572 12,335,926 15,608,429 128,923 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,414) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) 1,194,281 9,968,086 13,072,483	lized gain (loss)								
300,533 3,943,121 0,331,004 447,455 4,905,247 7,703,026 907,474 7,596,673 8,144,124 1,349,572 12,501,920 15,847,150 1,349,572 12,335,926 15,608,429 1,349,572 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,414) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) (1,194,281) 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	n sale of fund shares	(53,478)	962,126	1,352,022	920,145	(120,519)	60,343	466,876	(5,822)
907,474 7,596,673 8,144,124 1,354,929 12,501,920 15,847,150 1,349,572 12,335,926 15,608,429 128,923 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,414) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) 1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	uttion	447,455	3,943,121 4,905,247	7,703,026	7,883,179	(120,519)	280,943	2,579,203	(5,822)
1,354,929 12,501,920 15,847,150 1,349,572 12,335,926 15,608,429 128,923 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,14) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) (1,194,281) 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	l appreciation/ ments	907,474	7,596,673	8,144,124	4,876,415	656,223	739,801	833,937	152,631
1,349,572 12,335,926 15,608,429 128,923 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,414) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) 1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	tments	1,354,929	12,501,920	15,847,150	12,759,594	535,704	1,020,744	3,413,140	146,809
128,923 1,698,479 1,835,792 (1,498) (57,991) (61,627) (180,199) (1,601,584) (1,864,14) (46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) 1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	÷	1,349,572	12,335,926	15,608,429	12,962,815	807,851	1,048,163	3,494,186	220,162
(186,199) (1,601,584) (1,864,414) (46,751) (604,171) (644,728) (1,597,305) (1,559,452) (1,559,452) (155,291) (2,367,840) (2,535,946) (1,54,281) (2,367,840) (2,535,946) (1,194,281) 9,968,086 13,072,483	ums benefis	128,923	1,698,479	1,835,792	1,833,510	346,044 (491)	144,269	532,939	136,208
(46,751) (604,171) (644,728) (146,816) (1,597,305) (1,559,452) 91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) 1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	drawal of funds	(180,199)	(1,601,584)	(1,864,414)	(2,093,510)	(376,465)	(351,621)	(414,118)	(42,355)
(146,816) (1,597,305) (1,559,452) (1,559,452) (1,559,452) (205,268) (241,517) (155,291) (2,367,840) (2,535,946) (1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	y loans, net of repayments	(46,751)	(604,171)	(644,728)	(757,811)	(124,264)	(23,685)	(148,486)	(14,214)
91,050 (205,268) (241,517) (155,291) (2,367,840) (2,535,946) 1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	ges for administrative	(146,816)	(1,597,305)	(1,559,452)	(1,718,578)	(348,765)	(141,188)	(491,874)	(118,623)
(155,291) (2,367,840) (2,535,946) (1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	sions/sub-Accounts and to/from al Account/Fixed Account	91,050	(205,268)	(241,517)	(417,770)	(77,823)	59,104	(296,627)	199,369
1,194,281 9,968,086 13,072,483 3,941,916 35,509,634 40,979,196	in net assets tal transactions	(155,291)	(2,367,840)	(2,535,946)	(3,282,756)	(581,764)	(317,192)	(829,335)	160,385
3.941,916 35,509,634 40,979,196	e)	1,194,281	980'896'6	13,072,483	650,089,6	226,087	730,971	2,664,851	380,547
	ming of the year	3,941,916	35,509,634	40,979,196	42,654,246	8,065,714	3,772,990	11,302,578	2,381,399
NET ASSETS, at end of the year	of the year\$				52,334,305 \$	8,291,801 \$	4,503,961 \$	13,967,429 \$	2,761,946

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued) For The Year Ended December 31, 2019

	Invesco V.I. Diversified Dividend Division	Invesco V.I. Health Care Division	Invesco V.I. Technology Division	Janus Henderson Balanced Division	Janus Henderson Forty Division	Janus Henderson Global Research Division	MFS® Investors Trust Division	MFS® New Discovery Division
Investment income Dividends	34,730 \$	320 \$	\$	\$ 7,578	24,159 \$	96,422 \$	1,580 \$	
Expenses Mortality and expense risk fees and administrative charges	4,209	3,270	3,886	17,222	71,155	43,658	206	5,201
Net investment income (loss)	30,521	(2,950)	(3,886)	40,356	(46,996)	52,764	673	(5,201)
Net realized and unrealized gain (loss) on investments Realized gain (loss) on sale of fund shares Realized gain distribution	14,891	(85,682) 17.763	49,891	126,117	124,786	277,250 570,613	4,446 13,434	56,245
Realized gain (loss)	79,344	(67,919)	124,951	213,033	1,399,762	847,863	17,880	244,231
Change in net unrealized appreciation/ depreciation of investments	152,838	285,267	140,596	449,285	3,524,868	1,478,896	38,439	104,842
Net gain (loss) on investments	232,182	217,348	265,547	662,318	4,924,630	2,326,759	56,319	349,073
Net increase (decrease) in net assets resulting from operations	262,703	214,398	261,661	702,674	4,877,634	2,379,523	56,992	343,872
Capital transactions: Transfer of net premiums	16,689	23,524	35,892	68,184	420,376	382,508	5,308	18,463
Transfers due to death benefits	•	•	1	(6,500)	(17,536)	(9,222)		(4,298)
Transfers due to withdrawal of funds	(90,831)	(154,821)	(111,843)	(7,125)	(775,992)	(313,913)	(22)	(140,187)
Transfers due to policy loans, net of repayments Transfers due to charges for administrative	(15,894)	(27,916)	(70,600)	(38,207)	(278,578)	(10/,145)	(2,840)	(8,265)
and insurance costs	(41,292)	(42,063)	(49,979)	(132,315)	(490,569)	(265,715)	(10,235)	(38,205)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	(18,464)	2,187	77,426	(139,153)	(90,587)	(72,383)	10,196	58,630
Net increase (decrease) in net assets resulting from capital transactions	(149,792)	(199,089)	(69,104)	(258,116)	(1,182,886)	(385,870)	2,407	(113,862)
Total increase (decrease)	112,911	15,309	192,557	444,558	3,694,748	1,993,653	59,399	230,010
NET ASSETS, at beginning of the year	1,120,214	760,838	759,986	3,449,976	13,702,835	8,499,705	177,681	835,012
NET ASSETS, at end of the year	1,233,125 \$	776,147 \$	952,543 \$	3,894,534 \$	17,397,583 \$	10,493,358 \$	237,080 \$	1,065,022

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued) For The Year Ended December 31, 2019

MML

	MML	MML Blue Chip	MML	MML Equity	Inflation- Protected	MML Managed	MML Managed	MML Small Cap
	Blend Division	Growth Division	Equity Division	Index Division	and Income Division	Bond Division	Volatility Division	Equity Division
Investment income Dividends	432,408 \$	SS .	754,244 \$	1,297,390 \$	34,024 \$	330,735 \$	36,577 \$	63,944
Expenses Mortality and expense risk fees and administrative charges	77,695	22,937	181,045	195,600	6,722	37,941	8,159	61,241
Net investment income (loss)	354,713	(22,937)	573,199	1,101,790	27,302	292,794	28,418	2,703
Net realized and unrealized gain (loss)								
on investments Realized gain (loss) on sale of fund shares	811,724	182,931	416,964	1,621,794	(1,319)	(69,626)	64,079	295,631
Realized gain distribution	876,076	692,014	1,953,861	3,907,382	•	1	-	1,148,380
Realized gain (loss)	1,687,800	874,945	2,370,825	5,529,176	(1,319)	(69,626)	64,079	1,444,011
Change in net unrealized appreciation/ depreciation of investments	1.316.023	475.882	5.236.090	4.957.880	786.77	571.678	164.661	1.619.108
Net oain (loss) on investments	3,003,823	1.350.827	7.606.915	10.487.056	76.668	502.052	228.740	3.063,119
			a dead.		and a			
Net increase (decrease) in net assets resulting from operations	3,358,536	1,327,890	8,180,114	11,588,846	103,970	794,846	257,158	3,065,822
Capital transactions: Transfer of net memiums	719,585	140.413	1.758.314	1,297,107	79.481	334.628	87.783	399,169
Transfers due to death benefits	(674,711)	(12,511)	(123,691)	(354,604)	(9,910)	(360,598)		(207,082)
Transfers due to withdrawal of funds	(507,266)	(273,393)	(1,399,068)	(1,550,473)	(65,937)	(314,683)	(171,168)	(936,720)
Transfers due to policy loans, net of repayments	(303,624)	(56,060)	(570,307)	(346,418)	(20,874)	(47,761)	(32,725)	(75,169)
Transfers due to charges for administrative								
and insurance costs	(860,290)	(164,742)	(1,672,241)	(1,282,996)	(77,748)	(446,734)	(84,024)	(378,678)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	(238,099)	(42,894)	(562,165)	11,627	118,735	127,484	46,516	(120,220)

See Notes to Financial Statements.

(1,318,700)

(153,618) 103,540 2,347,098

(707,664) **87,182 8,964,865**

23,747 127,717 1,298,491

(2,225,757) 9,363,089 38,725,566

(2,569,158) 5,610,956 33,311,537

(409,187) 918,703 4,611,901

(1,864,405) 1,494,131 16,949,222

resulting from capital transactions

Net increase (decrease) in net assets

12,297,663

2,450,638 \$

9,052,047 \$

1,426,208 \$

48,088,655 \$

38,922,493 \$

5,530,604 \$

NET ASSETS, at beginning of the year

STATEMENTS OF OPERATIONS AND CHANGES IN NET ASSETS (Continued) For The Year Ended December 31, 2019

5	MML Small Cap Growth Equity Division	MML U.S. Government Money Market Division	T. Rowe Price Blue Chip Growth Division	T. Rowe Price Equity Income Division	T. Rowe Price Mid-Cap Growth Division	Templeton Foreign VIP Division
Investment income Dividends	€	128,637 \$	ı	\$ 128,266 \$	77,238 \$	70,865
Expenses Mortality and expense risk fees and administrative charges	27,880	28,318	20,679	25,787	273,443	17,208
Net investment income (loss)	(27,880)	100,319	(20,679)	102,479	(196,205)	53,657
Net realized and unrealized gain (loss)						
Realized gain (loss) on sale of fund shares	(50,833)	84	612,864	243,186	2,410,915	15,456
Realized gain (loss)	1,004,494	84	740,016	592,059	6,601,067	57,755
Change in net unrealized appreciation/ depreciation of investments	723,505	(84)	499,639	585,864	8,475,964	355,509
Net gain (loss) on investments	1,727,999		1,239,655	1,177,923	15,077,031	413,264
Net increase (decrease) in net assets resulting from operations	1,700,119	100,319	1,218,976	1,280,402	14,880,826	466,921
Capital transactions:	176 136	890 899	00 841	142 483	1 448 535	173 406
Transfers due to death benefits	(131,262)	, ,	(475,084)	(327,627)	(434,893)	(136,469)
Transfers due to withdrawal of funds	(197,550)	(1,866,125)	(204,143)	(329,511)	(2,371,324)	(109,156)
Transfers due to policy loans, net of repayments	(74,371)	(30,989)	(52,237)	(42,589)	(759,709)	(26,445)
Transfers due to charges for administrative and insurance costs	(177,047)	(572,871)	(130,237)	(189,713)	(1,882,453)	(134,641)
Transfers between divisions/Sub-Accounts and to/from Guaranteed Principal Account/Fixed Account	(235)	1,692,530	16,566	43,337	(724,138)	165,675
Net increase (decrease) in net assets resulting from capital transactions	(404,329)	(109,387)	(745,294)	(703,620)	(4,723,982)	(67,630)
Total increase (decrease)	1,295,790	(9,068)	473,682	576,782	10,156,844	399,291
NET ASSETS, at beginning of the year	5,156,864	7,227,882	4,564,381	5,343,235	49,886,897	3,923,591
NET ASSETS, at end of the year	6,452,654 §	7,218,814 \$	5,038,063	\$ 5,920,017 \$	60,043,741 \$	4,322,882

Notes To Financial Statements

1. ORGANIZATION

C.M. Life Variable Life Separate Account I ("the Separate Account") is a separate investment account of C.M. Life Insurance Company ("C.M. Life") established on February 2, 1995. The Separate Account is registered as a unit investment trust under the Investment Company Act of 1940 ("the 1940 Act").

C.M. Life was formerly a wholly owned stock life insurance subsidiary of Connecticut Mutual Life Insurance Company ("CML"). On February 29, 1996, CML merged with and into Massachusetts Mutual Life Insurance Company ("MassMutual"). Upon the merger, CML's existence ceased and MassMutual became the surviving company under the name Massachusetts Mutual Life Insurance Company. C.M. Life became a wholly owned subsidiary of MassMutual.

C.M. Life maintains the following four segments within the Separate Account: Executive Benefit Variable Universal Life, Survivorship Variable Universal Life, Variable Universal Life, and Survivorship Variable Universal Life II.

The assets and liabilities of the Separate Account are clearly identified and distinguished from C.M. Life's other assets and liabilities. The portion of the Separate Account's assets applicable to the variable life contracts is not chargeable with liabilities arising from any other C.M. Life business.

2 INVESTMENT OF THE SEPARATE ACCOUNT'S ASSETS

As of December 31, 2020, the Separate Account consists of forty-one divisions/sub-accounts that invest in the following mutual funds. All of the funds may not be available to all of the four segments of the Separate Account:

Divisions/Sub-Accounts

American Century VP Disciplined Core Value Division
American Century VP Value Division
American Funds® Asset Allocation Division
American Funds® Growth-Income Division
DWS Small Cap Index Division
Fidelity® VIP Contrafund® Division
Fidelity® VIP High Income Sub-Account
Fidelity® VIP Index 500 Sub-Account
Fidelity® VIP Government Money Market SubAccount
Franklin Small Cap Value VIP Division

Franklin Small Cap Value VIP Division
Goldman Sachs Strategic Growth Division
Invesco Oppenheimer V.I. Capital Appreciation
Division
Invesco Oppenheimer V.I. Conservative Balanced
Division

Invesco Oppenheimer V.I. Discovery Mid Cap Growth Division

Invesco Oppenheimer V.I. Global Division
Invesco Oppenheimer V.I. Global Strategic Income
Division
Invesco Oppenheimer V.I. International Growth

Invesco Oppenheimer V.I. International Growth
Division

The division/Sub-Account listed in the first column invests in the fund in this column

American Century VP Disciplined Core Value Fund^{1, 18}
American Century VP Value Fund¹
American Funds Insurance Series® Asset Allocation Fund²
American Funds Insurance Series® Growth-Income Fund²
DWS Small Cap Index VIP ^{3, 16}
Fidelity® VIP Contrafund® Portfolio⁴
Fidelity® VIP High Income Portfolio^{4, 5}
Fidelity® VIP Index 500 Portfolio⁴
Fidelity® VIP Government Money Market Portfolio^{4, 5}

Franklin Small Cap Value VIP Fund⁶
Goldman Sachs Strategic Growth Fund⁷
Invesco Oppenheimer V.I. Capital Appreciation Fund^{8,17}

Invesco Oppenheimer V.I. Conservative Balanced Fund^{5, 8, 17}

Invesco Oppenheimer V.I. Discovery Mid Cap Growth Fund^{8, 17}

Invesco Oppenheimer V.I. Global Fund^{8,17}
Invesco Oppenheimer V.I. Global Strategic Income Fund^{8,17}

Invesco Oppenheimer V.I. International Growth Fund^{8, 17}

Invesco Oppenheimer V.I. Main Street Division Invesco Oppenheimer V.I. Total Return Bond Division Invesco V.I. Diversified Dividend Division Invesco V.I. Health Care Division Invesco V.I. Technology Division Janus Henderson Balanced Division Janus Henderson Forty Division Janus Henderson Global Research Division MFS® Investors Trust Division MFS® New Discovery Division MML Blend Division MML Blue Chip Growth Division MML Equity Division MML Equity Index Division MML Inflation-Protected and Income Division MML Managed Bond Division MML Managed Volatility Division MML Small Cap Equity Division MML Small Cap Growth Equity Division MML U.S. Government Money Market Division T. Rowe Price Blue Chip Growth Division T. Rowe Price Equity Income Division T. Rowe Price Mid-Cap Growth Division Templeton Foreign VIP Division

Invesco Oppenheimer V.I. Main Street Fund®^{8, 17} Invesco Oppenheimer V.I. Total Return Bond Fund^{8, 17} Invesco V.I. Diversified Dividend Fund8 Invesco V.I. Health Care Fund8, 15 Invesco V.I. Technology Fund8 Janus Henderson Balanced Portfolio9 Janus Henderson Forty Portfolio9 Janus Henderson Global Research Portfolio9 MFS® Investors Trust Series10 MFS® New Discovery Series10 MML Blend Fund¹¹ MML Blue Chip Growth Fund¹² MML Equity Fund¹¹ MML Equity Index Fund¹² MML Inflation-Protected and Income Fund¹¹ MML Managed Bond Fund¹¹ MML Managed Volatility Fund¹² MML Small Cap Equity Fund¹² MML Small Cap Growth Equity Fund¹¹ MML U.S. Government Money Market Fund¹¹ T. Rowe Price Blue Chip Growth Portfolio¹³ T. Rowe Price Equity Income Portfolio¹³ T. Rowe Price Mid-Cap Growth Portfolio¹³ Templeton Foreign VIP Fund¹⁴

In addition to the forty-one divisions/sub-accounts, some policy owners may also allocate funds to the Guaranteed Principal Account ("GPA"), which is part of C.M. Life's general investment account ("General Account"). Because of exemptive and exclusionary provisions in the securities law, interests in the GPA are not registered under the Securities Act of 1933, and the General Account and the GPA are not registered as an investment company under the 1940 Act.

¹American Century Investment Management, Inc. is the investment adviser to this Fund.

²Capital Research and Management Company is the investment adviser to this Fund.

³DWS Investment Management Americas, Inc. is the investment adviser to this Fund.

⁴Fidelity Management & Research Company is the investment adviser to this Portfolio.

⁵This sub-account/division/portfolio did not have any investment or unit activity in 2017, 2019 and 2020.

⁶Franklin Mutual Advisers, LLC is the investment adviser to this Fund.

⁷Goldman Sachs Asset Management, L.P., a separate business unit of the Investment Management Division of Goldman Sachs & Co., is the investment adviser to this Fund.

⁸Invesco Advisers, Inc. is the investment adviser to this Fund.

⁹Janus Capital Management LLC is the investment adviser to this Portfolio.

¹⁰Massachusetts Financial Services Company is the investment adviser to this Series.

¹¹MML Investment Advisers, LLC is the investment advisor to the listed MML II Trust Fund.

¹²MML Investment Advisers, LLC is the investment advisor to the listed MML Trust Fund

¹³T. Rowe Price Associates, Inc. is the investment adviser to this Portfolio.

¹⁴Templeton Investment Counsel, LLC is the investment adviser to this Fund.

 $^{^{15} \}mbox{Invesco V.I.}$ Health Care was formerly known as Invesco V.I. Global Health Care.

¹⁶DWS Small Cap Index VIP was formerly known as Deutsche Small Cap Index VIP.

¹⁷Effective after the close of the New York Stock Exchange on May 24, 2019, Invesco Ltd. completed its acquisition of OppenheimerFunds, Inc. The Acquiring Funds/Divisions assume the accounting and performance history of the corresponding Merging Funds/Divisions. In connection with that transaction the following Funds/Divisions merged:

MERGING FUND/DIVISION	ACQUIRING FUND/DIVISION
Fund: Oppenheimer Capital Appreciation Fund/VA	Fund: Invesco Oppenheimer V.I. Capital Appreciation Fund
Division: Oppenheimer Capital Appreciation Division	Division: Invesco Oppenheimer V.I. Capital Appreciation Division
Fund: Oppenheimer Conservative Balanced Fund/VA	Fund: Invesco Oppenheimer V.I. Conservative Balanced Fund
Division: Oppenheimer Conservative Balanced Division	Division: Invesco Oppenheimer V.I. Conservative Balanced Division
Fund: Oppenheimer Discovery Mid Cap Growth Fund/VA	Fund: Invesco Oppenheimer V.I. Discovery Mid Cap Growth Fund
Division: Oppenheimer Discovery Mid Cap Growth Division	Division: Invesco Oppenheimer V.I. Discovery Mid Cap Growth
Fund: Oppenheimer Global Fund/VA	Fund: Invesco Oppenheimer V.I. Global Fund
Division: Oppenheimer Global Division	Division: Invesco Oppenheimer V.I. Global Division
Fund: Oppenheimer Global Strategic Income Fund/VA	Fund: Invesco Oppenheimer V.I. Global Strategic Income Fund
Division: Oppenheimer Global Strategic Income Division	Division: Invesco Oppenheimer V.I. Global Strategic Income
Fund: Oppenheimer International Growth Fund/VA	Fund: Invesco Oppenheimer V.I. International Growth Fund
Division: Oppenheimer International Growth Division	Division: Invesco Oppenheimer V.I. International Growth Division
Fund: Oppenheimer Main Street Fund®/VA	Fund: Invesco Oppenheimer V.I. Main Street Fund®
Division: Oppenheimer Main Street Division	Division: Invesco Oppenheimer V.I. Main Street Division
Fund: Oppenheimer Total Return Bond Fund/VA	Fund: Invesco Oppenheimer V.I. Total Return Bond Fund
Division: Oppenheimer Total Return Bond Division	Division: Invesco Oppenheimer V.I. Total Return Bond Division

¹⁸ Prior to September 25, 2020, known as American Century VP Income & Growth Division

3. SIGNIFICANT ACCOUNTING POLICIES

The following is a summary of significant accounting policies followed by the Separate Account in preparation of the financial statements in conformity with generally accepted accounting principles. Separate Account C.M. Life Variable Life Separate Account I follows the accounting and reporting guidance in FASB Accounting Standards Codification 946.

A. Investment Valuation

Investments in the investment divisions/sub-accounts are valued at the closing net asset value of each of the respective underlying funds, which value their investment securities at fair value.

B. Accounting for Investments

Investment transactions are accounted for on a trade-date basis and identified cost is the basis followed in determining the cost of investments sold for financial statement purposes. Dividend income and gains from realized gain distributions are recorded on the ex-distribution date, and are reinvested in the underlying investment divisions/sub-accounts.

C. Federal Income Taxes

C.M. Life is taxed under federal law as a life insurance company under the provisions of the 1986 Internal Revenue Code, as amended. Under existing federal law, no taxes are payable on net investment income and net realized capital gains attributable to policies, which depend on the Separate Account's investment performance. Accordingly, no provision for federal income tax has been made. C.M. Life may, however, make such a charge in the future if an unanticipated change of current law results in a company tax liability attributable to the Separate Account.

D. Policy Charges

See Note 8B for charges associated with the policies.

E. Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

F. Policy Loans

When a policy loan is made, the Separate Account transfers the amount of the loan to C.M. Life, thereby decreasing both the investments and the net assets of the Separate Account by an equal amount. The policy owner is charged interest on the outstanding policy loan amount generally equal to either a fixed interest rate of 4% to 8% per year or (in all qualifying jurisdictions) an adjustable loan rate, where applicable. The adjustable loan rate is determined each year for the following policy year.

As long as a loan is outstanding, a portion of the policy account value equal to the loan is invested in the GPA. The amount of the loan earns interest at a rate equal to the greater of either a fixed interest rate generally equal to 3% of the loan or the policy loan rate less the loan interest rate expense charge. This amount does not participate in the Separate Account's investment performance.

G. Life Reserves

Life reserves are developed by using accepted actuarial methods and are computed using the 1980 CSO mortality table.

4. FAIR VALUE OF FINANCIAL INSTRUMENTS

The Separate Account defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, the Separate Account generally uses the market approach as the valuation technique due to the nature of the mutual fund investments offered in the Separate Account. This technique maximizes the use of observable inputs and minimizes the use of unobservable inputs. Investments in mutual funds are valued at the mutual fund's closing net asset value per share on the day of valuation.

Valuation Inputs: Various inputs are used to determine the value of the Separate Account's investments. These inputs are summarized in the three broad levels listed below:

- Level 1 quoted prices in active markets for identical securities
- Level 2 observable inputs other than Level 1 quoted prices (including, but not limited to, quoted prices for similar securities, interest rates, prepayment speeds and credit risk)
- Level 3 unobservable inputs

The investments of the Separate Account are measured at fair value. All the investments are categorized as Level 1 as of December 31, 2020. There have been no transfers between levels for the year ended December 31, 2020.

5. RELATED PARTY TRANSACTIONS

A. Sales Agreements

Pursuant to separate underwriting agreements with C.M. Life, on its own behalf and on behalf of the Separate Account, MML Investors Services, LLC ("MMLIS") serves as principal underwriter of the policies sold by its registered representatives, and MML Distributors, LLC ("MML Distributors") and/or MML Strategic Distributors, LLC ("MSD") serve as principal underwriters of the policies sold by registered representatives of other broker-dealers who have entered into distribution agreements with MML Distributors and/or MSD.

MMLIS, MML Distributors and MSD are registered with the Securities and Exchange Commission (the "SEC") as broker-dealers under the Securities Exchange Act of 1934 and are members of the Financial Industry Regulatory Authority ("FINRA"). Commissions for sales of policies by MMLIS registered representatives are paid on behalf of MMLIS to its registered representatives. Commissions for sales of policies by registered representatives of other broker-dealers are paid on behalf of MML Distributors and/or MSD to those broker-dealers. MMLIS, MML Distributors and MSD also receive compensation for their actions as principal underwriters of the policies.

The policies are no longer offered for sale to the public. Policy owners may continue, however, to make purchase payments under existing policies.

B. Receivable from/Payable to C.M. Life

Certain fees such as cost of insurance fees and mortality and expense fees are charges paid between the General Account and the Separate Account.

6. PURCHASES AND SALES OF INVESTMENTS

The cost of purchases and proceeds from sales of investments for the year ended December 31, 2020 were as follows:

Franklin Small Cap Value VIP Division	636,912 (299,345)	Invesco Oppenheimer V.I. Total Return Bond Division	395,050 (283,470)	MFS® New Discovery Division	310,464 (146,469)	MML Small Cap Equity Division	535,380 (1,117,500)		
	≈	o o	€		€		€		
Fidelity® VIP Index 500 Sub-Account	\$ 5,307 (4,880)	Invesco Oppenheimer V.I. Main Street Division	\$ 1,881,591 (1,046,918)	MFS® Investors Trust Division	\$ 36,554 (66,167)	MML Manged Volatility Division	\$ 172,161 (286,862)		
Fidelity® VIP Contrafund® Division	\$ 1,422,330 (4,220,151)	Invesco Oppenheimer V.I. International Growth Division	\$ 884,417 (588,085)	Janus Henderson Global Research Division	\$ 799,462 (629,637)	MML Managed Bond Division	\$ 1,081,435 (1,125,609)	Templeton Foreign VIP Division	\$ 331,120 (535,447)
DWS Small Cap Index Division	609,312 (250,446)	Invesco Oppenheimer V.I. Global Strategic Income Division	991,957 (506,180)	Janus Henderson Forty Division	1,737,013	MML Inflation- Protected and Income Division	162,065 (177,424)	T. Rowe Price Mid-Cap Growth Division	5,103,262 (4,941,540)
American Funds® Growth-Income Division	\$ 659,226 \$ (491,954)	Invesco Oppenheimer V.I. Global Division	\$ 3,197,433 \$ (3,798,121)	Janus Henderson Balanced Division	\$ 228,039 \$ (396,907)	MML Equity Index Division	\$ 13,002,909 \$ (3,669,515)	T. Rowe Price Equity Income Division	\$ 649,025 \$ (383,316)
American Funds® Asset Allocation Division	\$ 661,485 (495,101)	Invesco Oppenheimer V.I. Discovery Mid Cap Growth Division	\$ 5,439,821 (4,116,165)	Invesco V.I. Technology Division	\$ 214,451 (154,047)	MML Equity Division	\$ 5,247,646 (3,177,500)	T. Rowe Price Blue Chip Growth Division	\$ 788,773 \$ (687,330)
American Century VP Value Division	\$ 277,185 (175,011)	Invesco Oppenheimer V.I. Capital Appreciation Division	\$ 8,458,405 (3,934,294)	Invesco V.I. Health Care Division	\$ 216,861 (85,250)	MML Blue Chip Growth Division	\$ 872,198 (778,377)	MML U.S. Government Money Market Division	\$ 4,739,482 (3,075,335)
American Century VP Disciplined Core Value Division	2,549,429 (1,903,725)	Goldman Sachs Strategic Growth Division	906,476 (907,572)	Invesco V.I. Diversified Dividend Division	183,482 (155,625)	MML Blend Division	1,595,416 (1,631,283)	MML Small Cap Growth Equity Division	893,858 (666,180)
l	Cost of purchases	l	Cost of purchases\$ Proceeds from sales	l	Cost of purchases\$ Proceeds from sales	l	Cost of purchases	l	Cost of purchases

7. NET INCREASE (DECREASE) IN OUTSTANDING UNITS

The changes in outstanding units for the two years ended December 31, 2020 were as follows:

<u>2020</u>	American Century VP Disciplined Core Value Division	American Century VP Value Division	American Funds® Asset Allocation Division	American Funds® Growth-Income Division	DWS Small Cap Index Division	Fidelity® VIP Contrafund® Division	Fidelity® VIP Index 500 Sub-Account	Franklin Small Cap Value VIP Division
Units purchased	423,733 (689,528)	25,438 (38,697)	133,119 (135,565)	(111,285)	38,572 (49,461)	460,313 (952,751)	1,048 (981)	44,637 (54,152)
Accounts and to/from GPA/Fixed Account Net increase (decrease)	(98,500)	25,608 12,349	943 (1,503)	$\frac{(3,497)}{(46,704)}$	(1,266)	(95,474 <u>)</u> (587,912 <u>)</u>	99	40,218
•	Goldman	Invesco Opposition VI	Invesco	Invoced	Invesco	Invesco	Invecoo	Invesco
2020 (Continued)	Strategic Growth Division	Oppennemer v.r. Capital Appreciation Division	Oppennenner v.r. Discovery Mid Cap Growth Division	Oppenheimer V.I. Global Division	Oppennemer v.i. Global Strategic Income Division	Oppennemer v.r. International Growth Division	Oppenheimer V.I. Main Street Division	Oppenhemer v.r. Total Return Bond Division
Units purchased	46,205 (111,848)	583,385 (1,138,884)	597,649 (1,331,135)	423,835 (711,933)	180,810 (225,717)	55,591 (116,574)	232,716 (448,606)	89,670 (123,766)
Accounts and to/from GPA/Fixed Account. Net increase (decrease)	(91,202) (156,845)	(207,624) (763,123)	(95,279) (828,764 <u>)</u>	(174,957) (463,055)	56,667	117,575	(239,662)	50,123
2020 (Continued)	Invesco V.I. Diversified Dividend Division	Invesco V.I. Health Care Division	Invesco V.I. Technology Division	Janus Henderson Balanced Division	Janus Henderson Forty Division	Janus Henderson Global Research Division	MFS® Investors Trust Division	MFS® New Discovery Division
Units purchased Units withdrawn Units transferred between Divisions/Sub-	12,485 (105,946)	7,669 (11,637)	20,491 (53,569)	27,639 (99,783)	134,467 (363,255)	287,178 (478,824)	4,253 (5,809)	6,267 (15,868)
Accounts and to/Hom OF A/Fixed Account Net increase (decrease)	(30,870)	28,232	(14,082)	(72,205)	(292,521)	(285,315)	(8,005)	9,211
2020 (Continued)	MML Blend Division	MML Blue Chip Growth Division	MML Equity Division	MML Equity Index Division	MML Inflation- Protected and Income Division	MML Managed Bond Division	MML Managed Volatility Division	MML Small Cap Equity Division
Units purchased Units withdrawn	267,337 (609,742)	69,941 (219,578)	944,371 (1,735,794)	453,421 (1,051,215)	48,437 (78,444)	157,423 (362,235)	50,295 (121,847)	128,995 (237,946)
Units transferred between Divisions/Sub- Accounts and to/from GPA/Fixed Account Net increase (decrease)	82,813 (259,592)	(5,674)	(201,167) (992,590)	(238,536) (836,330)	24,496 (5,512)	196,042 (8,770)	1,693	(57,503) (166,455)

7. NET INCREASE (DECREASE) IN OUTSTANDING UNITS (Continued)

			Franklin Small Cap Value VIP Division	35,223 (112,598)	$\frac{(10,272)}{(87,647)}$	Invesco Oppenheimer V.I. Total Return Bond Division	95,219 (113,197)	98,113	MFS® New Discovery Division	5,656 (36,202)	(19,208)
			Fidelity® VIP Index 500 Sub-Account	1,036 (1,134)	(66)	Invesco Oppenheimer V.I. Main Street Division	247,572 (428,056) (140,753)	(321,237)	MFS® Investors Trust Division	2,109 (3,239)	2,029
Templeton Foreign VIP Division	(279,376)	(187,012)	Fidelity® VIP Contrafund® Division	553,982 (1,257,826)	(910,658)	Invesco Oppenheimer V.I. International Growth Division	75,024 (215,342) 17,499	(122,819)	Janus Henderson Global Research Division	338,406 (532,794)	(100,517) (294,906)
T. Rowe Price Mid-Cap Growth Division	(618,218) (127,895)	(520,209)	DWS Small Cap Index Division	38,821 (68,873)	(28,689)	Invesco Oppenheimer V.I. Global Strategic Income Division	186,109 (324,029) (83,637)	(221,557)	Janus Henderson Forty Division	156,172 (486,991)	(50,542)
T. Rowe Price Equity Income Division	(109,418)	16,649	American Funds® Growth-Income Division	87,762 (158,541)	30,936 (39,843)	Invesco Oppenheimer V.I. Global Division	452,493 (987,490) (164.538)	(699,535)	Janus Henderson Balanced Division	23,157 (55,147)	(50,109)
T. Rowe Price Blue Chip Growth Division	18,872 (46,574) 24,457	(3,246)	American Funds® Asset Allocation Division	116,256 (304,478)	189,381	Invesco Oppenheimer V.I. Discovery Mid Cap Growth Division	737,900 (1,379,287)	(824,909)	Invesco V.I. Technology Division	21,926 (92,630)	36,033 (34,671)
MML U.S. Government Money Market Division	2,341,037	1,342,963	American Century VP Value Division	22,389 (58,313)	$\frac{(26,421)}{(62,346)}$	Invesco Oppenheimer V.I. Capital Appreciation Division	735,199 (1,332,090)	(830,111)	Invesco V.I. Health Care Division	9,555 (59,660)	(1,162)
MML Small Cap Growth Equity Division	(166,562) (44,493)	(147,366)	American Century VP Income & Growth Division	403,291 (1,033,415)	(72,229) (702,353)	Goldman Sachs Strategic Growth	58,123 (150,153) 29,743		Invesco V.I. Diversified Dividend Division	12,160 (93,890)	(9,727)
2020 (Continued)	Units purchased Units withdrawn Units transferred between Divisions/Sub- Accounts and to/from GPA/Fixed Account	Net increase (decrease)	<u>2019</u>	Units purchased Units withdrawn Units transferred between Divisions/Sub-	Accounts and to/from GPA/Fixed Account Net increase (decrease)	2019 (Continued)	Units purchased	Net increase (decrease)	2019 (Continued)	Units withdrawn	Units transferred between Divisions/Sub-Accounts and to/from GPA/Fixed Account Net increase (decrease)

7. NET INCREASE (DECREASE) IN OUTSTANDING UNITS (Continued)

Units purchased Units withdrawn Units transferred between Divisions/Sub- Accounts and to/from GPA/Fixed Account	MML Blend Division 287,499 (877,778) (104,059)	MML Blue Chip Growth Division 77,618 (245,803) (23,642)	MML Equity Division 900,173 (1,685,841) (359,727) (1,145,396)	MML Equity Index Division 841,881 (1,213,169) (55,759)	MML Inflation- Protected and Income Division 55,460 (101,613) 63,262	MML Managed Bond Division 174,985 (499,905) 28,201	MML Managed Volatility Division 52,142 (145,853) 13,946	MML Small Cap Equity Division 112,412 (406,347) (39,770)
2019 (Continued)	MML Small Cap Growth Equity Division	MML U.S. Government Money Market Division	T. Rowe Price Blue Chip Growth Division	T. Rowe Price Equity Income Division	T. Rowe Price Mid-Cap Growth Division	Templeton Foreign VIP Division		
Units purchased Units withdrawn Units transferred between Divisions/Sub-	(191,443)	586,135 (2,002,175)	28,339 (177,674)	58,269 (274,903)	248,082 (774,075)	130,163 (246,361)		

74,591 (41,608)

(145,939)

 $\frac{(3,825)}{(220,459)}$

(3,197)

1,337,734 (78,306)

(7,339)

Accounts and to/from GPA/Fixed Account....

8. FINANCIAL HIGHLIGHTS

A. A summary of units outstanding, unit values, net assets, investment income ratios, expense ratios (excluding expenses of the underlying funds) and total return ratios for each of the five years in the period ended December 31, 2020 follows:

		At Decembe	er 31,			For the Y	ears	Ended Dec	ember 31,		
_			-		Investment						
_	Units	Unit Value (Lowest to Hig		 Net Assets	Income Ratio ¹		nse R t to H	tatio ² lighest)			turn ³ Highest)
American Century VP Di	sciplined Co	re Value Division ⁷									
2020	8,760,196		3.78	\$ 28,800,968	1.96 %	0.25 %	6 to	0.55 %	11.20 %	to	11.53 %
2019	9,124,491	2.95 to	3.39	26,997,125	2.08	0.25	to	0.55	23.27	to	23.64
2018	9,826,844	2.40 to	2.74	23,564,798	1.92	0.25	to	0.55	(7.38)	to	(7.10)
2017	10,236,746	2.59 to	2.95	26,471,177	2.38	0.25	to	0.55	19.83	to	20.19
2016	10,706,219	2.16 to	2.46	23,087,317	2.38	0.25	to	0.55	12.86	to	13.20
American Century VP Va	alue Division										
2020	590,772	3.88 to	4.09	2,330,862	2.37	0.25	to	0.55	0.42	to	0.73
2019	578,422	3.86 to	4.06	2,264,246	2.11	0.25	to	0.55	26.34	to	26.72
2018	640,768	3.05 to	3.20	1,986,152	1.65	0.25	to	0.55	(9.65)	to	(9.38)
2017	668,097	3.38 to	3.53	2,289,592	1.67	0.25	to	0.55	8.15	to	8.48
2016	672,477	3.13 to	3.26	2,127,131	1.73	0.25	to	0.55	19.82	to	20.18
American Funds® Asset	Allocation Di	vision									
2020	2,612,782	3.88 to	4.09	10,395,398	1.71	0.25	to	0.55	11.84	to	12.18
2019	2,614,285	3.47 to	3.65	9,278,560	1.95	0.25	to	0.55	20.57	to	20.93
2018	2,613,126	2.88 to	3.02	7,690,186	1.63	0.25	to	0.55	(5.13)	to	(4.84)
2017	2,752,115	3.03 to	3.17	8,523,695	1.53	0.25	to	0.55	15.59	to	15.94
2016	2,867,000	2.62 to	2.73	7,673,417	1.64	0.25	to	0.55	8.81	to	9.14
American Funds® Growt	h-Income Di	vision									
2020	2,310,967	4.89 to	5.16	11,567,104	1.38	0.25	to	0.55	12.92	to	13.26
2019	2,357,671	4.33 to	4.55	10,430,144	1.71	0.25	to	0.55	25.44	to	25.82
2018	2,397,514	3.45 to	3.62	8,442,286	1.38	0.25	to	0.55	(2.33)	to	(2.03)
2017	2,637,056	3.54 to	3.69	9,506,003	1.40	0.25	to	0.55	21.71	to	22.08
2016	2,872,254	2.91 to	3.03	8,498,954	1.53	0.25	to	0.55	10.91	to	11.24
DWS Small Cap Index Di	ivision ⁴										
2020	1,145,219	4.18 to	4.61	4,937,438	1.10	0.25	to	0.55	18.78	to	19.13
2019	1,157,374	3.52 to	3.87	4,193,953	1.06	0.25	to	0.55	24.54	to	24.91
2018	1,216,115	2.83 to	3.10	3,529,023	0.94	0.25	to	0.55	(11.72)	to	(11.45)
2017	1,249,252	3.20 to	3.50	4,097,499	0.92	0.25	to	0.55	13.70	to	14.04
2016	1,460,401	2.82 to	3.07	4,215,179	1.12	0.25	to	0.55	20.36	to	20.73
Fidelity® VIP Contrafun	d® Division										
2020	12,860,701	5.92 to	7.20	75,496,258	0.25	0.25	to	0.55	29.85	to	30.24
2019	13,448,613	4.56 to	5.53	60,806,457	0.23	0.25		0.55			31.25
2019			4.21	49,620,506		0.25	to to	0.55	30.86	to	
	14,359,271	3.48 to			0.70				(6.89)	to	(6.61)
2017		3.74 to 3.09 to	4.51 3.71	56,234,911 49,077,790	1.00 0.81	0.25 0.25	to to	0.55 0.55	21.21 7.41	to to	21.57 7.74
			5./1	12,011,120	0.01	0.23		0.55	,.71		7.77
Fidelity® VIP Index 500	Sub-Account 93		7 97	722	5.11			0.90			17.18
2019	93 27		7.87 6.71	732 180	5.11			0.90			30.17
2019					0.92						
	125		5.16	646	0.83			0.90			(5.35)
2017	915		5.45	4,987	3.38			0.90			20.63
2016	-		4.52	-	-			0.90			10.87

_		At Decembe	er 31,			For the Y	Years	Ended De	cember 31	,	
	Units	Unit Value (Lowest to Hig		Net Assets	Investment Income Ratio ¹		ense R st to H	Ratio ² lighest)			turn ³ Highest)
_											
Franklin Small Cap Value							,			,	
2020	833,367		5.25		1.46 %	0.25 %		0.55 %	4.61 %		4.93 %
2019	802,665	4.76 to	5.00	3,894,371	1.05	0.25	to	0.55	25.65	to	26.03
2018	890,312	3.79 to	3.97	3,431,427	0.92	0.25	to	0.55	(13.36)	to	(13.09)
2017	1,006,915	4.37 to	4.57	4,486,642	0.51	0.25	to	0.55	10.05	to	10.38
2016	1,115,217	3.97 to	4.14	4,506,647	0.82	0.25	to	0.55	29.48	to	29.86
Goldman Sachs Strategic	Growth Divis	sion									
2020	1,670,007	3.81 to	4.75	6,575,794	0.09	0.25	to	0.55	39.73	to	40.16
2019	1,826,851	2.73 to	3.39	5,136,197	0.30	0.25	to	0.55	34.78	to	35.19
2018	1,889,138	2.02 to	2.51	3,941,916	0.45	0.25	to	0.55	(1.58)	to	(1.29)
2017	1,924,488	2.06 to	2.54	4,069,697	0.52	0.25	to	0.55	29.95	to	30.34
2016	2,015,231	1.58 to	1.95	3,273,647	0.57	0.25	to	0.55	1.42	to	1.73
Invesco Oppenheimer V.I.	Canital Ann	magiation Division	.6								
2020	. Сарітаі Арр 13,538,141	4.59 to	5.39	58,489,775	_	0.25	to	0.55	35.84	to	36.25
	14,301,264	3.38 to	3.95	45,477,720					35.45		35.86
2019	, ,			, ,	0.06	0.25	to	0.55		to	
2018	15,131,374	2.49 to	2.91	35,509,634	0.32	0.25	to	0.55	(6.25)	to	(5.97)
2017	15,787,312	2.66 to	3.10	39,588,332	0.24	0.25	to	0.55	26.14	to	26.52
2016	16,852,255	2.11 to	2.45	33,526,156	0.41	0.25	to	0.55	(2.74)	to	(2.45)
Invesco Oppenheimer V.I.	. Discovery M	Iid Cap Growth D	Division	6							
2020	16,663,788	4.89 to	5.11	71,808,430	0.04	0.25	to	0.55	39.92	to	40.34
2019	17,492,552	3.50 to	3.64	54,051,679	-	0.25	to	0.55	38.60	to	39.02
2018	18,317,461	2.52 to	2.62	40,979,196	-	0.25	to	0.55	(6.60)	to	(6.32)
2017	18,977,862	2.70 to	2.80	45,582,799	0.03	0.25	to	0.55	28.09	to	28.47
2016	19,732,778	2.11 to	2.18	37,058,955	-	0.25	to	0.55	1.77	to	2.08
Invesco Oppenheimer V.I.	. Global Divis	sion ⁶									
2020	9,544,563	7.11 to	7.77	63,229,251	0.71	0.25	to	0.55	26.94	to	27.32
2019	10,007,618	5.60 to	6.10	52,334,305	0.90	0.25	to	0.55	31.06	to	31.46
2018	10,707,153	4.28 to	4.64	42,654,246	0.99	0.25	to	0.55	(13.66)	to	(13.40)
2017	11,197,353	4.95 to	5.36	51,554,867	0.92	0.25	to	0.55	35.92	to	36.32
2016	11,815,134	3.64 to	3.93	40,042,294	1.06	0.25	to	0.55	(0.47)	to	(0.17)
			. 6								
Invesco Oppenheimer V.I.				0					• • •		
2020	3,083,588	2.75 to	2.90	8,573,918	6.04	0.25	to	0.55	2.83	to	3.14
2019	3,071,827	2.67 to	2.82	8,291,801	3.75	0.25	to	0.55	10.20	to	10.53
2018	3,293,385	2.42 to	2.55	8,065,714	4.83	0.25	to	0.55	(4.92)	to	(4.64)
2017	3,637,972	2.55 to	2.67	9,372,849	2.25	0.25	to	0.55	5.69	to	6.01
2016	3,925,590	2.41 to	2.52	9,566,158	4.88	0.25	to	0.55	5.95	to	6.27
Invesco Oppenheimer V.I.	. Internationa	al Growth Division	n ⁶								
2020	1,744,201	3.14 to	3.33	5,653,505	1.02	0.25	to	0.55	20.83	to	21.20
2019	1,687,610	2.60 to	2.75	4,503,961	1.06	0.25	to	0.55	27.90	to	28.28
2018	1,810,428	2.03 to	2.14	3,772,990	0.87	0.25	to	0.55	(19.86)	to	(19.62)
2017	1,802,532	2.54 to	2.67	4,678,453	1.30	0.25	to	0.55	25.60	to	25.98
2016	2,522,651	2.02 to	2.12	5,228,615	1.10	0.25	to	0.55	(2.65)	to	(2.36)
Invesco Oppenheimer V.I.	Main Street	Division ⁶									
2020	4,868,492	3.79 to	4.47	15,106,840	1.51	0.25	to	0.90	12.92	to	13.66
2019	5,108,155	3.33 to	3.96	13,967,429	1.07	0.25	to	0.90	30.90	to	31.75
2019	5,429,391	2.53 to	3.90	11,302,578	1.07	0.25		0.90	(8.72)	to	(8.12)
2017	5,768,583	2.75 to	3.02	13,089,834	1.13	0.25	to to	0.90	15.83	to	16.62
2016	6,018,499	2.75 to 2.36 to	2.86	11,725,690	1.12	0.25	to	0.90	10.85	to	11.34
2010	0,010,499	2.30 10	2.00	11,723,090	1.12	0.23	ιο	0.50	10.65	ш	11.34

		At Decem	ber 31,			For the Y	/ears	Ended De	cember 31	,	
_					Investment			_			
	Units	Unit Val (Lowest to H		Net Assets	Income Ratio ¹		ense R	latio² lighest)			turn ³ Highest)
Invesco Oppenheimer V.I.				11001135005		(20110)	, t to 1	ingress)	(Lowes		ing.i.e.se/
2020	1,710,803		1.75	\$ 3,047,589	3.20 %	0.25 %	6 to	0.55 %	9.11 %	6 to	9.44 %
2019	1,694,776	1.52 to	1.60	2,761,946	3.25	0.25	to	0.55	8.92	to	9.25
2018	1,596,662	1.39 to	1.47	2,381,399	3.32	0.25	to	0.55	(1.57)	to	(1.27)
2017	2,082,608	1.41 to	1.49	3,171,901	2.24	0.25	to	0.55	4.01	to	4.32
2016	2,508,549	1.35 to	1.43	3,689,194	3.53	0.25	to	0.55	2.71	to	3.01
Invesco V.I. Diversified Di	ividend Divisi	on									
2020	675,691	1.68 to	1.78	1,182,698	3.02	0.25	to	0.55	(0.41)	to	(0.11)
2019	706,561	1.69 to	1.78	1,233,125	2.91	0.25	to	0.55	24.41	to	24.78
2018	798,018	1.36 to	1.42	1,120,214	2.36	0.25	to	0.55	(8.08)	to	(7.81)
2017	894,268	1.48 to	1.55	1,365,896	1.73	0.25	to	0.55	7.98	to	8.30
2016	805,641	1.37 to	1.43	1,139,261	1.94	0.25	to	0.55	14.18	to	14.53
Invesco V.I. Health Care I	Division ⁵										
2020	206,043	4.88 to	5.14	1,021,762	0.34	0.25	to	0.55	13.83	to	14.17
2019	177,811	4.28 to	4.50	776,147	0.04	0.25	to	0.55	31.78	to	32.17
2018	229,079	3.25 to	3.41	760,838	-	0.25	to	0.55	0.35	to	0.65
2017	228,841	3.24 to	3.39	757,459	0.37	0.25	to	0.55	15.19	to	15.54
2016	246,135	2.81 to	2.93	705,118	-	0.25	to	0.55	(11.95)	to	(11.68)
Invesco V.I. Technology D	oivision										
2020	421,186	3.12 to	3.30	1,340,222	-	0.25	to	0.55	45.31	to	45.75
2019	435,268	2.14 to	2.27	952,543	-	0.25	to	0.55	35.13	to	35.54
2018	469,939	1.59 to	1.67	759,986	-	0.25	to	0.55	(1.00)	to	(0.70)
2017	440,542	1.60 to	1.68	719,151	-	0.25	to	0.55	34.39	to	34.80
2016	464,089	1.19 to	1.25	563,022	-	0.25	to	0.55	(1.30)	to	(1.00)
Janus Henderson Balance											
2020	971,923	4.18 to	4.41	4,117,190	1.52	0.25	to	0.55	13.40	to	13.74
2019	1,044,128	3.69 to	3.88	3,894,534	1.61	0.25	to	0.55	21.60	to	21.97
2018	1,126,226	3.03 to	3.18	3,449,976	1.76	0.25	to	0.55	(0.12)	to	0.18
2017	1,238,845	3.04 to	3.17	3,797,130	1.42	0.25	to	0.55	17.49	to	17.84
2016	1,134,040	2.58 to	2.69	2,960,401	1.93	0.25	to	0.55	3.75	to	4.06
Janus Henderson Forty D	ivision										
2020	4,684,583	4.74 to	5.05	22,730,497	0.27	0.25	to	0.55	38.64	to	39.05
2019	4,977,104	3.42 to	3.63	17,397,583	0.15	0.25	to	0.55	36.41	to	36.82
2018	5,358,466	2.51 to	2.65	13,702,835	-	0.25	to	0.55	1.42	to	1.73
2017	5,762,276	2.47 to	2.61	14,512,278	-	0.25	to	0.55	29.60	to	29.99
2016	6,055,576	1.91 to	2.01	11,752,783	-	0.25	to	0.55	1.64	to	1.94
Janus Henderson Global I											
2020	6,895,680	1.71 to	1.82	12,046,888	0.73	0.25	to	0.55	19.40	to	19.76
2019	7,180,994	1.43 to	1.52	10,493,358	1.00	0.25	to	0.55	28.34	to	28.72
2018	7,475,900	1.12 to	1.18	8,499,705	1.14	0.25	to	0.55	(7.38)	to	(7.10)
2017	7,765,162	1.21 to	1.27	9,512,226	0.82	0.25	to	0.55	26.33	to	26.71
2016	7,917,798	0.96 to	1.00	7,668,890	1.08	0.25	to	0.55	1.51	to	1.81
MFS® Investors Trust Div											
2020	45,535	4.89 to	5.16	228,659	0.63	0.25	to	0.55	13.24	to	13.58
2019	53,540	4.32 to	4.54	237,080	0.71	0.25	to	0.55	30.86	to	31.25
2018	52,641	3.30 to	3.46	177,681	0.65	0.25	to	0.55	(6.01)	to	(5.72)
2017	47,480	3.51 to	3.67	169,759	0.71	0.25	to	0.55	22.67	to	23.04
2016	55,152	2.86 to	2.98	160,661	0.89	0.25	to	0.55	7.99	to	8.32

_		At Dece	mber 31,			For the Y	Years	Ended Dec	cember 31	,	
,	Units	Unit V (Lowest to		Net Assets	Investment Income Ratio ¹		ense R st to H	Ratio ² lighest)			turn ³ Highest)
MFS® New Discovery Div	vision		<i></i>		·			0 /_			
2020	198,887	\$ 8.09 to	\$ 8.54	\$ 1,629,179	- %	0.25 %	6 to	0.55 %	45.09 %	o to	45.52 %
2019	189,676	5.58 to	5.87	1,065,022	-	0.25	to	0.55	40.92	to	41.35
2018	208,884	3.96 to	4.15	835,012	-	0.25	to	0.55	(2.02)	to	(1.72)
2017	221,265	4.04 to	4.22	903,106	-	0.25	to	0.55	25.96	to	26.34
2016	252,965	3.21 to	3.34	820,349	-	0.25	to	0.55	8.45	to	8.78
MML Blend Division											
2020	5,888,589	3.27 to	3.60	19,854,871	-	0.25	to	0.55	12.25	to	12.58
2019	6,148,181	2.91 to	3.20	18,443,353	2.43	0.25	to	0.55	20.72	to	21.08
2018	6,842,518	2.41 to	2.64	16,949,222	2.14	0.25	to	0.55	(4.87)	to	(4.58)
2017	7,014,747	2.54 to	2.77	18,226,391	2.13	0.25	to	0.55	14.62	to	14.97
2016	7,251,159	2.21 to		16,409,202	2.15	0.25	to	0.55	8.82	to	9.15
MML Blue Chip Growth	Division										
2020	2,293,703	2.94 to	4.20	6,938,832	_	0.25	to	0.55	33.67	to	34.07
2019	2,449,014	2.20 to		5,530,604	-	0.25	to	0.55	29.13	to	29.52
2018	2,640,840	1.70 to		4,611,901	_	0.25	to	0.55	1.32	to	1.62
2017	2,800,634	1.68 to		4,819,164	0.01	0.25	to	0.55	35.47	to	35.88
2016	2,879,455	1.24 to		3,669,873	-	0.25	to	0.55	0.36	to	0.66
MMI Faciles Division											
MML Equity Division	14 ((2 279	2.51 4.	2.74	27 210 420	2.22	0.25	4.	0.55	2.46		2.77
2020	14,662,278	2.51 to		37,318,429	2.33	0.25	to	0.55	2.46	to	2.77
2019	15,654,868	2.45 to		38,922,493	2.05	0.25	to	0.55	25.23	to	25.61
2018	16,800,264	1.95 to		33,311,537	1.77	0.25	to	0.55	(10.49)	to	(10.22)
2017 2016	17,860,985 18,982,994	2.18 to 1.90 to		39,585,955 36,488,045	1.81 1.75	0.25 0.25	to to	0.55 0.55	15.16 11.98	to to	15.50 12.31
MML Equity Index Divisi	on										
2020	14,122,463	3.83 to	4.49	53,409,222	1.86	0.25	to	0.55	17.57	to	17.92
2019	14,958,794	3.26 to		48,088,655	2.92	0.25	to	0.55	30.34	to	30.73
2018	15,685,840	2.50 to		38,725,566	1.69	0.25	to	0.55	(5.16)	to	(4.87)
2017	16,283,493	2.64 to		42,377,063	1.17	0.25	to	0.55	20.83	to	21.20
2016	18,035,851	2.18 to		38,599,101	1.86	0.25	to	0.55	11.01	to	11.34
MML Inflation-Protected	and Income	Division									
2020	809,571	1.91 to	2.02	1,567,317	0.11	0.25	to	0.55	10.51	to	10.84
2019	815,083	1.73 to		1,426,208	2.44	0.25	to	0.55	7.72	to	8.04
2018	797,974	1.61 to		1,298,491	3.05	0.25	to	0.55	(1.84)	to	(1.54)
2017	1,019,194	1.64 to		1,692,630	3.32	0.25	to	0.55	2.64	to	2.95
2016	1,090,395	1.59 to		1,764,805	2.30	0.25	to	0.55	4.63	to	4.95
MML Managed Bond Div	ision										
2020	3,648,610	2.58 to	2.85	9,681,421	0.10	0.25	to	0.55	7.12	to	7.44
2019	3,657,379	2.41 to	2.65	9,052,047	3.70	0.25	to	0.55	9.21	to	9.54
2018	3,954,099	2.21 to		8,964,865	3.49	0.25	to	0.55	(0.99)	to	(0.69)
2017	4,024,578	2.23 to		9,210,709	3.17	0.25	to	0.55	4.12	to	4.43
2016	4,289,308	2.14 to		9,423,917	2.81	0.25	to	0.55	2.19	to	2.49
MML Managed Volatility											
2020	1,103,239	2.13 to		2,450,343	1.36	0.25	to	0.55	6.10	to	6.41
2019	1,173,098	2.01 to	2.13	2,450,638	1.55	0.25	to	0.55	11.28	to	11.62
2018	1,252,863	1.81 to		2,347,098	1.22	0.25	to	0.55	(5.21)	to	(4.93)
2017	1,371,587	1.91 to	2.00	2,706,462	1.29	0.25	to	0.55	8.44	to	8.76
2016	1,403,920	1.76 to	1.84	2,547,711	1.73	0.25	to	0.55	3.12	to	3.43

_	At December 31,					For the Years Ended December 31,							
_	Units	Unit Value ³ (Lowest to Highest)		_	Net Assets	Investment Income Ratio ¹	Income Expense Ratio						
MML Small Cap Equity D	ivision												
2020	3,051,892	\$ 4.66	to \$	5.39	\$	15,989,571	0.54 %	0.25 %	6 to	0.55 %	20.03 %	o to	20.39 %
2019	3,218,346	3.87	to	4.49		14,044,785	0.47	0.25	to	0.55	25.77	to	26.15
2018	3,552,052	3.07	to	3.57		12,297,663	0.49	0.25	to	0.55	(10.68)	to	(10.41)
2017	3,725,486	3.43	to	4.00		14,430,797	0.84	0.25	to	0.55	13.74	to	14.08
2016	3,862,353	3.00	to	3.51		13,153,626	1.08	0.25	to	0.55	17.57	to	17.92
MML Small Cap Growth	Equity Divis	ion											
2020	1,763,635	4.45	to	5.93		8,040,806	-	0.25	to	0.55	34.88	to	35.28
2019	1,911,001	3.30	to	4.38		6,452,654	-	0.25	to	0.55	33.59	to	33.99
2018	2,044,332	2.47	to	3.27		5,156,864	-	0.25	to	0.55	(5.40)	to	(5.11)
2017	2,118,852	2.61	to	3.45		5,646,580	-	0.25	to	0.55	22.14	to	22.51
2016	2,194,947	2.14	to	2.81		4,783,228	-	0.25	to	0.55	12.13	to	12.46
MML U.S. Government M	loney Marke	et Division											
2020	7,052,178	1.24	to	1.37		8,882,862	0.20	0.25	to	0.55	(0.32)	to	(0.02)
2019	5,709,215	1.25	to	1.37		7,218,814	1.69	0.25	to	0.55	1.15	to	1.45
2018	5,787,520	1.23	to	1.35		7,227,882	1.32	0.25	to	0.55	0.78	to	1.08
2017	5,901,033	1.22		1.33		7,306,633	0.36	0.25	to	0.55	(0.19)	to	0.11
2016	5,841,622	1.23		1.33		7,246,043	-	0.25	to	0.55	(0.44)	to	(0.14)
T. Rowe Price Blue Chip (Growth Divis	sion											
2020	885,192	7.44	to	7.85		6,711,833	_	0.25	to	0.55	33.54	to	33.94
2019	888,438	5.57		5.86		5,038,063	_	0.25	to	0.55	29.18	to	29.56
2018	1,040,970	4.31		4.52		4,564,381	_	0.25	to	0.55	1.35	to	1.66
2017	1,140,081	4.26		4.45		4,944,349	_	0.25	to	0.55	35.42	to	35.83
2016	1,248,833	3.14		3.27		3,998,270	-	0.25	to	0.55	0.23	to	0.53
T. Rowe Price Equity Inco	me Division												
2020	1,625,637	3.65	to	3.85		6,023,493	2.36	0.25	to	0.55	0.63	to	0.93
2019	1,608,988	3.62		3.81		5,920,017	2.30	0.25	to	0.55	25.71	to	26.08
2018	1,829,447	2.88		3.02		5,343,235	2.00	0.25	to	0.55	(10.00)	to	(9.73)
2017	2,002,805	3.20		3.35		6,496,987	1.75	0.25	to	0.55	15.39	to	15.73
2016	2,185,326	2.78		2.89		6,141,257	2.33	0.25	to	0.55	18.52	to	18.87
T. Rowe Price Mid-Cap G	rowth Divisi	on											
2020	7,370,682	9.65	to	10.67		69,088,919	_	0.25	to	0.55	23.13	to	23.50
2019	7,890,891	7.84		8.64		60,043,741	0.13	0.25	to	0.55	30.57	to	30.96
2018	8,562,823	6.00		6.60		49,886,897	0.13	0.25	to	0.55	(2.57)		(2.28)
2017	9,124,288	6.16		6.75		54,538,910		0.25		0.55	24.09	to	24.46
2016	9,124,288	4.96		5.42		46,087,325	-	0.25	to to	0.55	5.68	to to	5.99
Tomoloton F VID D													
Templeton Foreign VIP Di		1 71	to	1.04		2 020 060	2 20	0.25	4-	0.55	(1.70)	4-	(1.40)
2020	2,227,458	1.71		1.94		3,928,060	3.38	0.25	to	0.55	(1.70)	to	(1.40)
2019	2,414,470	1.74		1.96		4,322,882	1.74	0.25	to	0.55	11.91	to	12.25
2018	2,456,078	1.56		1.75		3,923,591	2.71	0.25	to	0.55	(15.91)	to	(15.65)
2017	2,504,727	1.85		2.08		4,750,560	2.51	0.25	to	0.55	16.05	to	16.40
2016	2,774,863	1.60	to	1.78		4,528,492	2.00	0.25	to	0.55	6.59	to	6.91

¹The investment income ratios represent the dividends, excluding distributions of capital gains, received by the division/sub-account from the underlying mutual fund, net of management fees assessed by the fund manager, divided by the average net assets. These ratios exclude those expenses, such as mortality and expense charges, that are assessed against policy owner accounts either through reductions in the unit values or the redemption of units. The recognition of investment income by the division/sub-account is affected by the timing of the declaration of dividends by the underlying fund in which the division/sub-account invests.

²The expense ratios represent the annualized policy expenses of the Separate Account, consisting primarily of mortality and expense charges, for each period indicated. The ratios include only those expenses that result in a direct reduction of unit values. Charges made directly to policy owner accounts through the redemption of units and expenses of the underlying fund have been excluded.

8. FINANCIAL HIGHLIGHTS (Continued)

B. The separate account assesses "current" charges associated with each policy. These charges are either assessed as a direct reduction in unit values or through a redemption of units for all policies contained within the Separate Account. Charges shown below state charges assessed at a monthly rate unless otherwise specified.

Administrative Charge	Effective annual rate of 0.25% of the policy's average daily net assets
This charge is assessed through a reduction in unit values.	in the Separate Account
Administrative Charge	\$5 to \$12 per month
This charge is assessed through a redemption of units.	
Mortality and Expense Risk Charge	Effective annual rate of 0.25% to 0.65% of the policy's
These charges are assessed through a reduction in unit	average daily net assets in the Separate Account
values.	
Face Amount Charge	\$0.00 to \$0.17 per \$1,000 of face amount
This charge is assessed through a redemption of units.	
Insurance Charge	\$0.00 to \$70.83 per \$1,000 of insurance risk
This charge is assessed through a redemption of units.	
Additional Mortality Fees	\$0.00 to \$83.33 per \$1,000 of insurance risk
This charge is assessed through a redemption of units.	\$0.08 to \$83.33 per \$1,000 of face amount
Loan Interest Rate Expense Charge	Effective annual rate of 0.00% to 1.50% of the loan amount
This charge is assessed through a redemption of units.	

³The total returns are for the periods indicated, including changes in the value of the underlying fund, and the expenses assessed through the reduction of unit values. These ratios do not include any expenses assessed through the redemption of units. Investment options with a date notation indicate the effective date of that investment option in the variable account. The total return is calculated for each period indicated or from the effective date through the end of the reporting period. As the total return is presented as a range of minimum to maximum values, based on the product grouping representing the minimum expense ratio amounts, some individual policy total returns and unit values are not within the ranges presented.

⁴Prior to July 2, 2018 known as Deutsche Small Cap Index Division.

⁵Prior to April 30, 2018 known as Invesco V.I. Global Health Care Division.

⁶Effective after the close of the New York Stock Exchange on May 24, 2019, Invesco Ltd. completed its acquisition of OppenheimerFunds, Inc. See Note 2 to the financial statements for information regarding the merger of this division.

⁷Prior to September 25, 2020, known as American Century VP Income & Growth Division

Rider Charges:					
The rider charges do not apply to all segments within the Separate Account.					
These charges are assessed through the redemption of units.					
A. Disability Benefit	\$0.01 to \$0.26 per \$1 of monthly deductions				
	\$0.00 to \$0.32 per \$100 of specified benefit amount				
	\$0.00 to \$0.09318 per \$1,000 of insurance risk				
B. Guaranteed Insurability	\$0.03 to \$0.11 per \$1,000 of option amount				
C. Other Insured	\$0.03 to \$25.01 per \$1,000 of insurance risk				
D. Waiver of Monthly Charges	\$0.01 to \$0.26 per \$1 of monthly deductions				
E. Estate Protection	\$0.00 to \$14.97 per \$1,000 of insurance risk				
F. Survivorship Term	\$0.00 to \$23.52 per \$1,000 of insurance risk				
	\$0.00 to \$0.04 per \$1,000 of face amount				
C. Additional Martality Foos	\$0.00 to \$83.33 per \$1.000 of face amount				
G. Additional Mortality Fees	\$0.00 to \$83.33 per \$1,000 of face amount				

9. SUBSEQUENT EVENTS

The Separate Account's management has reviewed events occurring through March 10, 2021, the date the financial statements were issued, and no subsequent events occurred requiring accrual or disclosure.





C.M. LIFE INSURANCE COMPANY

STATUTORY FINANCIAL STATEMENTS

As of December 31, 2020 and 2019 and for the years ended December 31, 2020, 2019 and 2018

C.M. LIFE INSURANCE COMPANY STATUTORY FINANCIAL STATEMENTS

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

Independent Auditors' Report

The Board of Directors and Shareholder of C.M. Life Insurance Company:

We have audited the accompanying statutory financial statements of C.M. Life Insurance Company (the Company), which comprise the statutory statements of financial position as of December 31, 2020 and 2019, and the related statutory statements of operations, changes in capital and surplus, and cash flows for the three-year period ended December 31, 2020, and the related notes to the statutory financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these statutory financial statements in accordance with statutory accounting practices prescribed or permitted by the State of Connecticut Insurance Department. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of statutory financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these statutory financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the statutory financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the statutory financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the statutory financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the statutory financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the statutory financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Basis for Adverse Opinion on U.S. Generally Accepted Accounting Principles

As described in Note 2 to the statutory financial statements, the statutory financial statements are prepared by the Company using statutory accounting practices prescribed or permitted by the State of Connecticut Insurance Department, which is a basis of accounting other than U.S. generally accepted accounting principles. Accordingly, the statutory financial statements are not intended to be presented in accordance with U.S. generally accepted accounting principles.

The effects on the statutory financial statements of the variances between the statutory accounting practices described in Note 2 and U.S. generally accepted accounting principles, although not reasonably determinable, are presumed to be material.



Adverse Opinion on U.S. Generally Accepted Accounting Principles

In our opinion, because of the significance of the variances between statutory accounting practices and U.S. generally accepted accounting principles discussed in the Basis for Adverse Opinion on U.S. Generally Accepted Accounting Principles paragraph, the statutory financial statements referred to above do not present fairly, in accordance with U.S. generally accepted accounting principles, the financial position of the Company as of December 31, 2020 and 2019, or the results of its operations or its cash flows for the three-year period ended December 31, 2020.

Opinion on Statutory Basis of Accounting

In our opinion, the statutory financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for the three-year period ended December 31, 2020, in accordance with statutory accounting practices prescribed or permitted by the State of Connecticut Insurance Department described in Note 2.

KPMG LLP

Hartford, Connecticut February 24, 2021

C.M. LIFE INSURANCE COMPANY STATUTORY STATEMENTS OF FINANCIAL POSITION

As of December 31,

	2020		201	9
-	(\$ In Million	ıs Exc	ept for Par	Value)
Assets:				
Bonds	4,	,069	\$	3,810
Preferred stocks		5		7
Common stocks – subsidiary and a ffiliates		294		311
Common stocks – unaffiliated		5		4
Mortga ge loans		943		933
Policy loans		153		151
Partnerships and limited liability companies		164		161
Derivatives		960		533
Cash, cash equivalents and short-term investments		335		463
Other invested a ssets		367		315
Totalinvested assets	7,	,295		6,688
Investment income due and accrued		114		93
Federal income taxes		6		2
Net deferred income taxes		4		30
Other than invested assets		20		16
Totalassets excluding separate accounts	7.	,439		6,829
Separate account a ssets	1,	,972		1,810
Totalassets	9,	,411	\$	8,639
Liabilities:				
Policyholders' reserves	3,	,900	\$	3,939
Liabilities for deposit-type contracts		69		86
Contract claims and other benefits		24		19
Transfers due from separate accounts		(4)		(4)
Pa yable to parent		21		33
Asset valuation reserve		103		107
Collateral		249		114
Derivatives		941		593
Other liabilities		397		207
Total lia bilities excluding separate accounts	5,	,700		5,094
Separate account liabilities	1,	,972		1,810
Total lia bilities	7,	,672		6,904
Capital and surplus:				
Common stock, \$200 par value				
50,000 shares authorized,				
12,500 shares issued and outstanding		3		3
Paid-in and contributed surplus		450		450
Surplus	1	,286		1,282
Total capital and surplus	1,	,739		1,735
Total capital and surplus	\$ 9.	,411	\$	8,639

C.M. LIFE INSURANCE COMPANY STATUTORY STATEMENTS OF OPERATIONS

	Years Ended December 31,								
		2020	2	2019		2018			
			(In N	(Iillions					
Revenue:									
Premium income	\$	279	\$	315	\$	332			
Net investment income		279		327		296			
Fees and other income		99		127		130			
Totalrevenue		657		769		758			
Benefits, expenses and other deductions:									
Policyholders' benefits		575		635		650			
Change in policyholders' reserves		(159)		(186)		(167)			
General insurance expenses		78		114		117			
Commissions		41		57		60			
State taxes, licenses and fees		10		12		12			
Other deductions		(4)		(6)		(7)			
Total benefits, expenses and other deductions		541		626		665			
Net gain from operations before federal income taxes		116		143		93			
Federal income tax expense		7		20		7			
Net gain from operations		109	,	123		86			
Net rea lized capital (losses) gains		(7)		(7)		1			
Net income	\$	102	\$	116	\$	87			

C.M. LIFE INSURANCE COMPANY STATUTORY STATEMENTS OF CHANGES IN CAPITAL AND SURPLUS

	Years Ended December 31,						
	2020	2019	2018				
		(In Millions)					
Capital and surplus, beginning of year	\$ 1,735	\$ 1,637	\$ 1,573				
Net increase/(decrease) due to:							
Net income	102	116	87				
Change in net unrealized capital gains (losses), net of tax	37	(24)	26				
Change in net unrealized foreign exchange capital							
gains (losses), net of tax	34	11	(24)				
Change in other net deferred income taxes	(27)	(22)	(2)				
Change in nonadmitted assets	29	32	(3)				
Change in reserve valuation basis	3	-	(8)				
Change in a sset valuation reserve	4	(6)	(5)				
Dividend to shareholder	(173)	-	-				
Other	(5)	(9)	(7)				
Net increase	4	98	64				
Capital and surplus, end of year	\$ 1,739	\$ 1,735	\$ 1,637				

C.M. LIFE INSURANCE COMPANY STATUTORY STATEMENTS OF CASH FLOWS

	Years	ber 31,	
	2020	2019	2018
		(In Millions)	
Cash from operations:			
Premium collected net of reinsurance	\$ 374	\$ 426	\$ 469
Net investment income	270	336	294
Benefit payments	(568)	(637)	(645)
Net transfers from separate accounts	122	154	136
Commissions and other expenses	(142)	(206)	(179)
Federal and foreign income taxes paid	(15)	(12)	(31)
Net cash from operations	41	61	44
Cash from investments:			
Proceeds from investments sold, matured or repaid:			
Bonds	682	910	764
Preferred and common stocks – unaffiliated	5	23	7
Common stocks – a ffilia ted	-	(4)	6
Mortga ge loans	111	89	80
Partnerships and limited liability companies	11	33	71
Derivatives	115	80	(41)
Other	(54)	(92)	39
Total investment proceeds	870	1,039	926
Cost of investments acquired:			
Bonds	(904)	(647)	(740)
Preferred and common stocks – unaffiliated	_	(3)	(4)
Common stocks – a ffilia ted	(2)	-	-
Mortga ge loans	(120)	(97)	(67)
Partnerships and limited liability companies	(22)	(31)	(44)
Derivatives	(5)	(7)	(4)
Other	-	(14)	15
Total investments a cquired	(1,053)	(799)	(844)
Net increase in policy loans	(2)	(2)	(1)
Net cash from investing activities	(185)	238	81
Cash from financing and miscellaneous sources:			
Net (withdra wals) deposits on deposit-type contracts	(18)	(14)	3
Change in repurchase and reverse repurchase a greements	-	(233)	1
Change in collateral	134	74	(29)
Other cash used	(100)	(54)	(13)
Net cash from financing and miscellaneous sources	16	(227)	(38)
Net change in cash, cash equivalents and short-term investments	(128)	72	87
Cash, cash equivalents and short-term investments, beginning of period	463	391	304
Cash, cash equivalents and short-term investments, end of period	\$ 335	\$ 463	\$ 391

1. Nature of operations

These statutory financial statements include C.M. Life Insurance Company (the Company), a wholly owned stock life insurance subsidiary of Massachusetts Mutual Life Insurance Company (MassMutual). The Company is domiciled in the State of Connecticut. It provides life insurance and annuities to individuals and group life insurance to institutions.

MassMutual is a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and its domestic life insurance subsidiaries provide individual and group life insurance, disability insurance, individual and group annuities and guaranteed interest contracts to individual and institutional customers in all 50 states of the United States of America (U.S.), the District of Columbia and Puerto Rico. Products and services are offered primarily through the Company's MassMutual Financial Advisors (MMFA), Digital Direct to Consumer and Business to Business (DTC&B2B), Institutional Solutions (IS) and Workplace Solutions distribution channels.

MMFA is a sales force that includes financial professionals that operate in the U.S. MMFA sells individual life and individual annuities. The Company's DTC&B2B distribution channel sells individual life primarily through direct response television advertising, digital media, search engine optimization and search engine marketing. The Company's IS distribution channel sells group life insurance benefit advisors.

2. Summary of significant accounting policies

a. Basis of presentation

The statutory financial statements have been prepared in conformity with the statutory accounting practices of the National Association of Insurance Commissioners (NAIC) and the accounting practices prescribed or permitted by the State of Connecticut Insurance Department (the Department).

Statutory accounting principles are different in some respects from financial statements prepared in accordance with U.S. Generally Accepted Accounting Principles (U.S. GAAP). The more significant differences between statutory accounting principles and U.S. GAAP are as follows:

Invested assets

- Bonds are generally carried at amortized cost, whereas U.S. GAAP reports bonds at fair value for bonds available for sale and trading or at amortized cost for bonds held to maturity
- Changes in the fair value of derivative financial instruments are recorded as changes in capital and surplus, whereas U.S. GAAP generally reports these changes as revenue unless deemed an effective hedge
- Embedded derivatives are recorded as part of the underlying contract, whereas U.S. GAAP would identify and bifurcate certain embedded derivatives from the underlying contract or security and account for them separately at fair value
- Income recognition on partnerships and limited liability companies, which are accounted for under the equity method, is limited to the amount of cash distribution, whereas U.S. GAAP is without limitation
- Certa in majority-owned subsidiaries are accounted for using the equity method, whereas U.S. GAAP would
 consolidate these entities

Policyholders' liabilities

- Statutory policy reserves are based upon prescribed methods, such as the Commissioners' Reserve Valuation
 Method, Commissioners' Annuity Reserve Valuation Method (CARVM) or net level premium method, and
 prescribed statutory mortality, morbidity and interest assumptions at the time of issuance, whereas U.S.
 GAAP policy reserves would generally be based upon the net level premium method or the estimated gross
 margin method with estimates, at time of issuance, of future mortality, morbidity, persistency and interest
- Lia bilities for policyholders' reserves, unearned premium, and unpaid claims are presented net of reinsurance ceded, whereas U.S. GAAP would present the lia bilities on a direct basis and report an asset for the amounts recoverable or due from reinsurers

• Payments received for universal and variable life insurance products, certain variable and fixed defened annuities and group annuity contracts are reported as premium income and corresponding change in reserves, whereas U.S. GAAP would treat these payments as deposits to policyholders' account balances

General insurance expenses and commissions

Certain acquisition costs, such as commissions and other variable costs, directly related to successfully
acquiring new business are charged to current operations as incurred, whereas U.S. GAAP generally would
capitalize these expenses and amortize them based on profit emergence over the expected life of the policies
or over the premium payment period

Net realized capital (losses) gains

• After-tax realized capital (losses) gains that result from changes in the overall level of interest rates for all types of fixed-income investments and interest-related hedging activities are deferred into the interest maintenance reserve (IMR) and amortized into revenue, whereas U.S. GAAP reports these gains and losses as revenue.

Capital and surplus

- Changes in the balances of deferred income taxes, which provide for book versus tax temporary differences, are subject to limitation and are recorded in surplus, whereas U.S. GAAP would generally include the change in deferred taxes in net income without limitation
- Assets are reported at admitted asset value and assets designated as nonadmitted are excluded through a charge against surplus, whereas U.S. GAAP recognizes all assets, net of any valuation allowances
- An asset valuation reserve (AVR) is reported as a contingency reserve to stabilize surplus against fluctuations
 in the statement value of partnerships and limited liability companies and certain common stocks as well as
 credit-related changes in the value of bonds, mortgage loans and certain derivatives, whereas U.S. GAAP
 does not record this reserve
- Changes to the mortgage loan valuation allowance are recognized in net unrealized capital gains (losses), net of tax, in the Statutory Statements of Changes in Capital and Surplus, whereas U.S. GAAP reports these changes in net realized capital (losses) gains
- Statutory Statements of Changes in Capital and Surplus includes net income, change in net unrealized capital gains (losses), change in net unrealized foreign exchange capital gains (losses), change in other net defended income taxes, change in nonadmitted assets, change in AVR prior period adjustments, whereas U.S. GAAP presents net income as retained earnings and net unrealized capital gains (losses), change in net unrealized foreign exchange capital gains (losses), change in minimum pension liability as other comprehensive income
- The change in the fair value for unaffiliated common stock is recorded in surplus, whereas the change in the fair value for ownership interests in an entity not accounted for under the equity method or consolidated are recorded in revenue for U.S. GAAP

The preparation of financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and lia bilities, the disclosure of assets and lia bilities as of the date of the statutory financial statements and the reported amounts of revenues and expenses during the reporting periods. The most significant estimates include those used in determining the carrying values of investments including the amount of mortgage ban investment valuation reserves, other-than-temporary impairment(s) (OTTI), the lia bilities for policyholders' reserves, the determination of admissible deferred tax assets (DTA), the lia bility for taxes and the lia bility for litigation or other contingencies. Future events including, but not limited to, changes in the level of mortality, morbidity, interest rates, persistency, a seet valuations and defaults could cause results to differ from the estimates used in the statutory financial statements. Although some variability is inherent in these estimates, management believes the amounts presented are appropriate.

Certa in prior year amounts within these financial statements have been reclassified to conform to the current year presentation.

b. Bonds

Bonds are generally valued at amortized cost using the constant yield interest method with the exception of NAIC Category 6 bonds, which are in or near default, and certain residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS), which are rated by outside modelers, which are carried at the lower of amortized cost or fair value. NAIC ratings are applied to bonds and other investments. Categories 1 and 2 are considered investment grade, while Categories 3 through 6 are considered below investment grade. Bonds are recorded on a tradedate basis, except for private placement bonds, which are recorded on the funding date.

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

Fixed income securities, with the highest ratings from a rating agency follow the retrospective method of accounting.

All other fixed income securities, such as floating rate bonds and interest only securities, including those that have been impaired, follow the prospective method of accounting.

The fair value of bonds is based on quoted market prices when available. If quoted market prices are not available, values provided by other third-party organizations are used. If values provided by other third-party organizations are una vailable, fair value is estimated using internal models by discounting expected future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and cash flow priority are also considered. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

Refer to Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)" for information on the Company's policy for determining OTTI.

c. Preferred stocks

Preferred stocks in good standing, those that are rated Categories 1 through 3 by the Securities Valuation Office (SVO) of the NAIC, are generally valued at amortized cost. Preferred stocks not in good standing, those that are rated Categories 4 through 6 by the SVO of the NAIC, are valued at the lower of amortized cost or fair value. Fair values are based on quoted market prices, when a vailable. If quoted market prices are not available, values provided by third-party organizations are used. If values provided by third-party organizations are unavailable, fair value is estimated using internal models. These models use inputs not directly observable or correlated with observable market data. Typical inputs integrated into the Company's internal discounted expected earnings models include, but are not limited to, earnings before interest, taxes, depreciation and amortization estimates. Fair values resulting from internal models are those expected to be received in a norderly transaction between willing market participants.

Refer to Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)" for information on the Company's policy for determining OTTI.

d. Common stock - subsidiary and affiliate

The Company accounts for the value of its subsidiary and affiliate, primarily, MML Bay State Life Insurance Company (MML Bay State), a wholly owned stock life insurance subsidiary, at their underlying statutory net equity. MML Bay State's operating results, less dividends declared, are reflected as net unrealized capital gains in the Statutory Statements of Changes in Capital and Surplus. Dividends are recorded in net investment income when declared. The cost basis of common stock – subsidiary and affiliate is a djusted for impairments deemed to be other than temporary consistent with common stocks - unaffiliated.

e. Common stocks - unaffiliated

Una ffiliated common stocks are carried at fair value, which is based on quoted market prices when available. If quoted market prices are not a vailable, values provided by third-party organizations are used. If values from third parties are una vailable, fair values are determined by management using estimates based upon internal models. The Company's internal models include estimates based upon comparable company analysis, review of financial statements, broker quotes and last traded price. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

Refer to Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)" for information on the Company's policy for determining OTTI.

f. Mortgage loans

Mortgage loans are valued at the unpaid principal balance of the loan, net of unamortized premium, discount, mortgage origination fees and valuation allowances. Interest income earned on impaired loans is accrued on the outstanding principal balance of the loan based on the loan's contractual coupon rate. Interest is not accrued for (a) impaired loans more than 60 days past due, (b) delinquent loans more than 90 days past due, or (c) loans that have interest that is not expected to be collected. The Company continually monitors mortgage loans where the accrual of interest has been discontinued, and will resume the accrual of interest on a mortgage loan when the facts and circumstances of the borrower and property indicate that the payments will continue to be received according to the terms of the original or modified mortgage loan agreement.

Refer to *Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)"* for information on the Company's policy for determining OTTI.

g. Policy loans

Policy loans are carried at the outstanding loan balance less amounts unsecured by the cash surrender value of the policy and amounts ceded to reinsurers.

h. Partnerships and limited liability companies

Partnerships and limited lia bility companies, except for partnerships that generate and realize low income housing tax credits (LIHTCs), are accounted for using the equity method with the change in the equity value of the underlying investment recorded in surplus. Distributions received are recognized as net investment income to the extent the distribution does not exceed previously recorded accumulated undistributed earnings.

Investments in partnerships that generate LIHTCs are carried at amortized cost unless considered impaired. Under the amortized cost method, the excess of the carrying value of the investment over its estimated residual value is amortized into net investment income during the period in which tax benefits are recognized.

The equity method is suspended if the carrying value of the investment is reduced to zero due to losses from the investment. Once the equity method is suspended, losses are not recorded until the investment returns to profitability and the equity method is resumed. However, if the Company has guaranteed obligations of the investment or is otherwise committed to provide further financial support for the investment, losses will continue to be reported up to the amount of those guaranteed obligations or commitments.

Refer to Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)" for information on the Company's policy for determining OTTI.

i. Derivatives

Derivatives are carried at fair value, which is based primarily upon quotations obtained from counterparties and independent sources. These quotations are compared to internally derived prices and a price challenge is lodged with the counterparties and independent sources when a significant difference cannot be explained by appropriate

adjustments to the internal model. When quoted market values are not reliable or available, the value is based on an internal valuation process using market observable inputs that other market participants would use. Changes in the fair value of these instruments are recorded a sunrealized capital gains (losses) in capital and surplus. Gains and losses realized on settlement, termination, closing or assignment of contracts are recorded in net realized capital (losses) gains. Amounts receivable and payable are accrued as net investment income.

j. Cash, cash equivalents and short-term investments

Cash and cash equivalents, which are carried at amortized cost, consist of all highly liquid investments purchased with original maturities of three months or less.

Short-term investments, which are carried at amortized cost, consist of short-term bonds and all highly liquid investments purchased with maturities of greater than three months and less than or equal to 12 months.

The carrying value reported in the Statutory Statements of Financial Position for cash, cash equivalents and short-term investment instruments approximates the fair value.

k. Investment income due and accrued

Accrued investment income consists primarily of interest and dividends. Interest is recognized on an accrual basis and dividends are recorded a searned on the ex-dividend date.

l. Other than invested assets

Other than invested assets primarily includes deferred and uncollected life insurance premium, reinsurance recoverables and other receivables.

m. Separate accounts

Separate and sub-accounts accounts are segregated funds administered and invested by the Company, the performance of which primarily benefits the policyholders/contract holders with an interest in the separate accounts. Group and individual variable annuity, variable life and other insurance policyholders/contract holders select from among the separate accounts and sub-accounts made available by the Company. The separate accounts and sub-accounts are offered as investment options under certain insurance contracts or policies. The returns produced by separate account assets increase or decrease separate account reserves. Separate account assets consist principally of marketable securities reported at fair value. Separate account assets can only be used to satisfy separate account liabilities and are not available to satisfy the general obligations of the Company. Separate account administrative and investment advisory fees are included in fees and other income.

The Company only has separate accounts classified as nonguaranteed for which the policyholder/contract holder assumes the investment risk.

Premium income, benefits and expenses of the separate accounts are included in the Statutory Statements of Operations with the offset recorded in the change in policyholders' reserves. Investment income, realized capital (losses) gains and unrealized capital gains (losses) on the assets of separate accounts accrue to policyholders/contract holders and are not recorded in the Statutory Statements of Operations.

n. Nonadmitted assets

Assets designated as nonadmitted by the NAIC primarily include the amount of DTAs (subject to certain limitations) that will not be realized by the end of the third calendar year following the current year end, certain investments in partnerships and limited liability companies for which qualifying a udits are not performed, advances and prepayments, investment income due and accrued, and certain other receivables. Assets that are designated as nonadmitted are excluded from the Statutory Statements of Financial Position through a charge a gainst capital and surplus.

o. Reinsurance

The Company enters into reinsurance agreements with a ffiliated and unaffiliated insurers in the normal course of business to limit its insurance risk.

Premium income, benefits to policyholders (including unpaid claims) and policyholders' reserves are reported net of reinsurance. Premium, benefits and reserves related to reinsured business are accounted for on bases consistent with those used in accounting for the original policies issued and the terms of the reinsurance contracts. The Company records a receivable for reinsured benefits paid, but not yet reimbursed by the reinsurer and reduces policyholders' reserves for the portion of insurance liabilities that are reinsured. Commissions and expense allowances on reinsurance ceded are recorded as revenue.

p. Policyholders' reserves

Policyholders' reserves are developed by a ctuarial methods that will provide for the present value of estimated future obligations in excess of estimated future premium on policies in force and are determined based on either statutory prescribed mortality/morbidity tables using specified interest rates and valuation methods, or principles-based reserving (PBR) under Valuation Manual (VM)-20 which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses.

On January 1,2020, the Company transitioned from Actuarial Guideline 43 to VM-21 for valuing guaranteed living benefits on certain annuity products for statutory reserves.

Certa in variable universal life and universal life contracts include features such as guaranteed minimum death benefits (GMDB) or other guarantees that ensure continued death benefit coverage when the policy would otherwise lapse. The value of the guarantee is only available to the beneficiary in the form of a death benefit. The liability for variable and universal life GMDBs and other guarantees is included in policyholders' reserves and the related change in this liability is included in change in policyholders' reserves in the Statutory Statements of Operations.

The fixed index annuity (FIA) product offers guaranteed lifetime withdrawal benefit (GLWB). A GLWB provides the annuity contract holder with a guarantee that a minimum amount will be available for withdrawal annually for life regardless of the contract value.

Certa in individual variable annuity and fixed annuity products offer GMDBs. The liability for GMDBs is included in policyholders' reserves and the related change in this liability is included in change in policyholders' reserves in the Statutory Statement of Operations.

Tabular interest, tabular reserves, reserves released, and tabular cost for all life and annuity contracts and supplementary contracts involving life contingencies are determined in accordance with NAIC Annual Statement instructions. For tabular interest, whole life and term products use a formula that applies a weighted a verage interest rate determined from a seriatim valuation file to the mean a verage reserves. Universal life, variable life, group life, annuity and supplemental contracts use a formula that applies a weighted a verage credited rate to the mean account value. For contracts without an account value (e.g., a Single Premium Immediate Annuity) a weighted a verage statutory valuation rate is applied to the mean statutory reserve or accepted actuarial methods using applicable interest rates are applied.

All policyholders' reserves and accruals are presented net of reinsurance. Management believes that these liabilities and accruals represent management's best estimate and will be sufficient, in conjunction with future revenues, to meet future anticipated obligations of policies and contracts in force.

q. Liabilities for deposit-type contracts

Liabilities for investment-type contracts such as supplementary contracts not involving life contingencies are based on account value or accepted actuarial methods using applicable interest rates.

r. Transfers due from separate accounts

Transfers due from separate accounts represent a net receivable from the Company's separate accounts.

s. Federal income taxes

Total federal income taxes are based upon the Company's best estimate of its current and DTAs or lia bilities. Current tax expense (benefit) is reported in the Statutory Statements of Operations as federal income tax expense (benefit) if resulting from operations and within net realized capital (losses) gains if resulting from invested asset transactions. Changes in the balances of deferred taxes, which provide for book-to-tax temporary differences, are subject to limitations and are reported within various lines within surplus. Accordingly, the reporting of book-to-tax temporary differences, such as reserves and policy acquisition costs, and of book-to-tax permanent differences, such as tax-exempt interest and tax credits, results in effective tax rates in the Statutory Statements of Operations that differ from the federal statutory tax rate.

t. Asset valuation reserve

The Company maintains an AVR that is a contingency reserve to stabilize capital and surplus a gainst fluctuations in the carrying value of common stocks, real estate, partnerships and limited liability companies as well as credit-related changes in the value of bonds, preferred stocks, mortgage loans, and certain derivatives. The AVR is reported as a liability within the Statutory Statements of Financial Position and the change in AVR, net of tax, is reported within the Statutory Statements of Changes in Capital and Surplus.

u. Repurchase agreements

Repurchase agreements are contracts under which the Company sells securities and simultaneously agrees to repurchase the same or substantially the same securities. These repurchase agreements are carried at cost and accounted for as collateralized borrowings with the proceeds from the sale of the securities recorded as a liability while the underlying securities continue to be recorded as an investment by the Company. Earnings on these investments are recorded as investment income and the difference between the proceeds and the amount at which the securities will be subsequently reacquired is a mortized as interest expense. Repurchase agreements are used as a tool for overall portfolio management to help ensure the Company maintains adequate assets in order to provide yield, spread and duration to support liabilities and other corporate needs.

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

The carrying value reported in the Statutory Statements of Financial Position for repurchase a greements approximates the fair value.

v. Interest maintenance reserve

The Company maintains an IMR that is used to stabilize net income against fluctuations in interest rates. After-tax realized capital (losses) gains, which result from changes in interest rates for all types of fixed-income investments and interest-related derivatives, are deferred into the IMR and amortized into net investment income using the grouped amortization method. In the grouped amortization method, a ssets are grouped based on years of maturity. IMR is reduced by the amount ceded to reinsurers when entering into in force coinsurance ceding a greements. The IMR is included in other liabilities, or if negative, is recorded as a nonadmitted asset.

w. Other liabilities

Other liabilities primarily consist of interest due on derivatives, affiliated payables and remittances and items not allocated.

x. Premium and related expense recognition

Life insurance premium revenue is generally recognized annually on the anniversary date of the policy. However, premium for flexible products, primarily universal life and variable universal life contracts, is recognized as revenue when received. Annuity premium is recognized as revenue when received.

Premium revenue is adjusted by the related deferred premium adjustment. Deferred premium adjusts for the overstatement created in the calculation of reserves as the reserve computation assumes the entire year's net premium is collected annually at the beginning of the policy year and does not take into a count installment or modal payments. Commissions and other costs related to issuance of new policies and policy maintenance and settlement costs are charged to current operations when incurred. Surrender fee charges on certain life and annuity products are recorded as a reduction of benefits and expenses.

y. Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)

Realized capital (losses) gains, net of taxes, exclude gains (losses) deferred into the IMR and gains (losses) of the separate accounts. Realized capital (losses) gains, including OTTI, are recognized in net income and are determined using the specific identification method.

Bonds-general

The Company employs a systematic methodology to evaluate OTTI by conducting a quarterly analysis of bonds. OTTI is evaluated in a manner consistent with market participant assumptions. The Company considers the following factors, where applicable depending on the type of securities, in the evaluation of whether a decline in value is other than temporary: (a) the likelihood that the Company will be a ble to collect all amounts due according to the contractual terms of the debt security; (b) the present value of the expected future cash flows of the security; (c) the characteristics, quality and value of the underlying collateral or issuer securing the position; (d) collateral structure; (e) the length of time and extent to which the fair value has been below amortized cost; (f) the financial condition and near-term prospects of the issuer; (g) adverse conditions related to the security or industry; (h) the rating of the security; (i) the Company's ability and intent to hold the investment for a period of time sufficient to allow for an anticipated recovery to a mortized cost; and (j) other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value.

In addition, if the Company has the intent to sell, or the inability, or lack of intent to retain the investment for a period sufficient to recover the amortized cost basis, an OTTI is recognized as a realized loss equal to the entire difference between the investment's amortized cost basis and its fair value at the balance sheet date.

When a bond is other-than-temporarily impaired, a new cost basis is established.

Bonds - corporate

For corporate securities, if it is determined that a decline in the fair value of a bond is other than temporary, OTTI is recognized as a realized loss equal to the difference between the investment's amortized cost basis and, generally, its fair value at the balance sheet date.

Bonds - loan-backed and structured securities

For loan-backed and structured securities, if the present value of cash flows expected to be collected is less than the amortized cost basis of the security, an OTTI is recognized as a realized loss equal to the difference between the investment's amortized cost basis and the present value of cash flows expected to be collected. The expected cash flows are discounted at the security's effective interest rate. Internal inputs used in determining the amount of the OTTI on structured securities include collateral performance, prepayment speeds, default rates, and loss severity based on borrower and loan characteristics, as well as deal structure including subordination, over-collateralization and cash flow priority.

ABS and MBS are evaluated for OTTI using scenarios and assumptions based on the specifics of each security including collateral type, loan type, vintage and subordination level in the structure. Cash flow estimates are based on these assumptions and inputs obtained from external industry sources along with internal analysis and actual experience. Where applicable, assumptions include prepayment speeds, default rates and loss severity, weighted a verage maturity and changes in the underlying collateral values.

The Company has a review process for determining if CDOs are at risk for OTTI. For the senior, mezzanine and junior debt tranches, cash flows are modeled using multiple scenarios based on the current ratings and values of the underlying corporate credit risks and incorporating prepayment and default assumptions that vary according to collateral attributes of each CDO. The prepayment and default assumptions are varied within each model based upon rating (base case), historical expectations (default), rating change improvement (optimistic), rating change downgrade (pessimistic) and fair value (market). The default rates produced by these multiple scenarios are assigned an expectation weight according to current market and economic conditions and fed into a final scenario. OTTI is recorded if this final scenario results in the loss of any principal or interest payments due.

For the most subordinated junior CDO tranches, the present value of the projected cash flows in the final scenario is measured using an effective yield. If the current book value of the security is greater than the present value measured using an effective yield, an OTTI is taken in an amount sufficient to produce its effective yield. Certain CDOs cannot be modeled using all of the scenarios because of limitations on the data needed for all scenarios. The cash flows for these CDOs, including foreign currency denominated CDOs, are projected using a customized scenario management believes is reasonable for the applicable collateral pool.

For loan-backed and structured securities, any difference between the new amortized cost basis and any increased present value of future cash flows expected to be collected is accreted into net investment income over the expected remaining life of the bond.

Common and preferred stock

The cost basis of common and preferred stocks is adjusted for impairments deemed to be other than temporary. The Company considers the following factors in the evaluation of whether a decline in value is other than temporary: (a) the financial condition and near-term prospects of the issuer; (b) the Company's ability and intent to retain the investment for a period sufficient to allow for a near-term recovery in value; and (c) the period and degree to which the value has been below cost. The Company conducts a quarterly analysis of issuers whose common or preferred stock is not-in-good standing or valued below 80% of cost. The Company also considers other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value.

Mortgage loans

The Company performs internal reviews at least annually to determine if individual mortgage loans are performing or nonperforming. The fair values of performing mortgage loans are estimated by discounting expected future cash flows using current interest rates for similar loans with similar credit risk. For nonperforming loans, the fair value is the estimated collateral value of the underlying real estate. If foreclosure is probable, the Company will obtain an external appraisal.

Mortgage loans are considered to be impaired when, based upon current available information and events, it is probable that the Company will be unable to collect all amounts of principal and interest due according to the contractual terms of the mortgage loan agreement. A valuation allowance is recorded on a loan-by-loan basis in net unrealized capital losses for the excess of the carrying value of the mortgage loan over the fair value of its underlying collateral. Such information or events could include property performance, capital budgets, future lease roll, a property inspection as well as payment trends. Collectability and estimated decreases in collateral values are also assessed on a loan-by-loan basis considering all events and conditions relevant to the loan. This evaluation is inherently subjective as it requires estimates that are susceptible to significant revisions as more information becomes a vailable, as changes occur in the market or as negotiations with the borrowing entity evolve. If there is a change in the fair value of the underlying collateral or the estimated loss on the loan, the valuation allowance is adjusted accordingly. An OTTI occurs upon the realization of a credit loss, typically through foreclosure or after a decision is made to accept a discounted payoff, and is recognized in realized capital losses. The previously recorded valuation allowance is reversed from unrealized capital losses. When an OTTI is recorded, a new cost basis is established reflecting estimated value of the collateral.

Real estate

For real estate held for the production of income, depreciated cost is adjusted for impairments whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable, with the impairment being included in realized capital losses. An impairment is recorded when the property's estimated future net operating cash flows over ten years, undiscounted and without interest charges, is less than book value.

Adjustments to the carrying value of real estate held for sale are recorded in a valuation reserve as realized capital losses when the fair value less estimated selling costs is less than the carrying value.

Partnerships and limited liability companies

When it is probable that the Company will be unable to recover the outstanding carrying value of an investment based on undiscounted cash flows, or there is evidence indicating an inability of the investee to sustain earnings to justify the carrying value of the investment, OTTI is recognized in realized capital losses reflecting the excess of the carrying value over the estimated fair value of the investment. The estimated fair values of limited partnership interests are generally based on the Company's share of the net asset value (NAV) as provided in the financial statements of the investees. In certain circumstances, management may adjust the NAV by a premium or discount when it has sufficient evidence to support applying such adjustments.

For determining impairments in partnerships that generate LIHTCs, the Company uses the present value of all future benefits, the majority of which are tax credits, discounted at a risk-free rate for future benefits of ten or more years and compares the results to its current book value. Impairments are recognized in realized capital losses reflecting the excess of the carrying value over the estimated fair value of the investment.

Unrealized capital gains (losses)

Unrealized capital gains (losses) include changes in the fair value of derivatives, excluding interest rate swaps and credit default index swaps a sociated with replicated assets; currency translation a djustments on foreign-denominated bonds; changes in the fair value of unaffiliated common stocks; changes in the fair value of bonds and preferred stocks that are carried at fair value; and changes in the inflation adjustments on U.S Treasury inflation-indexed securities. Changes in the Company's equity investments in partnerships and limited liability companies, including the earnings as reported on the financial statements, earnings recorded as accumulated undistributed earnings, foreign exchange asset valuation and mark-to-market on operating assets, and certain subsidiaries and a ffiliates are also reported as changes in unrealized capital gains (losses). Unrealized capital gains (losses) are recorded as a change in capital and surplus net of tax.

3. New accounting standards

a. Adoption of new accounting standards

In June 2016, the NAIC adopted modifications to Statements of Statutory Accounting Principles (SSAP) No. 51R, Life Contracts, to incorporate references to the Valuation Manual and to facilitate the implementation of principles-based reserving (PBR), which were effective on January 1, 2017. The adoption of PBR only applies to new life insurance policies issued after January 1, 2017, however the Company adopted these revisions to SSAP No. 51R using the 3-year phased in approach as of January 1, 2020. Prior to adoption, the Company used formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company is required to hold the higher of (a) the reserve using prescribed factors and (b) the VM-20 reserve which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. At the time of adoption, the modifications did not have a material effect on the Company's total life reserves and surplus in the financial statements.

In August 2019, the NAIC adopted modifications to SSAP No. 51R, *Life Contracts*, to incorporate references to the Valuation Manual and to facilitate the implementation of PBR. The adoption, effective January 1, 2020, only applies to certain annuity products and includes inforce policies issued after 1980. Prior to adoption, the Company used formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under VM-21, the aggregate reserve for contracts falling within the scope of these requirements shall equal the stochastic reserve plus the additional standard projection amount less the projected IMR included in the starting assets. These requirements constitute the CARVM for all contracts encompassed by the scope. The modifications did not have a material effect on the Company's total annuity reserves and surplus in the financial statements.

In April 2020, the NAIC adopted modifications to SSAP Nos. 15, 22R and 86. These revisions adopt Financial Accounting Standard Accounting Standard Update No. 2020-04 Reference Rate Reform, which applies only to contracts, hedging relationships, and other transactions that reference London Inter-Bank Offered Rate (LIBOR) or another reference rate expected to be discontinued because of reference rate reform. Optional expedients allow entities (under certain circumstances) to a void having to remeasure contracts or reassess a previous accounting determination for hedged items. The guidance is effective through December 31, 2022. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In April 2020, the NAIC adopted modifications to SSAP Nos. 6, 47,51R and 65. This guidance extends the 90-Day Rule due to the impacts of COVID-19 and provides exception to the 90-day past due rule for nonadmittance required in SSAP No. 6 for premiums, SSAP No. 47 for uncollected uninsured plan receivables, SSAP No. 51R for life premiums and SSAP No. 65 for high deductible policies. This guidance expired on December 30, 2020. The Company has a dopted this guidance and the adoption did not have a material impact on its financial statements.

In April 2020, the NAIC adopted modifications to SSAP No. 36. This guidance notes a mortgage loan or bank loan modification due to the impacts of COVID-19 on the borrower will not automatically be categorized as a troubled debt restructuring (TDR). To qualify for relief, the borrower must have been in good standing as of December 31, 2019 (not more than 30 days past due). This guidance expires on January 1, 2022. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In April 2020, the NAIC adopted modifications to SSAP Nos. 26R, 30R, 37, 43R and 48. This guidance provides limited time exceptions for impairment assessments related to mortgage loans, bank loans and other investments that predominantly invest in mortgage loans and does not require an impairment classification under SSAP No. 37 for mortgage loans or SSAP No. 26R for bank loans that are deferred/modified in response to the impacts of COVID-19. It also provides limited-scope provisions for assessing impairment for other investments (e.g., mutual funds, limited liability companies) that predominantly invest in mortgage loans impacted due to fair value declines if the entity does not intend to sell. This guidance only defers the assessment of impairment due to situations caused by the forbearance or modification of mortgage loan or bank loan payments for borrowers who are or may be unable to meet their contractual payment obligations because they are experiencing short-term financial or operational problems due to the effects of COVID-19. This guidance expired on December 30, 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In May 2020, the NAIC adopted modifications to SSAP No. 34. This guidance notes if investments have been impacted by forbearance or other modification provisions, a reporting entity shall assess whether the investment income has been earned in accordance with the modified terms. This guidance expired on December 30, 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In May 2020, the NAIC adopted modifications to SSAP Nos. 26R, 36, 43R and 103R. This guidance clarifies how to determine when restructuring or modification of certain debt investments due to COVID-19 are a TDR. The guidance also clarifies whether a modification that is not a TDR needs to be assessed as an exchange under SSAP No. 103R. This guidance expires on January 1,2022 and was effective for the specific purpose to provide practical expedients in assessing whether modifications in response to COVID-19 are insignificant under SSAP No. 36 and in assessing whether a change is substantive under SSAP No. 103R. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

b. Future adoption of new accounting standards

In July 2020, the NAIC adopted modifications to SSAP No. 26R, *Accounting for Bond Tender Offers*, effective January 1, 2021. The modifications apply similar reporting for gains or losses due to a tender offer as previously adopted for calls. The difference between consideration and par is recognized as net investment income, while any difference between book value and par is recognized as realized gain or loss. The modifications are not expected to have a material effect on the Company's financial statements.

In July 2020, the NAIC adopted modifications to SSAP No. 32, *Preferred Stock*, effective January 1, 2021. The modifications define carrying value of redeemable preferred stock as amortized cost for NAIC 1-3 designations, the lower of amortized cost or fair value for NAIC 4-6 designations, and new fair value measurement for perpetual and mandatorily convertible preferred stock. They clarify when failure to meet certain dividends or redemption payments could trigger an impairment assessment, that preferred shares issued by joint ventures are included in the scope of this guidance, and clarifies scope related to sinking fund schedules, mandatory conversions, and various other features. They also clarify fair value would be capped by any currently effective call price. The revisions would impact the Company's current unaffiliated and a ffiliated perpetual preferred stock investments. The modifications are not expected to have a material effect on the Company's financial statements.

4. Fair value of financial instruments

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

	December 31, 2020										
	Ca	rrying	F	air							
		alue	Va	lue	Le	vel 1	Le	evel2	Le	vel3	
					(In M	Iillions)				
Financial assets:					`						
Bonds:											
U. S. government and agencies	\$	3	\$	3	\$	-	\$	3	\$	-	
All other governments		1		1		-		1		-	
States, territories and possessions		21		25		-		25		-	
Political subdivisions		16		19		-		19		-	
Special revenue		107		129		-		129		-	
Industrial and miscellaneous		3,754	4	4,164		-		2,223		1,941	
Parent, subsidiaries and affiliates		167		174		_		_		174	
Preferred stocks		5		7		_		_		7	
Common stocks - subsidiaries and affiliates		19		19		18		_		1	
Common stocks - unaffiliated		5		5		_		_		5	
Mortgage loans - commercial		788		827		_		_		827	
Mortgage loans - residential		155		156		_		_		156	
Derivatives:											
Interest rate swaps		902		902		_		902		_	
Options		39		39		_		39		_	
Currency swaps		18		18		_		18		_	
Forward contracts		1		1		_		1		_	
Cash, cash equivalents and		-		-				•			
short-term investments		335		335		37		298		_	
Separate account assets		1,972		1,972		1,972		_, _		_	
Financial liabilities:		1,2 / =		-,> , -		1,2 / =					
Individual annuity contracts		3,004		3,742		_		_		3,742	
Supplementary contracts		63		63		_		_		63	
Derivatives:		03		03						03	
Interest rate swaps		890		890				890			
Options		11		11		_		11		-	
Currency swaps		23		23		-		23		-	
Forward contracts		23 7		23 7		-		23 7		-	
Financial futures		10		10		10		/		-	
r manciai futures		10		10		10		-		-	

 $Common\ stock-subsidiary\ and\ a\ ffilia\ tes\ does\ not\ include\ MML\ Bay\ State, which \ has\ a\ statutory\ carry\ value\ of\ \$275\ million.$

December 31, 2019 Fair Carrying Value Value Level 1 Level2 Level3 (In Millions) Financial assets: Bonds: U. S. government and agencies \$ 4 \$ 4 \$ \$ \$ All other governments 1 1 1 29 States, territories and possessions 32 32 Political subdivisions 18 20 20 Special revenue 115 130 130 Industrial and miscellaneous 3,439 3,708 1,783 1,925 Parent, subsidiaries and affiliates 204 209 7 202 Preferred stocks 7 9 9 18 Common stocks - subsidiaries and affiliates 18 18 Common stocks - unaffiliated 4 4 4 Mortgage loans - commercial 831 867 867 Mortgage loans - residential 102 100 100 Derivatives: 466 466 466 Interest rate swaps Options 31 31 31 36 36 36 Currency swaps Cash, cash equivalents and short-term investments 463 463 54 409 Separate account assets 1,810 1,810 1,810 Financial liabilities: Individual annuity contracts 2,991 3,641 3,641 Supplementary contracts 81 82 82 Derivatives: Interest rate swaps 561 561 561 Options 8 8 8 Currency swaps 4 4 4 4 Forward contracts 4 4 Financial futures 16 16 16

Common stock – subsidiary and affiliates does not include MML Bay State, which has a statutory carry value of \$293 million.

Fair value is defined as the price that would be received from selling an asset or paid to transfer a lia bility in an orderly transaction between market participants at the measurement date. The authoritative guidance for fair value establishes a measurement framework that includes a hierarchy used to classify the inputs used in measuring fair value. The hierarchy prioritizes the inputs to valuation techniques into three levels. Each level reflects a unique description of the inputs that are significant to the fair value measurements. The levels of the fair value hierarchy are as follows:

Level 1 – Observable inputs in the form of quoted prices for identical instruments in a ctive markets.

Level 2 — Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be derived from observable market data for substantially the full term of the assets or liabilities.

Level 3 – One or more unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using internal models, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

When a vailable, the Company generally uses unadjusted quoted market prices from independent sources to determine the fair value of investments and classifies such items within Level 1 of the fair value hierarchy. If quoted prices are not available, prices are derived from observable market data for similar assets in an active market or obtained directly from brokers for identical assets traded in inactive markets. Investments that are priced using these inputs are classified within Level 2 of the fair value hierarchy. When some of the necessary observable inputs are unavailable, fair value is based upon internally developed models. These models use inputs not directly observable or correlated with observable market data. Typical inputs, which are integrated in the Company's internal discounted cash flow models and discounted earnings models include, but are not limited to, issuer spreads derived from internal credit ratings and benchmark yields such as LIBOR, cash flow estimates and earnings before interest, taxes, depreciation and a mortization estimates. Investments that are priced with such unobservable inputs are classified within Level 3 of the fair value hierarchy.

The Company reviews the fair value hierarchy classifications at each reporting period. Overall, reclassifications between levels occur when there are changes in the observability of inputs and market activity used in the valuation of a financial asset or liability. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. Given the types of assets classified as Level 1 (primarily equity securities including mutual fund investments), transfers between Level 1 and Level 2 measurement categories are expected to be infrequent. Transfers into and out of Level 3 are summarized in the schedule of changes in Level 3 assets and liabilities.

The fair value of individual annuity and supplementary contracts is determined using one of several methods based on the specific contract type. For short-term contracts, generally less than 30 days, the fair value is a ssumed to be the book value. For investment-type contracts, the fair value is determined by calculating the present value of future cash flows discounted at current market interest rates, the risk-free rate or a current pricing yield curve based on pricing assumptions using a ssets of a comparable corporate bond quality. Annuities are valued using cash flow projections from the Company's a sset-lia bility management a nalysis.

The following presents the Company's fair value hierarchy for assets and liabilities that are carried at fair value:

	December 31, 2020									
	L	evel1	L	evel2	L	evel3		Total		
				(In N	1illio	ns)				
Financial assets:										
Bonds:										
Industrial and miscella neous	\$	-	\$	2	\$	10	\$	12		
Common stocks - subsidiaries and affiliates		18		-		1		19		
Common stocks - unaffiliated		-		-		5		5		
Derivatives:										
Interest rate swaps		-		902		-		902		
Options		-		39		-		39		
Currency swaps		-		18		-		18		
Forward contracts		-		1		-		1		
Separate account assets		1,972		-		-		1,972		
Total financial assets carried										
at fair value	\$	1,990	\$	962	\$	16	\$	2,968		
Financial lia bilities:										
Derivatives:										
Interest rate swaps	\$	-	\$	890	\$	-	\$	890		
Options		-		11		-		11		
Currency swaps		-		23		-		23		
Forward contracts		-		7		-		7		
Financial futures		10		-		-		10		
Total financial liabilities carried										
at fair value	\$	10	\$	931	\$	-	\$	941		

For the year ended December 31, 2020, there were no significant transfers between Level 1 and Level 2.

The following presents the Company's fair value hierarchy for assets and liabilities that are carried at fair value:

	December 31, 2019									
	Ι		Total							
Financial assets:										
Bonds:										
Industrial and miscellaneous	\$	-	\$	4	\$	9	\$	13		
Common stocks - subsidiaries and affiliates		18		-		-		18		
Common stocks - unaffiliated		-		-		4		4		
Derivatives:										
Interest rate swaps		-		466		-		466		
Options		-		31		-		31		
Currency swaps		_		36		-		36		
Separate account assets		1,810		_		_		1,810		
Total financial assets carried										
at fair value	\$	1,828	\$	537	\$	13	\$	2,378		
Financial liabilities:										
Derivatives:										
Interest rate swaps	\$	_	\$	561	\$	_	\$	561		
Options		_		8		_		8		
Currency swaps		_		4		_		4		
Forward contracts		_		4		_		4		
Financial futures		16		_		_		16		
Total financial liabilities carried	_									
at fair value	\$	16	\$	577	\$	-	\$	593		

For the year ended December 31, 2019, there were no significant transfers between Level 1 and Level 2.

Valuation Techniques and Inputs

The Company determines the fair value of its investments using primarily the market approach or the income approach. The use of quoted prices for identical assets and matrix pricing or other similar techniques are examples of market approaches, while the use of discounted cash flow methodologies is an example of the income approach. The Company attempts to maximize the use of observable inputs and minimize the use of unobservable inputs in selecting whether the market or the income approach is used.

A description of the significant valuation techniques and inputs to the determination of estimated fair value for the more significant asset and liability classes measured at fair value on a recurring basis and categorized within Level 2 and Level 3 of the fair value hierarchy is as follows:

Derivative assets and liabilities - These financial instruments are primarily valued using the market approach. The estimated fair value of derivatives is based primarily on quotations obtained from counterparties and independent sources, such as quoted market values received from brokers. These quotations are compared to internally derived prices and a price challenge is lodged with the counterparties and an independent source when a significant difference cannot be explained by appropriate adjustments to the internal model. When quoted market values are not reliable or available, the value is based upon an internal valuation process using market observable inputs that other market participants would use. Significant inputs to the valuation of derivative financial instruments include overnight index swaps and LIBOR basis curves, interest rate volatility, swap yield curve, currency spot rates, cross currency basis curves and dividend yields. Due to the observability of the significant inputs to these fair value measurements, they are classified as Level 2.

The use of different assumptions or valuation methodologies may have a material impact on the estimated fair value amounts. For the periods presented, there were no significant changes to the Company's valuation techniques.

The following presents changes in the Company's Level 3 assets carried at fair value:

		Balance as of		Gai (Los: in N	ses)	(G	osses ains) in										Tra	ansfe	rs					lance s of
	_	1/1/20		Inco	me	Su	rplus	Pu	rchases	Issu	ances	:	Sales		Settlen	nents	In		Out		Otl	ner	12/	31/20
	_											(In l	Millio	ns)										
Financial assets:																								
Bonds:																								
Industrial and miscellaneous	\$		9	\$	-	\$	(1)	\$	-	\$	1	\$		-	\$	-	\$ -	\$		-	\$	1	\$	10
Parent, subsidiaries,																								
Common stocks - subsidiaries																								
and affiliates			-		-		-		-		-			-		-	-			-		1		1
Common stocks - unaffiliated	_		4		3		(1)		_		3			-		(4)	-					-		5
Total financial assets	\$	1	3	\$	3	\$	(2)	\$	-	\$	4	\$		-	\$	(4)	\$ -	\$			\$	2	\$	16

Other transfers include a ssets that are either no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but a change in the lower of cost or market carrying basis.

	Balan as o		(Los	ins sses) Net	(G	osses ains) in											Tr	ansfe	rs					ance of
	1/1/1	9	Inco	ome	Su	rplus	Pu	rchases	Iss	suances		Sales		Settle	ments		In		Out		Ot	her	12/3	1/19
											(In	Millio	ons)											
Financial assets:																								
Bonds:																								
Industrial and miscellaneous	\$	4	\$	-	\$	-	\$	-	\$	-	- \$		-	\$	(1)	\$	-	\$		-	\$	6	\$	9
Parent, subsidiaries,																								
and affiliates		6		-		-		-		-			-		-		-			-		(6)		-
Common stocks - subsidiaries																								
Common stocks - unaffiliated		2		1		2		-		-			-		(1))	-			-		-		4
Derivatives:																								
Total financial assets	\$	12	\$	1	\$	2	\$	-	\$		- \$		-	\$	(2)	\$	-	\$		-	\$	-	\$	13

Other transfers include assets that are either no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but a change in the lower of cost or market carrying basis.

5. Investments

The Company maintains a diversified investment portfolio. Investment policies limit concentration in any asset class, geographic region, industry group, economic characteristic, investment quality or individual investment.

a. Bonds

The carrying value and fair value of bonds were as follows:

		20											
		Gr	oss	Gro	SS								
	Carryi	ng	Unre	alized	Unrea	lized	Fa	a ir					
	Value	е	Ga	ins	Los	ses	Va	lue					
		(In Millions)											
U.S. government and a gencies	\$	3	\$	-	\$	-	\$	3					
All other governments		1		-		-		1					
States, territories and possessions		21		4		-		25					
Political subdivisions		16		3		-		19					
Specialrevenue	1	07		22		-		129					
Industrial and miscellaneous	3,7	54		427		17	4	1,164					
Parent, subsidiaries and affiliates	1	67		7		-		174					
Total	\$ 4,0	69	\$	463	\$	17	\$ 4	1,515					

The December 31, 2020 gross unrealized losses exclude \$4 million of losses included in the carrying value. These losses include \$3 million from NAIC Class 6 bonds and were primarily included in industrial and miscellaneous or parents, subsidiaries and affiliates.

	December 31, 2019												
		Gross	Gross										
	Carrying	Unrealized	Unrealized	Fair									
	Value	Gains	Losses	Value									
U.S. governmentandagencies	\$ 4	\$ -	\$ -	\$ 4									
All other governments	1	-	-	1									
States, territories and possessions	29	3	_	32									
Political subdivisions	18	2	-	20									
Specialrevenue	115	15	-	130									
Industrial and miscellaneous	3,439	279	10	3,708									
Parent, subsidiaries and affiliates	204	5	-	209									
Total	\$ 3,810	\$ 304	\$ 10	\$ 4,104									

The December 31, 2019 gross unrealized losses exclude \$1 million of losses included in the carrying value. These losses include \$1 million from NAIC Class 6 bonds and were primarily included in industrial and miscellaneous or parents, subsidiaries and affiliates.

The quality of the bond portfolio is determined by the use of SVO ratings and the equivalent rating agency designations, except for RMBS and CMBS that use outside modelers. The following sets forth the NAIC class ratings for the bond portfolio including RMBS and CMBS:

			December 31,										
			20	20		2019	9						
NAIC	Equivalent Rating	Са	rrying	% of	Са	rrying	% of						
Class	Agency Designation	V	⁷ a lue	Total	7	/alue	Total						
				(\$ In M	lillion								
1	Aaa/Aa/A	\$	1,890	46 %	\$	1,743	45 %						
2	Baa		1,619	40		1,528	40						
3	Ba		325	8		309	8						
4	В		99	2		59	2						
5	Caa and lower		118	3		142	4						
6	In or near default		18	1		29	1						
	Total	\$	4,069	100 %	\$	3,810	100 %						

The following summarizes NAIC ratings for RMBS and CMBS investments subject to NAIC modeling:

December, 31

		20	20			2019								
	RMB	S	CME	RME	RMBS									
NAIC	Carrying	% of	Carrying	% of	Carrying	% of	Carrying	% of						
Class	Value	Total	Value	Total	Value	Total	Value	Total						
				(\$ In Mi	llions)		CMBS % of Carrying							
1	\$ 25	96 %	\$ 88	80 %	\$ 29	100 %	\$ 104	93 %						
2	1	4	2	2	-	-	3	3						
3	-	-	13	12	-	-	2	2						
4	-	-	4	4	-	-	1	1						
5	-	-	2	2	-	-	1	1						
6	-	-	-	-	-	-	-	-						
	\$ 26	100 %	\$ 109	100 %	\$ 29	100 %	\$ 111	100 %						

The following is a summary of the carrying value and fair value of bonds as of December 31, 2020 by contractual maturity. Expected maturities may differ from contractual maturities because issuers may have the right to call or prepay obligations with or without prepayment penalties. Securities with more than one maturity date are included in the table using the final maturity date.

	arrying		Fair
	 Value		Value
	 (In M	illioı	ns)
Due in one year or less	\$ 99	\$	101
Due after one year through five years	856		897
Due a fter five years through ten years	994		1,076
Due a fter ten years	2,120		2,441
Total	\$ 4,069	\$	4,515

Sales proceeds and related gross realized capital gains (losses) from bonds were as follows:

		Years I	Ende	d Decen	ıber	31,
	2	020		2018		
			(In N	(Iillions		
Proceeds from sales	\$	305	\$	318	\$	332
Gross realized capital gains from sales		19		7		8
Gross realized capital losses from sales		(6)		(5)		(6)

The following is a summary of the fair values and gross unrealized losses aggregated by bond category and length of time that the securities were in a continuous unrealized loss position:

		Les	s Tha	n 12 M	onths	12 Months or Longer								
					Number					Number				
		Fair	Unrea	alized	of		Fair	Unrea	lized	of				
	V	alue	Los	ses	Issuers	V	'a lue	Los	ses	Issuers				
	_	(\$ In Millions)												
U.S. government and a gencies	and a gencies \$ - \$ -		_	1	1 \$		- \$ -		-					
Specialrevenue				-		-		-	1					
Industrial and miscella neous		277 15			192	192		168 6		6 178				
Total	\$	277	\$	15	193	\$	168	\$	6	179				

The December 31, 2020 gross unrealized losses include \$4 million of losses included in the carrying value of NAIC Class 6 bonds. These losses were primarily included in the industrial and miscellaneous or parent, subsidiaries and affiliates.

					Decembe	r31,	2019					
		Les	ss Thai	12 M	onths	12 Months or Longer						
		Number								Number		
		Fair	Unrea	lized	of		Fair 1	lized	of			
	V	alue	Loss	ses	Issuers	V	alue	Loss	ses	Issuers		
					(\$ In N	Iillio	illions)					
U.S. government and a gencies	\$	_	\$	_	-	\$	3	\$	_	1		
States, territories and possessions		2		-	1		-		-	-		
Specialrevenue		5		-	2		-		-	1		
Industrial and miscellaneous		118		2	151		355	5 9		233		
Total	\$	125	\$	2	154	\$	358	\$	9	235		

The December 31,2019 gross unrealized losses include \$1 million of losses included in the carrying value of NAIC Class 6 bonds. These losses were primarily included in the industrial and miscellaneous or parent, subsidiaries and a ffiliates.

As of December 31, 2020 and 2019, management has not deemed these unrealized losses to be other than temporary because the investment's carrying value is expected to be realized and the Company has the ability and intent not to sell these investments until recovery, which may be at maturity.

As of December 31, 2020, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of \$265 million. Securities in an unrealized loss position for less than 12 months had a fair value of \$150 million and unrealized losses of \$5 million. Securities in an unrealized loss position for greater than 12 months had a fair value of \$115 million and unrealized losses of \$3 million. These securities were primarily categorized as industrial and miscellaneous or parent, subsidiaries and affiliates.

As of December 31, 2019, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of \$319 million. Securities in an unrealized loss position for less than 12 months had a fair value of \$64 million and unrealized losses of \$1 million. Securities in an unrealized loss position for greater than 12 months had a fair value of \$255 million and unrealized losses of \$4 million. These securities were primarily categorized as industrial and miscellaneous or parent, subsidiaries and affiliates.

In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days to enhance the Company's yield on its investment portfolio. The Company did not sell any securities with the NAIC Designation 3 or below for the years ended December 31, 2020 or 2019, that were reacquired within 30 days of the sale date.

The Company had a ssets on deposit with government authorities or trustees, as required by law, in the amount of \$4 million as of December 31, 2020 and \$4 million as of December 31, 2019.

Residential mortgage-backed exposure

RMBS are included in the U.S. government and a gencies, special revenue, and industrial and miscellaneous bond categories. The Alt-A category includes option adjustable-rate mortgages and the subprime category includes 'scratch and dent' or reperforming pools, high loan-to-value pools and pools where the borrowers have very impaired credit but the average loan-to-value is low, typically 70% or below. In identifying Alt-A and subprime exposure, management used a combination of qualitative and quantitative factors, including FICO scores and loan-to-value ratios.

As of December 31, 2020, RMBS had a total carrying value of \$37 million and a fair value of \$41 million, of which approximately 42%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of \$19 million and a fair value of \$21 million. As of December 31, 2019, RMBS had a total carrying value of \$41 million and a fair value of \$45 million, of which approximately 36%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of \$20 million and a fair value of \$22 million.

During the year ended December 31, 2020, there were no significant credit downgrades for the securities held by the Company that were backed by residential mortgage pools.

Leveraged loan exposure

Leveraged loans are loans extended to companies that already have considerable amounts of debt. The Company reports leveraged loans as bonds. These leveraged loans have interest rates higher than typical loans, reflecting the additional risk of default from issuers with high debt-to-equity ratios.

As of December 31, 2020, total leveraged loans and leveraged loan CDOs had a carrying value of \$792 million and a fair value of \$801 million, of which approximately 75%, based on carrying value, were domestic leveraged loans and CDOs. As of December 31, 2019, total leveraged loans and leveraged loan CDOs had a carrying value of \$768 million and a fair value of \$774 million, of which approximately 76%, based on carrying value, were domestic leveraged loans and CDOs.

Commercial mortgage-backed exposure

The Company holds bonds backed by pools of commercial mortgages. The mortgages in these pools have varying risk characteristics related to underlying collateral type, borrower's risk profile and ability to refinance and the return provided to the borrower from the underlying collateral. These investments had a carrying value of \$109 million and fair value of \$111 million as of December 31,2020 and a carrying value of \$111 million and fair value of \$114 million as of December 31,2019.

b. Preferred stocks

The carrying value and fair value of preferred stocks were as follows:

	I	Decem	iber 3	1,						
	20	2020 201								
		(In Millions)								
Carrying value	\$	5	\$	7						
Gross unrealized gains		2		2						
Fairvalue	\$	7	\$	9						

As of December 31, 2020, there were no investments in preferred stocks in an unrealized loss position. As of December 31, 2019, investments in preferred stocks in an unrealized loss position included holdings with a fair value of \$2 million in 2 issuers, \$2 million of which were in an unrealized loss position for more than 12 months. Based upon the Company's impairment review process discussed in *Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)"* the decline in value of these securities was not considered to be other than temporary as of December 31, 2020 or 2019.

The Company held preferred stocks for which the transfer of ownership was restricted by contractual requirements with carrying values of \$5 million as of December 31,2020 and \$7 million as of December 31,2019.

c. Common stocks - subsidiary and affiliates

MML Bay State primarily provides variable life and bank-owned life insurance business. It declared and paid \$29 million in dividends to the Company for the year ended December 31, 2020 and \$30 million in 2019. The Company did not receive a dividend from MML Bay State in 2018. A majority of MML Bay State's capital and surplus is subject to dividend restrictions. Dividend restrictions, imposed by state regulations, limit the payment of dividends to the Company without prior approval from the Department. Under these regulations, \$28 million of capital and surplus is a vailable for distribution to the shareholder in 2021 without prior regulatory approval. The Company does not rely on dividends from its subsidiary to meet its operating cash flow requirements.

The Company did not hold any affiliated common stocks for which the transfer of ownership was restricted by contractual requirements as of December 31,2020 or 2019.

Summarized below is certain statutory financial information for MML Bay State:

	As o	of and fo	or Year	rs Ended I	Decer	nber31,	
	2	020		2019	2018		
			(In N	(Aillions			
Totalrevenue	\$	18	\$	23	\$	24	
Net income		12		14		18	
Assets		5,352		5,118		4,860	
Liabilities		5,077		4,824		4,550	
Equity		275		293		310	

d. Common stocks - unaffiliated

The adjusted cost basis and carrying value of unaffiliated common stocks were as follows:

	-	December 31,									
	20)19									
	(In Millions)										
Adjusted cost basis Gross unrealized gains	\$	3 2	\$	2 2							
Carryingvalue	\$	5	\$	4							

As of December 31, 2020, investments in unaffiliated common stocks in an unrealized loss position included holdings with a fair value of less than \$1 million from 3 issuers, less than \$1 million of which were in an unrealized loss position for more than 12 months. As of December 31, 2019, investments in unaffiliated common stocks in an unrealized loss position included holdings with a fair value of less than 1 million from 4 issuers, less than \$1 million of which were in an unrealized loss position for more than 12 months. Based upon the Company's impairment review process discussed in *Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)"* the decline in value of these securities was not considered to be other than temporary as of December 31, 2020 or 2019.

The Company held common stocks, for which the transfer of ownership was restricted by contractual requirements, with carrying values of \$2 million as of December 31, 2020 and \$3 million as of December 31, 2019.

e. Mortgageloans

Mortgage loans are comprised of commercial mortgage loans and residential mortgage loans. The Company's commercial mortgage loans primarily finance various types of real estate properties throughout the U.S., the United Kingdom and Canada. The Company holds commercial mortgage loans for which it is a participant or co-lender in a mortgage loan a greement and mezzanine loans that are subordinate to senior secured first liens. The Company's loan agreements with the senior lender contain negotiated provisions that are designed to maximize the Company's influence with the objective of mitigating the Company's risks as the secondary lender for mezzanine loans. Commercial mortgage loans have varying risk characteristics including, among others, the borrower's liquidity, the underlying percentage of completion of a project, the returns generated by the collateral, the refinance risk associated with maturity of the loan and deteriorating collateral value.

Residential mortgage loans include seasoned pools of homogeneous residential mortgage loans substantially backed by Federal Housing Administration (FHA) and Veterans Administration (VA) guarantees. As of December 31, 2020 and December 31, 2019, the Company did not have any direct subprime exposure through the purchases of unsecuritized whole-loan pools.

Geographical concentration is considered prior to the purchase of mortgage loans and residential mortgage loan pools. The mortgage loan portfolio is diverse with no significant collateral concentrations in any particular geographic region as of December 31,2020 or 2019.

The carrying value and fair value of the Company's mortgage loans were as follows:

				Dece	mb	er 3	1,				
		20	020				20	19			
	Carrying Fair					Car	rying	F	a ir		
	Va	alue	Va	alue		Va	alue	Va	ılue		
	(In Millions)										
Commercial mortgage loans:											
Primary lender	\$	788	\$	827		\$	831	\$	867		
Total commercial mortgage loans		788		827	_		831		867		
Residential mortgage loans:											
FHA insured and VA guaranteed		129		130			91		89		
Other residential loans		26		26			11		11		
Total residential mortgage loans		155		156			102		100		
Total mortgage loans	\$	943	\$	983		\$	933	\$	967		

The Company uses an internal rating system as its primary method of monitoring credit quality. The following illustrates the Company's mortgage loan portfolio rating, translated into the equivalent rating a gency designation:

_				De	ce	mber 3	31,20	020				
									CCC	and		
_	AAA/	AA/A	BBB		В	В	В	3	Lower		To	tal
	(In Millions)											
Commercial mortgage loans:												
Primary lender	\$	227	\$ 42	24	\$	116	\$	12	\$	9	\$	788
Total commercial mortgage loans		227	42	24		116		12		9		788
Residential mortgage loans:												
FHA insured and VA guaranteed		129		-		-		-		-		129
Other residential loans		1	4	23		2		-		-		26
Total residential mortgage loans		130	2	23		2		-		-		155
Total mortgage loans	\$	357	\$ 44	17	\$	118	\$	12	\$	9	\$	943

				1)ece	mber :	31,20	119				
								(CCC	and		
	AAA/	AA/A	В	BB	BB		В		Lower		To	otal
					(I:	n Milli	ions)					
Commercial mortgage loans:												
Primary lender	\$	407	\$	369	\$	43	\$	9	\$	3	\$	831
Total commercial mortgage loans		407		369		43		9		3		831
Residential mortgage loans:												
FHA insured and VA guaranteed		91		-		-		-		-		91
Other residential loans		1		10		-		-		-		11
Total residential mortgage loans		92		10		-		-		-		102
Total mortgage loans	\$	499	\$	379	\$	43	\$	9	\$	3	\$	933

As of December 31,2020 and 2019, the loan-to-value ratios of more than 99% of the Company's commercial mortgage loans' loan-to-value ratios are below 81%.

The maximum percentage of any one commercial mortgage loan to the estimated value of secured collateral at the time the loan was originated, exclusive of mezzanine, insured, guaranteed or purchase money mortgages, was 79% as of December 31, 2020 and 2019.

The geographic distribution of commercial mortgage loans was as follows:

	December 31, 2020			
	Average			
	Carrying Loan-to-Value			
	Value		Ratio	
	(\$ In Millions)			
~ 40	_			
California	\$	230	51 %	
New York		85	53 %	
Illinois		81	56 %	
Texas		67	60 %	
District of Columbia		53	53 %	
United Kingdom		50	47 %	
Washington		42	53 %	
All Other		180	57 %	
Total commercial mortgage loans	\$	788	54 %	

All other consists of 21 jurisdictions, with no individual exposure exceeding \$18 million.

	December 31, 2019			
	Average Carrying Loan-to-Value			
	Value		Ratio	
	(\$ In Millions)			
California	\$	237	49 %	
New York		93	50 %	
Illinois		84	49 %	
United Kingdom		60	51 %	
Texas		58	56 %	
District of Columbia		54	51 %	
Washington		47	51 %	
All other		198	54 %	
Total commercial mortgage loans	\$	831	51 %	

All other consists of 22 jurisdictions, with no individual exposure exceeding \$19 million.

Interest rates, including fixed and variable, on the Company's portfolio of mortgage loans were:

		December 31,				
	202	2020		2019		
	Low	High	Low	High		
Commercial mortgage loans Residential mortgage loans		9.3 % 9.3 %		10.0 % 10.0 %		

Interest rates, including fixed and variable, on new mortgage loans were:

	Years Ended December 31,					
	202	20	2019			
	Low	High	Low	High		
Commercial mortgage loans	2.8 %	4.5 %	3.7 %	6.8 %		
Residential mortgage loans	4.1 %	5.4 %	5.9 %	6.1 %		

As of December 31, 2020, the Company had impaired mortgage loans with or without a valuation allowance or mortgage loans derecognized as a result of foreclosure, including mortgage loans subject to a participant or co-lender mortgage loan a greement with a unilateral mortgage loan foreclosure restriction or mortgage loan derecognized as a result of a foreclosure.

The following presents a summary of the Company's impaired mortgage loans as of December 31, 2020:

	December 31, 2020									
	Average Unpaid									
	Carrying Carrying Principal Valuation Interes							est		
	Va	lue	Val	ue	Bala	nce A	e Allowance		Inco	me
				(.	In Mi	illions	s)			
With no allowance recorded:										
Commercial mortgage loans:										
Primary lender	\$	5	\$	6	\$	8	\$	-	\$	-
Total		5		6		8		-		
Total impaired commercial										
mortga ge loans	\$	5	\$	6	\$	8	\$	-	\$	

The Company did not hold any impaired mortgage loans subject to a participant or co-lender mortgage loan agreement with a unilateral mortgage loan foreclosure restriction as of December 31,2019.

The Company did not hold any restructured mortgage loans, mortgage loans with principal or interest past due, or mortgage loans with suspended interest accruals as of December 31, 2020 or 2019. The carrying value of commercial mortgage loans subject to a participant or co-lender mortgage loan agreement was \$788 million as of December 31, 2020 and \$831 million as of December 31, 2019.

f. Partnerships and limited liability companies

The carrying value of partnership and limited liability companies holdings by annual statement category were:

	December 31,					
	2	020	2	019		
		(In M	illions)		
Joint venture interests:						
Realestate	\$	59	\$	49		
Common stocks		74		81		
Fixed maturities/preferred stock		4		5		
Other		10		10		
Surplus notes		17		15		
LIHTCs	<u> </u>					
Total	\$	164	\$	161		

The Company's unexpired tax credits expire within a range of less than one year to 13 years.

The Company recorded tax credits on these investments of less than \$1 million for 2020 and 2019. The minimum holding period required for the Company's LIHTC investments extends from one year to 15 years.

For determining impairments for LIHTC investments, the Company uses the present value of all future benefits, the majority of which are tax credits, discounted at a risk-free rate ranging from 0.1% for future benefits of two years to 0.9% for future benefits of ten or more years, and compares the result to its current carry value. The Company recorded less than \$1 million impairment to LIHTC investments for the years ended December 31,2020 and 2019.

There were no write-downs or reclassifications of LIHTC partnerships made during the years ended December 31, 2020 or 2019, due to forfeiture or ineligibility of tax credits or similar issues. In addition, there are no LIHTC properties currently subject to regulatory review for the years ended December 31, 2020 or 2019.

g. Derivatives

The Company uses derivative financial instruments in the normal course of business to manage risks, primarily to reduce currency, interest rate and duration imbalances determined in a sset/lia bility analyses.

The Company's derivative strategy employs a variety of derivative financial instruments, including: interest rate, currency, equity, bond, and credit default swaps; options; 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.

Interest rate swaps are primarily used to more closely match the cash flows of assets and liabilities. Interest rate swaps are also used to mitigate changes in the value of assets anticipated to be purchased and other anticipated transactions and commitments. The Company uses currency swaps for the purpose of managing currency exchange risks in its assets and liabilities.

The Company does not sell credit default swaps as a participant in the credit insurance market. The Company does, however, use credit default swaps as part of its investment management process. The Company buys credit default swaps as an efficient means to reduce credit exposure to particular issuers or sectors in the Company's investment portfolio. The Company sells credit default swaps in order to create synthetic investment positions that enhance the return on its investment portfolio by providing comparable exposure to fixed income securities that might not be available in the primary market.

Options grant the purchaser the right to buy or sell a security or enter a derivative transaction at a stated price within

a stated period. The Company's option contracts have terms of up to 15 years. A swaption is an option to enter an interest rate swap to either receive or pay a fixed rate at a future date. The Company purchases these options for the purpose of managing interest rate risks in its assets and liabilities.

The Company adopted a clearly defined hedging strategy (CDHS) to enable the Company to incorporate currently held hedges in risk-based capital (RBC) calculations. The CDHS is used to significantly mitigate the impact that movements in capital markets have on the liabilities associated with annuity guarantees. The hedge portfolio consists mainly of interest rate swaps and equity options, and provides protection in the stress scenarios under which RBC is calculated. The hedge portfolio has offsetting impacts relative to the total asset requirement for RBC and surplus for FIA and variable annuity guaranteed living benefits (VAGLB).

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 specified future date. Typically, the exchange rate is a greed upon at the time of the contract. In addition, the Company also uses "to be announced" forward contracts (TBAs) to hedge interest rate risk and participate in the MBS market in an efficient and cost effective way. Typically, the price is a greed upon at contract inception and payment is made at a specified future date. The Company usually does not purchase TBAs with settlement by the first possible delivery date and thus, accounts for these TBAs as derivatives. TBAs that settle on the first possible delivery date are accounted for as bonds. 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's principal derivative exposures to market risk are interest rate risk, which includes in flation and credit risk. Interest rate risk pertains to the change in fair value of the derivative instruments as a result of changes in market interest rates. The Company is exposed to credit-related losses in the event of nonperformance by counterparties to derivative financial instruments. The Company regularly monitors counterparty credit ratings, derivative positions, valuations and the value of collateral posted to ensure counterparties are credit-worthy and the concentration of exposure is minimized, and monitors its derivative credit exposure as part of its overall risk management program.

The Company enters derivative transactions through bilateral derivative agreements with counterparties, or through over the counter cleared derivatives with a counterparty and the use of a clearinghouse. To minimize credit risk for bilateral transactions, the Company and its counterparties generally enter into master netting agreements based on a greed upon requirements that outline the framework for how collateral is to be posted in the amount owed under each transaction, subject to certain minimums. For over the counter cleared derivative transactions between the Company and a counterparty, the parties enter into a series of master netting and other agreements that govern, a mong other things, clearing and collateral requirements. These transactions are cleared through a clearinghouse and each derivative counterparty is only exposed to the default risk of the clearinghouse. Certain interest rate swaps and credit default swaps are considered cleared transactions. These cleared transactions require initial and daily variation margin collateral postings. These agreements allow for contracts in a positive position, in which amounts are due to the Company, to be offset by contracts in a negative position. This right of offset, combined with collateral obtained from counterparties, reduces the Company's credit exposure.

Net collateral pledged to the counterparties was \$57 million as of December 31, 2020 and \$124 million as of December 31, 2019. In the event of default, the full market value exposure at risk in a net gain position, net of offsets and collateral was \$3 million as of December 31, 2020 and \$3 million as of December 31, 2019. The statutory net amount at risk, defined as net collateral pledged and statement values excluding accrued interest, was \$34 million as of December 31, 2020 and \$9 million as of December 31, 2019.

The following summarizes the carrying values and notional amounts of the Company's derivative financial instruments:

	December 31, 2020									
	A	ssets	Liab	ilities						
	Carrying Value	Notional Amount	Carrying Value	Notional Amount						
	(In Millions)									
Interest rate swaps	\$ 902	\$ 6,488	\$ 890	\$ 4,986						
Options	39	381	11	253						
Currency swaps	18	205	23	308						
Forward contracts	1	75	7	205						
Financial futures		-	10	450						
Total	\$ 960	\$ 7,149	\$ 941	\$ 6,202						

		December 31, 2019									
		Ass	sets	Liab	ilities						
	Ca	rrying	Notional	Carrying	Notional						
	V	alue	Amount	Value	Amount						
Interest rate swaps	_	(In Millions)									
	\$	466	\$6,105	\$ 561	\$ 5,903						
Options		31	350	8	269						
Currency swaps		36	397	4	123						
Forward contracts		-	69	4	248						
Financial futures		-	-	16	450						
Total	\$	533	\$6,921	\$ 593	\$ 6,993						

The average fair value of outstanding derivative a ssets was \$1,129 million for the year ended December 31, 2020 and \$531 million for the year ended December 31, 2019. The average fair value of outstanding derivative liabilities was \$1,026 million for the year ended December 31, 2020 and \$554 million for the year ended December 31, 2019.

The company did not have notional due after one year through five years for the years ended December 31, 2020 and December 31, 2019.

The following presents the Company's gross notional interest rate swap positions:

	Decen	nber31,
	2020	2019
	(In M	illions)
Open interest rate swaps in a fixed pay position Open interest rate swaps in a fixed receive position	\$ 5,273 6,202	\$ 5,565 6,443
Totalinterestrateswaps	\$ 11,475	\$ 12,008

The following summarizes the Company's net realized gains (losses) on closed contracts and change in net unrealized gains (losses) related to market fluctuations on open contracts by derivative type:

Interest rate swaps Currency swaps Options

Forward contracts Financial futures

Total

	YearEnded						
	December 31, 2020						
_	Net Realized	Change In Net					
•	Gains (Losses)	Unrealized Gains					
	on Closed	(Losses) on					
_	Contracts	Open Contracts					
	(In N	Millions)					
_		_					
	\$ -	\$ 107					
	11	(36)					
	(1)	6					
	(5)	(3)					
	98	6					
-	\$ 103	\$ 80					

	Year	Ended
	Decemb	er 31, 2019
	Net Realized	Change In Net
	Gains (Losses)	Unrealized Gains
	on Closed	(Losses) on
	Contracts	Open Contracts
	(In M	(Iillions)
Interest rate swaps	\$ (2)	\$ 30
Currency swaps	1	4
Options	1	8
Forward contracts	10	(7)
Financial futures	113	(47)
Total	\$ 123	\$ (12)

	Year	Year Ended						
	Decemb	er 31, 2018						
	Net Realized	Change In Net						
	Gains (Losses)	Unrealized Gains						
	on Closed	(Losses) on						
	Contracts	Open Contracts						
	(In M	(illions)						
		. (10)						
Interest rate swaps	\$ (1)	\$ (42)						
Currency swaps	3	30						
Options	(3)	(6)						
Forward contracts	9	6						
Financial futures	(53)	32						
Tota1	\$ (45)	\$ 20						

The following summarizes gross and net information of derivative a ssets and liabilities, a long with collateral posted in connection with master netting a greements:

	December 31, 2020					December 31, 2019						
	De	erivative	e De	erivative	;		Derivative Derivative				•	
		Assets Liabi		Liabilities Net Assets I		Liabilities Net Assets I		L	iabilities		Net	
						(In Mi	llion	s)				
Gross	\$	960	\$	941	\$	19	\$	533	\$	593	\$	(60)
Due and accrued		47		126		(79)		37		108		(71)
Gross a mounts offset		(816)		(816)				(525)		(525)		
Net a sset		191		251		(60)		45		176		(131)
Collateral posted		(249)		(305)		56		(124)		(248)		124
Net	\$	(58)	\$	(54)	\$	(4)	\$	(79)	\$	(72)	\$	(7)

h. Repurchase agreements

The Company had no repurchase a greements as of December 31, 2020 and December 31, 2019.

i. Net investment income

Net investment income, including IMR a mortization, comprised the following:

	Years Ended December 31,					
	2	2020	2	2019		2018
			(In N	(Aillions		
Bonds	\$	171	\$	196	\$	196
Preferred stocks		-		1		2
Common stocks - affiliates		29		30		-
Mortga ge loans		40		40		41
Policy loans		7		7		7
Partnerships and limited liability companies		8		40		33
Derivatives		33		14		21
Cash, cash equivalents and short-term investments		5		7		4
Other		(3)		9		3
Subtotal investment income		290		344		307
Amortization of the IMR		3		1		7
Investment expenses		(14)		(18)		(18)
Net investment income	\$	279	\$	327	\$	296

j. Net realized capital (losses) gains

Net realized capital (losses) gains, which include OTTI and are net of deferral to the IMR, comprised the following:

	Years Ended December 31,					1,
	2	2020	2	2019	2	2018
		(In Millions)				
Bonds	\$	7	\$	(11)	\$	(4)
Preferred stocks		_		1		-
Common stocks - subsidiaries and affiliates		-		(1)		-
Common stocks - unaffiliated		1		1		1
Mortga ge loans		(7)		-		(1)
Partnerships and limited liability companies		(1)		(3)		(1)
Derivatives		103		123		(45)
Other		1_		(2)		2
Net realized capital gains (losses) before federal			_		_	
and state taxes and deferral to the IMR		104		108		(48)
Net federal and state tax expense		(3)		(2)		(5)
Net realized capital gains (losses) before deferral			_		_	
to the IMR		101		106		(53)
Net after tax (gains) losses deferred to the IMR		(108)		(113)		54
Net realized capital (losses) gains	\$	(7)	\$	(7)	\$	1

The IMR liability balance was \$213 million as of December 31, 2020 and \$108 million as of December 31, 2019. Refer to *Note 2v. "Interest maintenance reserve"* for information on the Company's policy for IMR.

OTTI, included in the realized capital losses, consisted of the following:

	Years Ended December 31,							
	2020		2	019	20)18		
	(In Millions)							
Bonds	\$	(6)	\$	(12)	\$	(6)		
Common stocks		(2)		-		-		
Mortgage loans		(3)		-		-		
Partnerships and LLCs		(2)		(3)		(1)		
Tota1OTTI	\$	(13)	\$	(15)	\$	(7)		

The Company recognized OTTI of less than \$1 million for the year ended December 31, 2020 and 2019, and \$1 million for the year ended December 31, 2018, on structured and loan backed securities, which are included in bonds, primarily due to the present value of expected cash flows being less than the amortized cost.

The Company utilized internally-developed models to determine less than 1% of the \$6 million of bond OTTI for the year ended December 31, 2020, less than 1% of the \$12 million of bond OTTI for the year ended December 31, 2019, and less than 1% of the \$6 million of bond OTTI for the year ended December 31, 2018. The remaining OTTI amounts were determined using external inputs such as publicly observable fair values and credit ratings. Refer to Note 2y. "Realized capital (losses) gains including other-than-temporary impairments and unrealized capital gains (losses)" for more information on a ssumptions and inputs used in the Company's OTTI models.

6. Federal income taxes

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was signed into law on March 27, 2020 and the Consolidated Appropriations Act (CAA), 2021 was signed into law on December 27, 2020. The CARES Act, among other things, permits net operating loss (NOL) carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The CAA extends and expands certain tax provisions of the CARES Act. The CARES Act as well as the CAA did not have a material effect on the financial statements. The Company is currently evaluating modifications extending into 2021, however these modifications are not expected to have a material effect on the Company's financial statements.

The Company provides for DTAs in a ccordance with statutory accounting practices and has met the required threshold to use the three-year reversal period and 15% of surplus limitation.

The net DTA or deferred tax liability (DTL) recognized in the Company's assets, liabilities and surplus is as follows:

		D	ecemb	er 31, 2020)		
	Oı	rdinary	C	apital	Т	otal	
			(In M	illions)			
Gross DTAs	\$	65	\$	26	\$	91	
Statutory valuation allowance a djustment		-		-		_	
Adjusted gross DTAs		65		26		91	
DTAs nonadmitted		-		(18)		(18)	
Subtotal net a dmitted DTA		65		8		73	
Total gross DTLs		(65)		(4)		(69)	
Net a dmitted DTA(L)	\$	-	\$	4	\$	4	
		D	ecemb	er 31, 2019)		
	Oı	rdinary	C	apital	T	otal	
	(In Millions)						
Gross DTAs	\$	88	\$	30	\$	118	
Statutory valuation allowance a djustment		-		-			
Adjusted gross DTAs		88		30		118	
DTAs nonadmitted		(24)		(19)		(43)	
Subtotal net admitted DTA		64		11		75	
Total gross DTLs		(37)		(8)		(45)	
Net a dmitted DTA(L)	\$	27	\$	3	\$	30	
	Change						
	Oı	rdinary	C	apital	T	otal	
			(In l	Millions)			
Gross DTAs	\$	(23)	\$	(4)	\$	(27)	
Statutory valuation allowance adjustment		-		-			
Adjusted gross DTAs		(23)		(4)		(27)	
DTAs nonadmitted		24		1		25	
Subtotal net a dmitted DTA		1		(3)		(2)	
Total gross DTLs		(28)		4		(24)	
Net a dm itted DTA(L)	\$	(27)	\$	1	\$	(26)	

The amount of adjusted gross DTA admitted under each component of the guidance and the resulting change by tax character are as follows:

	December 31, 2020						
	Or	dinary	Capital			Total	
A Low Approx			(In N	(Iillions			
Admitted DTA 3 years:	Φ.		Φ.		Φ.		
Federal income taxes that can be recovered	\$	-	\$	4	\$	4	
Remaining a djusted gross DTAs expected							
to be realized within 3 years: 1. Adjusted gross DTA to be realized		27				27	
2. Adjusted gross DTA to be leanized		21		_		21	
limitation threshold		260		_		260	
Lesser of lines 1 or 2		27		-		27	
Adjusted gross DTAs offset by existing DTLs		38		4		42	
Totaladmitted DTA realized within 3 years	\$	65	\$	8	\$	73	
	December 31, 2019						
	Or	dinary		apital		Total	
			(In N	(Iillions			
Admitted DTA 3 years:	Φ.		Φ.		Φ.		
Federal income taxes that can be recovered	\$	-	\$	3	\$	3	
Remaining a djusted gross DTAs expected to be realized within 3 years							
1. Adjusted gross DTA to be realized		27		_		27	
2. Adjusted gross DTA allowed per						-,	
limitation threshold		254		-		254	
Lesser of lines 1 or 2		27		-		27	
Adjusted gross DTAs offset by existing DTLs		37		8		45	
Total admitted DTA realized within 3 years	\$	64	\$	11	\$	75	
			Cł	nange			
	Or	dinary	C	apital		Total	
			(In N	(Iillions			
Admitted DTA 3 years:	Φ.		Φ.		Φ.		
Federal income taxes that can be recovered	\$	-	\$	1	\$	1	
Remaining a djusted gross DTAs expected to be realized within 3 years							
1. Adjusted gross DTA to be realized		_		_		_	
2. Adjusted gross DTA allowed per							
limitation threshold		6		-		6	
Lesser of lines 1 or 2		-		-		-	
Adjusted gross DTAs offset by existing DTLs		1		(4)		(3)	
Totaladmitted DTA realized within 3 years	\$	1	\$	(3)	\$	(2)	

The Company's total realization threshold limitations are as follows:

		December 31,				
	2020			2019		
	(\$ In Millions)					
Ratio percentage used to determine recovery period and threshold limitation		1,471%		1,415%		
Amount of adjusted capital and surplus used to determine recovery period and threshold limitation above	\$	1,732	\$	1,691		

The ultimate realization of DTAs depends on the generation of future taxable income during the periods in which the temporary differences are deductible. Management considers the scheduled reversal of DTLs, including the impact of a vailable carryback and carryforward periods, projected taxable income and tax-planning strategies in making this a ssessment. The impact of tax-planning strategies is as follows:

	December 31, 2020				
	Ordinary	Capital	Total		
Impact of tax planning strategies:					
Adjusted gross DTAs					
(% of total a djusted gross DTAs)	- %	- %	- %		
Net admitted adjusted gross DTAs					
(% of total net a dmitted adjusted gross DTAs)	- %	100 %	92 %		
	Dec	cember 31, 2019)		
	Ordinary	Capital	Total		
		(Percent)			
Impact of tax planning strategies: Adjusted gross DTAs					
(% of total a djusted gross DTAs)	- %	- %	- %		
Net a dmitted a djusted gross DTAs					
(% of total net a dmitted adjusted gross DTAs)	- %	100 %	11 %		
		Change			
	Ordinary	Capital	Total		
		(Percent)			
Impact of tax planning strategies: Adjusted gross DTAs					
(% of total a djusted gross DTAs)	- %	- %	- %		
Net a dmitted a djusted gross DTAs					
(% of total net a dmitted adjusted gross DTAs)	- %	- %	81 %		

There are no reinsurance strategies included in the Company's tax-planning strategies.

The provision for current tax expense on earnings is as follows:

	Years Ended December 31,						
	2020		2019		2	018	
	(In Millions)						
Federal income tax expense on operating earnings Total federal and foreign income tax expense	\$	7	\$	20	\$	7	
on operating earnings		7		20		7	
Federal income tax expense on net realized capital gains (losses)		3		2		5	
Total federal and foreign income tax expense	\$	10	\$	22	\$	12	

The tax effects of temporary differences that give rise to significant portions of the DTAs and DTLs are as follows:

	2020		2019		Ch	ange
			(In Millions)			
DTAs:						
Ordinary						
Reserve items	\$	17	\$	23	\$	(6)
Policy acquisition costs		30		27		3
Investment items		13		12		1
Unrealized investment losses		-		20		(20)
Nona dmitted assets		-		1		(1)
Other		5		5		-
Total ordinary DTAs		65		88		(23)
Nona dmitted DTAs		-		(24)		24
Admitted ordinary DTAs		65		64		1
Capital						
Investment items		24		24		-
Unrealized investment losses		2		6		(4)
Total capital DTAs		26		30		(4)
Nona dmitted DTAs		(18)		(19)		1
Admitted capital DTAs		8		11		(3)
Admitted DTAs		73		75		(2)
DTLs:						
Ordinary						
Investment Items		46		26		20
Unrealized investment gains		3		-		3
Deferred and uncollected premium		1		1		-
Reserve Items		3		4		(1)
Other		11		6		5
Total ordinary DTLs		64		37		27
Capital						
Unrealized investment gains		5		8		(3)
Total capital DTLs		5		8		(3)
TotalDTLs		69		45		24
Net admitted DTA	\$	4	\$	30	\$	(26)

The change in net deferred income taxes comprised the following:

	Years Ended December 31,						
	2020		2	019		2018	
	(In Millions)						
Net DTA(L)	\$	(51)	\$	(22)	\$	(2)	
Less: Items not recorded in the change in net deferred income taxes:							
Tax-effect of unrealized gains/(losses)		24		-		-	
Change in net deferred income taxes	\$	(27)	\$	(22)	\$	(2)	

As of December 31, 2020, the Company had no net operating or capital loss carryforwards to include in deferred income taxes. The Company has no tax credit carryforwards included in deferred taxes.

The components of federal and foreign income tax are recorded in the Statutory Statements of Operations and the Statutory Statements of Changes in Capital and Surplus and are different from those which would be obtained by applying the prevailing federal income tax rate to net gain from operations before federal income taxes. The significant items causing this difference are as follows:

	Years Ended December 31,					
	2020		2019		2	.018
			(In M	(Iillions		
		21%	2	21%		21%
Provision computed at statutory rate	\$	46	\$	52	\$	9
Investment items		(10)		(9)		(9)
Change in reserve valuation basis		1		-		(2)
Nona dmitted a ssets		1		-		-
Change in tax treatment of a prior year						
reinsurance transaction		-		-		16
Total statutory income tax expense	\$	38	\$	43	\$	14
Federal and foreign income tax expense	\$	11	\$	21	\$	12
Change in net deferred income taxes		27		22		2
Total statutory income tax expense	\$	38	\$	43	\$	14

The Company paid federal income taxes of \$15 million in 2020, \$12 million in 2019 and \$31 million in 2018.

The total income taxes incurred in the current and prior years that will be available for recoupment in the event of future net capital losses totaled \$2 million related to 2020, \$3 million related to 2019, and \$3 million related to 2018.

The Company is included in a consolidated U.S. federal income tax return with its parent, MassMutual, a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and MassMutual's eligible U.S. subsidiaries. The Company also files income tax returns in various states and foreign jurisdictions. The Company, MassMutual, and MassMutual's eligible subsidiaries and certain affiliates (the Parties) have executed and are subject to a written tax allocation agreement (the Agreement). The Agreement sets forth the manner in which the total combined federal income tax is allocated among the Parties. The Agreement provides the Company with the enforceable right to recoup federal income taxes paid in prior years in the event of future net capital losses, which it may incur. Further, the Agreement provides the Company with the enforceable right to utilize its net losses carried forward as an offset to future net income subject to federal income taxes.

Companies are generally required to disclose unrecognized tax benefits, which are the tax effect of positions taken on their tax returns that may be challenged by various taxing authorities, in order to provide users of financial statements more information regarding potential liabilities. The Company recognizes tax benefits and related reserves in accordance with existing statutory accounting practices for liabilities, contingencies and impairments of assets.

The following is a reconciliation of the beginning and ending liability for unrecognized tax benefits (in millions):

Balance, January 1, 2020	\$ 6
Gross change related to positions taken in current year	1
Balance, December 31, 2020	\$ 7

Included in the liability for unrecognized tax benefits as of December 31, 2020 are \$7 million of tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility. The liability for the unrecognized tax benefits as of December 31, 2020 includes no unrecognized tax benefits that, if recognized, would impact the Company's effective tax rate.

The Company recognizes accrued interest and penalties related to the liability for unrecognized tax benefits as a component of the provision for income taxes. The amount of net interest recognized was immaterial as of December 31,2020 and 2019. The Company has no accrued penalties related to the liability for unrecognized tax benefits. In the next year, the Company does not anticipate the total amount of uncertain tax positions to significantly increase or decrease.

The Internal Revenue Service (IRS) has completed its examination of MassMutual and its subsidiaries for the 2011-2016 tax years which are currently at IRS Appeals. The IRS commenced its examination of years 2017-2018 in October 2020. The adjustments resulting from these examinations are not expected to materially affect the position or liquidity of the Company.

As of December 31, 2020 and 2019, the Company did not recognize any protective deposits as a dmitted assets.

7. Deferred and uncollected life insurance premium

Deferred and uncollected life insurance premium, net of loading and reinsurance, are included in other than invested assets in the Company's Statutory Statements of Financial Position. The following summarizes the deferred and uncollected life insurance premium on a gross basis, as well as net of loading and reinsurance:

	December 31,						
	202	20	20	19			
	Gross	Net	Gross	Net			
	(In Millions)						
Ordinary renewal	\$ (12)	\$ (14)	\$ (13)	\$ (16)			
Total	\$ (12)	\$ (14)	\$ (13)	\$ (16)			

Deferred premium is the portion of the annual premium not earned at the reporting date. Loading on deferred premium is an amount obtained by subtracting the valuation net deferred premium from the gross deferred premium and generally includes allowances for acquisition costs and other expenses. Refer to *Note 2p. "Policyholders' reserves"* for information on the Company's accounting policies regarding gross premium and net premium.

Uncollected premium is gross premium net of reinsurance that is due and unpaid as of the reporting date, net of loading. Net premium is the amount used in the calculation of reserves. The change in deferred and uncollected life insurance premium is included in premium income. The change in loading is included as an expense and is not shown as a reduction to premium income.

Ordinary new business and ordinary renewal business consist of the basic amount of premium required on the underlying life insurance policies.

In certa in instances, gross premium is less than net premium according to the standard valuation set by the Division and the Department. The gross premium is less than the net premium needed to establish the reserves because the statutory reserves must use standard conservative valuation mortality tables, while the gross premium calculated in pricing uses mortality tables that reflect both the Company's experience and the transfer of mortality risk to reinsurers. The Company had life insurance in force of \$381 million as of December 31,2020 and \$380 million as of December 31,2019 for which gross premium was less than net premium.

8. Policyholders' liabilities

a. Policyholders' reserves

The Company had life insurance in force of \$16,500 million as of December 31, 2020 and \$18,940 million as of December 31, 2019.

The following summarizes policyholders' reserves, net of reinsurance, and the range of interest rates by type of product:

	December 31,									
		2020				2019				
		Amount Interest Rates			A	mount	Inter	est I	Rates	
		(\$ In Millions)								
Individual annuities	\$	3,013	3.3%	-	9.0%	\$	2,999	3.5%	-	9.0%
Individual universal and variable life		793	4.0%	-	4.5%		848	4.0%	-	4.5%
Individuallife		94	3.5%	-	4.5%		92	3.5%	-	4.5%
Total	\$	3,900				\$	3,939			

Individual life includes whole life and term insurance.

b. Liabilities for deposit-type contracts

Supplementary contracts not involving life contingencies of \$69 million as of December 31, 2020 and \$86 million as of December 31, 2019 were included in liabilities for deposit-type contracts. The interest rate range on supplementary contracts was 2.5% to 3.0% as of December 31, 2020 and 0.3% to 4.0% as of December 31, 2019.

c. Additional liability for annuity contracts

Certa in variable annuity contracts include additional death benefit features. Election of these benefits is generally only a vailable at contract issue.

The following shows the liabilities for GMDBs (in millions):

Liability as of January 1, 2019	\$ 3
Incurred guarantee benefits	1
Paid guarantee benefits	(1)
Liability as of December 31, 2019	3
Incurred guarantee benefits	(1)
Paid guarantee benefits	(1)
Liability as of December 31, 2020	\$ 1

The Company held deterministic reserves as of December 31, 2020 and reserves in accordance with the stochastic scenarios as of December 31, 2019.

The following summarizes the account values, net amount at risk and weighted average attained age for variable annuity contracts with GMDBs classified as policyholders' reserves and separate account liabilities. The net amount at risk is defined as the minimum guarantee less the account value calculated on a policy-by-policy basis, but not less than zero.

			December 3	31,		
		2020			2019	
		Net We	ighted		Net	Weighted
	Account	Amount Av	erage A	ccount	Amount	Average
	Value	at Risk Attai	ned Age	Value	at Risk	Attained Age
			(\$ In Million	ns)		
GMDB	\$ 1,656	\$ 17	66 \$	1,596	\$ 19	66

Account values of variable annuity contracts with GMDBs are summarized below:

	December 31,							
	2020		2019					
	(In Millions)							
Separate account	\$ 1,301	\$	1,237					
Generalaccount	 355		359					
Total	\$ 1,656	\$	1,596					

d. Additional liability for individual life contracts

Certa in universal life and variable universal life contracts include features such as GMDBs or other guarantees that ensure continued death benefit coverage when the policy would otherwise lapse. The value of the guarantee is only a vailable to the beneficiary in the form of a death benefit.

The following presents the changes in the liability, net of reinsurance, for guarantees on universal life and variable universal life type contracts was as follows:

	December 31,					
		2020	,	2019		
	(In Millions)					
Beginning balance	\$	(122)	\$	160		
Net liability increase (decrease)		102		(282)		
Ending balance	\$	(20)	\$	(122)		

9. Reinsurance

The Company enters into reinsurance a greements with a ffiliated and unaffiliated insurers in the normal course of business in order to mitigate the impact of underwriting mortality and morbidity risks. Such transfers do not relieve the Company of its primary liability to its customers and, as such, failure of reinsurers to honor their obligations could result in credit losses that could arise if a reinsurer defaults. The Company reduces reinsurance default risk by evaluating the financial condition of reinsurers and monitoring for possible concentrations within the Company's reinsurers and using trust structures, when appropriate. The Company reinsures a portion of its mortality risk in its life business under either a first dollar quota-share arrangement or an in excess of the retention limit arrangement with reinsurers. The amounts reinsured are on a yearly renewable term or coinsurance basis. The Company's highest retention limit for new issues of life policies ranges from \$15 million to \$25 million.

Refer to Note14. "Related party transactions" for information about the Company's affiliated ceded reinsurance transactions.

The Company did not reinsure any policies with a company chartered in a country other than the U.S., excluding U.S. branches of these companies, which was 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. There are no 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. The Company has no reinsurance a greements 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 which, in a ggregate and allowing for offset of mutual credits from other reinsurance a greements with the same reinsurer, exceed the total direct premium collected under the reinsured policies.

If all reinsurance a greements were terminated by either party as of December 31, 2020, the resulting reduction in surplus due to loss of reinsurance reserve credits, net of unearned premium, would be approximately \$504 million assuming no return of the assets, excluding a ssets in trust, backing these reserves from the reinsurer to the Company.

Reinsurance amounts included in the Statutory Statements of Operations were as follows:

	Years Ended December 31,								
		2020		2019		2018			
			(In	Millions)					
Direct premium Premium ceded	\$	1,083 (804)	\$	1,576 (1,261)	\$	1,589 (1,257)			
Total net premium	\$	279	\$	315	\$	332			
Ceded reinsurance recoveries	\$	244	\$	248	\$	265			

Reinsurance amounts included in the Statutory Statements of Financial Position were as follows:

	Decen	nber 31,
	2020	2019
	(In M	illions)
Reinsurance reserves ceded	\$ (4,471)	\$ (4,089)
Ceded amounts recoverable	62	58

Reinsurance reserves ceded to affiliated and unaffiliated reinsurers as of December 31, 2020 include \$1,501 million associated with life insurance policies and \$2,970 million for annuity. Reinsurance reserves ceded to affiliated and unaffiliated reinsurers as of December 31, 2019 include \$1,649 million associated with life insurance policies and \$2,440 million for annuity.

In 2020, a \$3 million net loss was recorded for the termination of certain yearly renewable term life insurance treaties, representing the write-off of net receivables. \$3 million increase in surplus was realized for termination of unauthorized reinsurance.

As of December 31, 2020, one reinsurer accounted for 30% of the outstanding balance of the unaffiliated reinsurance recoverables and the next largest reinsurer had 21%. Overall, the Company believes that each of these exposures to a single reinsurer does not create an undue concentration of risk and the Company's business is not substantially dependent upon any single reinsurer.

In 2018, a \$14 million net loss was recorded for the recapture of certain yearly renewable term life insurance treaties, with \$6 million recorded in premium income and \$20 million recorded in change in policyholder reserves.

10. Withdrawal characteristics

a. Annuity actuarial reserves and liabilities for deposit-type contracts

The withdra wal characteristics of the Company's annuity actuarial reserves and deposit-type contracts as of December 31,2020 are illustrated below:

Individual annuities		General Account		Separate Account with Guarantees (In Milli	Separate Account Non- Guarantee		Tota		% of Total	_
Subject to discretionary withdrawal:				(_
With market value a djustment At book value less current	\$	14	\$	-	\$	-	\$	14	-	%
charge of 5% or more		3,302		-		-		3,302	45	
At fair value Total with market value adjustment		-		-		1,304		1,304	19	
at fair value At book value without a djustment	_	3,316	-	-	-	1,304	-	4,620	64	
(minimal or no charge or		2,645		-		-		2,645	36	
Not subject to discretionary	_	22	_		_		_	22	_	
Total	\$_	5,983	\$_	-	\$_	1,304	\$	7,287	100	%
Reinsurance ceded	_	2,971	_		-		-	2,971		
Total, net of reinsurance	\$ _	3,012	\$		\$	1,304	\$	4,316	ı	
Amount included in book value without a djustment a fter statement		1		-		-		1		
Deposit-type contracts				Separate Account		Separate Account				
	(General		with		Non-			% of	
	1	Account		Guarantees		Guaranteed		Total	Total	_
				(In Milli	ons)					_
At book value without adjustment										
(minimal or no charge or	\$	56	\$	-	\$	-	\$	56	81	
Not subject to discretionary	_	13	φ-			-	Φ-	13	19	0./
Total	\$_	69	\$		\$	-	\$	69	100	%
Total, net of reinsurance	\$_	69	\$_		\$_		\$_	69	1	

The following is a summary of total annuity actuarial reserves and lia bilities for deposit-type contracts as of December 31, 2020 (in millions):

Statutory Statements of Financial Position:	
Policyholders' reserves – individual annuities	\$ 3,012
Lia bilities for deposit-type contracts	 69
Subtotal	 3,081
Separate Account Annual Statement:	
Annuities	 1,304
Total	\$ 4,385

b. Analysis of Life Actuarial Reserves by Withdrawal Characteristics

The withdra wal characteristics of the Company's life a ctuarial reserves as of December 31, 2020 are illustrated below:

General Account

	A	Account	Cash	
		Value	Value	Reserve
		(1	n Millions)	
Subject to discretionary withdrawal, surrender values, or policy				
loans				
loans:				
UniversalLife		225	225	227
Universal Life with Secondary Guarantees		907	881	1,806
Other Permanent Cash Value Life Insurance		65	76	90
Variable Universal Life		72	72	85
Not subject to discretionary withdrawal or no cash values				
Term Policies without Cash Value		-	-	2
Disability - Active Lives		-	-	1
Disability - Disabled Lives		-	-	19
Miscella neous Reserves		-	-	158
Total(gross: direct + assumed)		1,269	1,254	2,388
Reinsurance Ceded		682	663	1,501
Total(net)	\$	587 \$	591 \$	887
Separate Account Nonguaranteed				
	A	Account	Cash	
		Value	Value	Reserve
		(1	n Millions)	
Subject to discretionary withdrawal, surrender values, or policy loans			,	
loans:				
Variable Universal Life Not subject to discretionary with drawal or no cash values		664	664	664
Total(gross: direct + assumed)		664	664	664
Total(net)	Φ	664 \$	664 \$	664

c. Separate accounts

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

Information regarding the separate accounts of the Company as of and for the year ended December 31, 2020 is as follows:

	Non			
	Gu	aranteed		
	(In	Millions)		
Net premium, considerations or deposits	<u> </u>			
for the year ended December 31, 2020	\$	40		
Reserves at December 31, 2020:				
For accounts with assets at:				
Fair value	\$	1,969		
Nonpolicy liabilities		3		
Total	\$	1,972		
Reserves by withdrawal characteristics:				
Subject to discretionary withdrawal:				
At fairvalue	\$	1,969		
Nonpolicy liabilities		3		
Total	\$	1,972		

The Company does not have any reserves in separate accounts for asset default risk in lieu of AVR.

The following is a reconciliation of amounts reported as transfers (from) to separate accounts in the Summary of Operations of the Company's NAIC Separate Account Annual Statement to the amounts reported as net transfers (from) to separate accounts in change in policyholders' reserves in the accompanying Statutory Statements of Operations:

	Years Ended December 31,							
	2020		,	2019		2018		
	(In Millions)							
From the Separate Account Annual Statement:								
Transfers to separate accounts	\$	40	\$	44	\$	53		
Transfers from separate accounts		(162)		(197)		(187)		
Net transfers from separate accounts	\$	(122)	\$	(153)	\$	(134)		

11. Capital and surplus

MassMutual has authorized the contribution of funds to the Company sufficient to meet the capital requirements of each state in the U.S. in which the Company is licensed to do business. Substantially all of the statutory capital and surplus is subject to dividend restrictions. Dividend restrictions, imposed by state regulations, limit the payment of dividends to the shareholder without prior approval from the Department. Under these regulations, \$174 million of capital and surplus is available for distribution to the shareholder in 2021 without prior regulatory approval. The Company declared and paid \$173 million in dividends to MassMutual in 2020, and did not pay a dividend to MassMutual in 2019 or 2018.

12. Presentation of the Statutory Statements of Cash Flows

The following table presents those transactions that have a ffected the Company's recognized assets or liabilities but have not resulted in cash receipts or payments during the years ended December 31, 2020, 2019 and 2018. Accordingly, the Company has excluded these non-cash activities below from the Statutory Statement of Cash Flows for the years ended December 31, 2020, 2019 and 2018.

	Years	Ende	d Decemb	oer3	1,
	 2020	2	019		2018
		(In N	(fillions		
Bond conversions and refinancing	\$ 187	\$	57	\$	35
Assets received in-kind for bond maturity	6		-		-
Stock conversion	3		-		-
Net investment income payment in-kind bonds	1		1		-
Other	-		1		2

13. Business risks, commitments and contingencies

a. Risks and uncertainties

The Company operates in a business environment subject to various risks and uncertainties. The principal risks include insurance and underwriting risks, investment and interest rate risks, currency exchange risk and credit risk. The combined impact of these risks could have a material, adverse effect on the Company's financial statements or result in operating losses in future periods. The Company employs the use of reinsurance, portfolio diversification, a sset/liability management processes and other risk management techniques to mitigate the impact of these risks.

Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, longevity, persistency, interest rates and other factors. If actual policy experience emerges that is significantly and adversely different from assumptions used in product pricing, the effect could be material to the profitability of the Company.

Investment and interest rate risks

The fair value, cash flows and earnings of investments can be influenced by a variety of factors including changes in interest rates, credit spreads, equity markets, portfolio asset allocation and general economic conditions. The Company employs a rigorous asset/lia bility management process to help mitigate the economic impacts of various investment risks, in particular interest rate risk. By effectively matching the market sensitivity of assets with the liabilities they support, the impact of interest rate changes is addressed, on an economic basis, as the change in the value of the asset is offset by a corresponding change in the value of the supported liability. The Company uses derivatives, such as interest rate swaps and swaptions, as well as synthetic assets to reduce interest rate and duration imbalances determined in asset/liability analyses.

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

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

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

Currency exchange risk

The Company has currency risk due to its non-U.S. dollar investments. The Company mitigates currency risk through the use of cross-currency swaps and forward contracts. Cross-currency swaps are used to minimize currency risk for certain non-U.S. dollar assets through a pre-specified exchange of interest and principal. Forward contracts are used to hedge movements in exchange rates.

Credit and other market risks

The Company manages its investments to limit credit and other market risks by diversifying its portfolio among various security types and industry sectors as well as purchasing credit default swaps to transfer some of the risk.

Stressed conditions, volatility and disruptions in global capital markets or in particular markets or financial asset classes can have an adverse effect on the Company, in part because the Company has a large investment portfolio and assets supporting the Company's insurance liabilities are sensitive to changing market factors. Global market factors, including interest rates, credit spread, equity prices, real estate markets, foreign currency exchange rates, consumer spending, business investment, government spending, the volatility and strength of the capital markets, deflation and inflation, all affect the business and economic environment and, ultimately, the profitability of the Company's business. Disruptions in one market or asset class can also spread to other markets or asset classes. Upheavals in the financial markets can also affect the Company's business through their effects on general levels of economic activity, employment and customer behavior.

The CMBS, RMBS and leveraged loan sectors are sensitive to evolving conditions that can impair the cash flows realized by investors and is subject to uncertainty. Management's judgment regarding OTTI and estimated fair value depends upon the evolving investment sector and economic conditions. It can also be affected by the market liquidity, a lack of which can make it difficult to obtain accurate market prices for RMBS and other investments, including CMBS and leveraged loans. Any deterioration in economic fundamentals, especially related to the housing sector could a ffect management's judgment regarding OTTI.

The Company has investments in structured products exposed primarily to the credit risk of corporate bank loans, corporate bonds or credit default swap contracts referencing corporate credit risk. Most of these structured investments are backed by corporate loans and are commonly known as collateralized loan obligations that are classified as CDO. The portfolios backing these investments are actively managed and diversified by industry and individual issuer concentrations. Due to the complex nature of CDO and the reduced level of transparency to the underlying collateral pools for many market participants, the recovery in CDO valuations generally lags the overall recovery in the underlying assets. Management believes its scenario analysis approach, based primarily on actual collateral data and forward looking assumptions, does capture the credit and most other risks in each pool. However, in a rapidly changing economic environment, the credit and other risks in each collateral pool will be more volatile and actual credit performance of CDO may differ from the Company's assumptions.

The Company continuously monitors its investments and assesses their liquidity and financial viability; however, the existence of the factors described above, as well as other market factors, could negatively impact the market value of the Company's investments. If the Company sells its investments prior to maturity or market recovery, these investments may yield a return that is less than the Company otherwise would have been able to realize.

Asset-based fees calculated as a percentage of the separate account assets are a source of revenue to the Company. Gains and losses in the investment markets may result in corresponding increases and decreases in the Company's separate account assets and related revenue.

The spread of the coronavirus, causing increased cases of COVID-19, around the world in 2020 has caused significant volatility in U.S. and international markets. There is significant uncertainty around the breadth and duration of business disruptions related to COVID-19, as well as its impact on the U.S. and international economies. At this time, the Company is not able to reliably estimate the length and severity of the COVID-19 public health crises and, as such, cannot quantify its impact on the financial results, liquidity and capital resources and its operations in future periods.

Political Uncertainties

Political events, domestically or internationally, may directly or indirectly trigger or exacerbate risks related to product offerings, profitability, or any of the risk factors described above. Whether those underlying risk factors are driven by politics or not, the Company's dynamic approach to managing risks enables management to identify risks, internally and externally, develop mitigation plans, and respond to risks in an attempt to proactively reduce the potential impact of each underlying risk factor on the Company.

b. Guaranty funds

The Company is subject to state insurance guaranty fund laws. These laws assess insurance companies' amounts to be used to pay benefits to policyholders and policy claimants of insolvent insurance companies. Many states allow these assessments to be credited against future premium taxes. The Company believes such assessments in excess of a mounts accrued will not materially impact its financial position, results of operations or liquidity.

c. Litigation and regulatory matters

In the normal course of business, the Company is involved in disputes, litigation and governmental or regulatory inquiries, administrative proceedings, examinations and investigations, both pending and threatened. These matters, if resolved adversely against the Company or settled, may result in monetary damages, fines and penalties or require changes in the Company's business practices. The resolution or settlement of these matters is inherently difficult to predict. Based upon the Company's assessment of these pending matters, the Company does not believe that the amount of any judgment, settlement or other action arising from any pending matter is likely to have a material adverse effect on the statement of financial position. However, an adverse outcome in certain matters could have a material adverse effect on the results of operations for the period in which such matter is resolved, or an accrual is determined to be required, on the financial statement financial position, or on our reputation.

The Company evaluates the need for accruals of loss contingencies for each matter. When a liability for a matter is probable and can be estimated, the Company accrues an estimate of the loss offset by related insurance recoveries or other contributions, if any. An accrual may be subject to subsequent adjustment as a result of a additional information and other developments. The resolution of matters are inherently difficult to predict, especially in the early stages of matter. Even if a loss is probable, due to many complex factors, such as speed of discovery and the timing of court decisions or rulings, a loss or range of loss may not be reasonably estimated until the later stages of the matter. For matters where a loss is material and it is either probable or reasonably possible then it is disclosed. For matters where a loss may be reasonably possible, but not probable, or is probable but not reasonably estimated, no accrual is established, but the matter, if material, is disclosed.

d. Commitments

In the normal course of business, the Company enters into commitments to purchase certain investments. The majority of these commitments have funding periods that extend between one and five years. The Company is not required to fund commitments once the commitment period expires.

As of December 31, 2020, the Company had the following outstanding commitments:

	20	21	20	22	202	23	202	24	20	25	There	ea fter	To	otal
						(1	n M	illion	s)					
Private placements	\$	32	\$	84	\$	-	\$	-	\$	-	\$	1	\$	117
Mortgage loans		6		9		2		3		1		4		25
Partnerships and LLCs		4		1		1		5		14		38		63
Total	\$	43	\$	94	\$	3	\$	7	\$	15	\$	43	\$	205

14. Related party transactions

Pursuant to a management agreement, MassMutual, for a fee, furnishes the Company, as required, operating facilities, human resources, computer software development and managerial services. Investment and administrative services are also provided to the Company pursuant to a management services agreement with MassMutual. While management believes that these fees are calculated on a reasonable basis, these fees may not necessarily be indicative of the costs that would have been incurred on a stand-alone basis.

The following table summarizes the transactions between the Company and the related parties:

		Year	s Ende	l Decem	ber 31,	
	20)20	20	019	2	018
			(In M	(illions		
Fee income:						
Recordkeeping and other services	\$	1	\$	1	\$	2
Fee expense:						
Management and service contracts and cost-sharing						
arrangements		96		134		136

The Company reported less than \$1 million as amounts due from affiliates as of December 31, 2020 and 2019. The Company reported \$21 million as amounts due to subsidiaries and affiliates as of December 31, 2020 and \$33 million as of December 31, 2019. Terms generally require settlement of these amounts within 30 to 90 days.

As of December 31, 2020, MMIH and C.M. Life, together, provided financing of \$5,500 million, \$5,253 million and \$247 million respectively, for MassMutual Asset Finance, LLC (MMAF) that can be used to finance ongoing asset purchases. The Company provided financing of \$247 million as of December 31, 2020 and \$246 million as of December 31, 2019. During 2020, MMAF borrowed \$94 million and repaid \$88 million under the MMAF credit facility. During 2019, MMAF borrowed \$114 million and repaid \$120 million under the MMAF credit facility. Outstanding borrowings under the facility with the Company were \$167 million as of December 31, 2020 and \$196 million as of December 31, 2019. Interest for these borrowings was \$4 million for the year ended December 31, 2020 and \$5 million for the year ended December 31, 2019. The floating rate borrowings bear interest at a spread over the 30 day LIBOR. The fixed rate borrowings bear an interest at a spread over a verage life Trea suries.

Together, MassMutual and C.M. Life, provide a credit facility to Jefferies Finance, LLC whereby Jefferies Finance, LLC (Jefferies) borrows cash through short-term approved financings to fund the purchase of loans for securitization. During 2020, Jefferies borrowed \$94 million and repaid \$99 million under the credit facility. During 2019, Jefferies borrowed \$45 million and repaid \$40 million under the credit facility. As of December 31, 2020 there were no outstanding borrowings under this facility. All outstanding interest due under the facility, as of December 31, 2020

had been paid. The interest of this facility is calculated based on a full pass through of interest accrued on the underlying loans purchased.

In 2020, C.M. Life declared and paid \$173 million in dividends to MassMutual.

The Company has a stop-loss a greement for life products with MassMutual under which the Company cedes claims which, in a ggregate, exceed 2.05% of the covered volume for any year, with maximum coverage of \$25 million above the a ggregate limit. The a ggregate limit was \$83 million in 2020, \$66 million in 2019 and \$86 million in 2018 and it was not exceeded in any of the years. Effective December 31, 2020, the Company entered into a stop-loss a greement to transfer interest rate risk for annuity products with MassMutual. MassMutual provides maximum coverage of \$100 million over the five year duration of this contract.

The Company has coinsurance agreements with MassMutual where the Company cedes substantially all of the premium on certain universal life policies. In return, MassMutual pays to the Company a stipulated expense allowance and death and surrender benefits. MassMutual holds the assets and related reserves for payment of future benefits on the ceded policies.

As of December 31, 2020, the net amounts due from MassMutual for the various reinsurance agreements were \$27 million and as of December 31, 2019, the net amounts due from MassMutual were \$19 million. These outstanding balances are due and payable with terms ranging from quarterly to annually, depending on the agreement in effect.

The following summarizes the related party reinsurance transactions between the Company and MassMutual:

		Year	s Ende	d Decemb	ecember 31,	
	2	2020	2	019		2018
			(In N	(Iillions		
Premium ceded, related to:						
Stop-loss a greements	\$	(1)	\$	-	\$	-
Coinsurance agreements		(40)		(39)		(43)
Expense allowances on reinsurance ceded,						
included in fees and other income, related to:						
Coinsurance agreements		8		8		14
Policyholder benefits ceded, related to:						
Coinsurance agreements		74		91		128

15. Subsidiaries and affiliated companies

A summary of ownership and relationship of MassMutual and its subsidiaries and affiliated companies as of December 31,2020 is illustrated below. Subsidiaries are wholly owned, except as noted.

Subsidiaries of MassMutual

C.M. Life

Berkshire Way LLC

MML Special Situations Investor LLC

Timberland Forest Holding LLC – 37% (remaining 63% owned by MassMutual Trad Private Equity LLC)

WP – SC, LLC – 81% (remaining 19% owned by C.M. Life)

MSP-SC.LLC

Insurance Road LLC

MM Copper Hill Road LLC

Jefferies Finance LLC-50% (remaining 50% owned by Jefferies Group, Inc.)

MML Distributors LLC – 99% (remaining 1% owned by MassMutual Holding LLC)

MML Investment Advisers, LLC

Pioneers Gate LLC

MML Strategic Distributors, LLC

The MassMutual Trust Company, FSB

MassMutual Mortgage Lending LLC

MML Private Placement Investment Company I, LLC

MML Private Equity Fund Investor LLC

MM Private Equity Intercontinental LLC

MassMutual Holding LLC

MassMutual Investment Holding

MassMutual International, LLC

MML Mezzanine Investor II, LLC

MML Mezzanine Investor III, LLC

MassMutual External Benefits Group LLC

EM Opportunities LLC

MassMutual MCAM Insurance Company, Inc.

MassMutual Global Business Services India LLP

CML Global Capabilities

MM Global Capabilities I LLC

MM Global Capabilities II LLC

MM Global Capabilities III LLC

Barings Ascend LLC

MML CM LLC

Subsidiaries of C.M. Life Insurance Company

MML Bay State Life Insurance Company

CML Mezzanine Investor III, LLC

CML Special Situations Investor LLC

Subsidiaries of MML Bay State Life Insurance Company

(No subsidiaries)

Subsidiaries of MassMutual Investment Holding

MML Management Corporation

MassMutual Asset Finance LLC

Subsidiaries of MassMutual Asset Finance LLC (a subsidiary of MMC Equipment Finance LLC)

MMAF Equipment Finance LLC 2013-A

MMAF Equipment Finance LLC 2014-A

MMAF Equipment Finance LLC 2015-A

MMAF Equipment Finance LLC 2016-A

MMAF Equipment Finance LLC 2017-A

MMAF Equipment Finance LLC 2017-B

MMAF Equipment Finance LLC 2018-A

MMAF Equipment Finance LLC 2019-A

MMAF Equipment Finance LLC 2019-B

Rozier LLC

<u>Jefferies Finance LLC</u> – 50% (remaining 50% owned by Jefferies Group, Inc.)

(No subsidiaries)

16. Subsequent events

Management of the Company has evaluated subsequent events through February 24, 2021, the date the financial statements were available to be issued to state regulators and subsequently on the Company's website. No events have occurred subsequent to the date of the Statements of Financial Position.

17. Impairment listing for loan-backed and structured securities

The following are the total cumulative adjustments and impairments for loan-backed and structured securities since July 1, 2009:

Period Ended	Amortized Cost before Cumulative Adjustmen	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
December 31, 2020	\$ 2,202,709	\$ -	\$ 2,202,709	\$ 1,981,547	\$ (221,162)	\$ 1,981,547	\$ 2,127,616
September 30, 2020	3,225,941	-	3,225,941	2,914,652	(311,289)	2,914,652	2,881,746
June 30, 2020	1,978,627	-	1,978,627	1,765,784	(212,843)	1,765,784	1,794,192
March 31, 2020	2,725,567	-	2,725,567	2,242,474	(483,093)	2,242,474	2,684,492
December 31, 2019	395,604	-	395,603	374,233	(21,371)	374,233	323,929
September 30, 2019	2,403,817	-	2,403,817	2,163,454	(240,363)	2,163,454	1,796,355
June 30, 2019	1,138,783	-	1,138,783	965,642	(173,141)	965,642	1,187,758
March 31, 2019	1,165,908	-	1,165,908	1,155,765	(10,143)	1,155,765	1,186,451
December 31, 2018	904,746	-	904,746	770,347	(134,399)	770,347	817,965
September 30, 2018	496,473	-	496,473	447,735	(48,737)	447,735	449,782
June 30, 2018	39,548	-	39,548	1,365	(38,183)	1,365	4,435
March 31, 2018	84,116	-	84,116	56,604	(27,511)	56,604	56,886
December 31, 2017	21,358	-	21,358	17,379	(3,979)	17,379	25,404
September 30, 2017	31,370	-	31,370	30,181	(1,188)	30,181	97,082
June 30, 2017	4,452,491	-	4,452,491	4,378,331	(74,160)	4,378,331	6,609,233
March 31, 2017	4,815,924	-	4,815,924	4,784,422	(31,502)	4,784,422	6,463,013
December 31, 2016	4,846,676	-	4,846,676	4,829,684	(16,992)	4,829,684	6,221,820
September 30, 2016	4,994,934	-	4,994,934	4,730,196	(264,738)	4,730,196	6,883,514
June 30, 2016	5,054,395	-	5,054,395	4,955,880	(98,515)	4,955,880	6,764,218
March 31, 2016	6,298,495	-	6,298,495	6,092,642	(205,853)	6,092,642	7,817,461
December 31, 2015	474,546	-	474,546	468,066	(6,480)	468,066	467,904
September 30, 2015	5,603,766	-	5,603,766	5,064,430	(539,336)	5,064,430	6,491,786
June 30, 2015	8,300,146	-	8,300,146	8,096,024	(204,122)	8,096,024	8,991,309
March 31, 2015	4,134,216	-	4,134,216	4,097,041	(37,175)	4,097,041	4,062,060
December 31, 2014	9,225,670	-	9,225,670	9,099,603	(126,067)	9,099,603	10,324,197
September 30, 2014	-	-	1	-	1	1	-
June 30, 2014	6,799,823	-	6,799,823	6,410,214	(389,609)	6,410,214	8,821,203
March 31, 2014	10,842,786	-	10,842,786	9,332,953	(1,509,833)	9,332,953	11,545,156
December 31, 2013	13,068,728	-	13,068,728	12,446,803	(621,925)	12,446,803	13,075,122
September 30, 2013	8,777,769	-	8,777,769	8,640,444	(137,325)	8,640,444	8,226,635
June 30, 2013	11,479,347	-	11,479,347	11,079,158	(400,190)	11,079,158	10,139,599
March 31, 2013	15,334,535	-	15,334,535	14,970,376	(364,159)	14,970,376	14,135,122
December 31, 2012	31,785,329	-	31,785,329	30,443,342	(1,341,987)	30,443,342	27,669,977
September 30, 2012	67,270,430	-	67,270,430	65,265,347	(2,005,083)	65,265,347	57,019,262
June 30, 2012	70,455,900	-	70,455,900	69,041,733	(1,414,167)	69,041,733	55,143,333
March 31, 2012	87,853,178	-	87,853,178	85,053,001	(2,800,177)	85,053,001	67,243,938
December 31, 2011	90,342,742	-	90,342,742	87,759,853	(2,582,889)	87,759,853	61,663,659
September 30, 2011	62,166,554	-	62,166,554		(1,621,646)	60,544,909	45,284,654
June 30, 2011	80,582,827	-	80,582,827	76,857,393	(3,725,434)	76,857,393	60,286,999
March 31, 2011	87,925,923	-	87,925,923	85,768,903	(2,157,020)	85,768,903	65,285,429
December 31, 2010	78,922,237	-	78,922,237	77,329,041	(1,593,196)	77,329,041	57,284,607
September 30, 2010	75,579,158	-	75,579,158	73,844,794	(1,734,364)	73,844,794	53,531,682
June 30, 2010	106,701,990	-	106,701,990	104,920,573	(1,781,417)	104,920,573	77,297,241
March 31, 2010	117,247,145	-	117,247,145	110,848,178	(6,398,967)	110,848,178	81,512,593
December 31, 2009	94,759,892	-	94,759,892	91,319,793	(3,440,099)	91,319,793	61,154,482
September 30, 2009	203,672,078	(2,299,537)	201,372,541	193,090,828	(8,281,714)	193,090,828	124,234,344
Totals		\$ (2,299,537)			\$ (47,833,544)		

The following is the impairment listing for loan-backed and structured securities for the three months ended December 31,2020.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
01853GAB6	\$ 14,568	\$ -	\$ 14,568	\$ 7,033	\$ (7,536)	\$ 7,033	\$ 12,059
05535DCF9	377,210	-	377,210	370,871	(6,338)	370,871	402,819
61750FAE0	38,370	-	38,370	37,735	(636)	37,735	34,241
61750MAB1	519	-	519	500	(19)	500	505
124860CB1	136,315	-	136,315	94,190	(42,125)	94,190	113,287
2254W0NK7	14,495	-	14,495	4,314	(10,181)	4,314	17,202
45660LYW3	91,445	-	91,445	90,564	(881)	90,564	89,217
65535VRK6	39,925	-	39,925	35,226	(4,699)	35,226	38,262
125435AA5	38,147	-	38,147	37,820	(327)	37,820	39,118
36298XAA0	1,280,168	-	1,280,168	1,134,532	(145,636)	1,134,532	1,203,139
86359DME4	171,546	-	171,546	168,762	(2,784)	168,762	177,768
Totals	\$ 2,202,709	\$ -	\$ 2,202,709	\$ 1,981,547	\$ (221,162)	\$ 1,981,547	\$ 2,127,616

The following is the impairment listing for loan-backed and structured securities for the three months ended September 30,2020.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
05535DCF9	\$ 395,158	\$ -	\$ 395,158	\$ 379,924	\$ (15,234)	\$ 379,924	\$ 366,150
61750MAB1	537	-	537	519	(18)	519	380
9393365V1	7,420	-	7,420	7,328	(92)	7,328	6,783
12669GWN7	210,883	-	210,883	198,389	(12,494)	198,389	194,272
36298XAA0	1,347,196	-	1,347,196	1,307,547	(39,649)	1,307,547	1,239,480
36298XAB8	1,257,414	-	1,257,414	1,017,564	(239,850)	1,017,564	1,064,536
74951PBT4	7,333	-	7,333	3,381	(3,952)	3,381	10,145
Totals	\$ 3,225,941	\$ -	\$ 3,225,941	\$ 2,914,652	\$ (311,289)	\$ 2,914,652	\$ 2,881,746

The following is the impairment listing for loan-backed and structured securities for the three months ended June 30, 2020.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
9393365V1	\$ 7,834	\$ -	\$ 7,834	\$ 7,719	\$ (116)	\$ 7,719	\$ 6,622
57643QAE5	534,784	-	534,784	441,679	(93,105)	441,679	574,564
74951PBT4	14,931	-	14,931	9,486	(5,445)	9,486	10,438
86359DMC8	1,421,078	-	1,421,078	1,306,900	(114,178)	1,306,900	1,202,568
Totals	\$ 1,978,627	\$ -	\$ 1,978,627	\$ 1,765,784	\$ (212,843)	\$ 1,765,784	\$ 1,794,192

The following is the impairment listing for loan-backed and structured securities for the three months ended March 31, 2020.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
05535DCF9	\$ 432,085	\$ -	\$ 432,085	\$ 410,505	\$ (21,580)	\$ 410,505	\$ 362,606
45071KDD3	77,176	-	77,176	69,653	(7,524)	69,653	67,033
65535VRK6	41,952	-	41,952	40,956	(995)	40,956	37,844
79548KXQ6	29,027	-	29,027	28,392	(635)	28,392	21,372
12669GWN7	220,746	-	220,746	216,237	(4,509)	216,237	214,278
57645LAA2	1,924,581	-	1,924,581	1,476,730	(447,851)	1,476,730	1,981,360
Totals	\$ 2,725,567	\$ -	\$ 2,725,567	\$ 2,242,474	\$ (483,093)	\$ 2,242,474	\$ 2,684,492

The following is the impairment listing for loan-backed and structured securities for the three months ended December 31,2019.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
05535DAN4	\$ 307,738	\$ -	\$ 307,738	\$ 295,672	\$ (12,066)	\$ 295,672	\$ 254,718
65535VRK6	48,442		48,442	41,689	(6,753)	41,689	45,360
79548KXQ6	32,160	-	32,160	29,837	(2,323)	29,837	17,626
12669FXR9	7,263	-	7,263	7,035	(228)	7,035	6,226
Totals	\$ 395,603	\$ -	\$ 395,603	\$ 374,233	\$ (21,370)	\$ 374,233	\$ 323,929

The following is the impairment listing for loan-backed and structured securities for the three months ended September 30,2019.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
761118FM5	\$ 340,329	\$ -	\$ 340,329	\$ 333,834	\$ (6,494)	\$ 333,834	\$ 12,112
79548KXQ6	44,492	-	44,492	43,020	(1,472)	43,020	9,462
12669GWN7	257,591	-	257,591	237,604	(19,987)	237,604	232,552
36298XAA0	1,757,853	-	1,757,853	1,547,103	(210,750)	1,547,103	1,539,100
US74951PBV94	3,553	-	3,553	1,893	(1,660)	1,893	3,130
Totals	\$ 2,403,817	\$ -	\$ 2,403,817	\$ 2,163,454	\$ (240,364)	\$ 2,163,454	\$ 1,796,355

The following is the impairment listing for loan-backed and structured securities for the three months ended June 30, 2019.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
61750MAB1	\$ 549	\$ -	\$ 549	\$ 544	\$ (5)	\$ 544	\$ 483
761118FM5	399,645	-	399,645	392,163	(7,482)	392,163	415,195
57643QAE5	738,589	•	738,589	572,935	(165,654)	572,935	772,080
Totals	\$ 1,138,783	\$ -	\$ 1,138,783	\$ 965,642	\$ (173,141)	\$ 965,642	\$ 1,187,758

The following is the impairment listing for loan-backed and structured securities for the three months ended March 31, 2019.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
61750MAB1	\$ 586	\$ -	\$ 586	\$ 548	\$ (38)	\$ 548	\$ 554
65106FAG7	12,643	-	12,643	11,714	(929)	11,714	343
22541QQR6	312	•	312	-	(312)	-	-
761118FM5	390,110	-	390,110	385,210	(4,900)	385,210	388,296
57643QAE5	755,970	-	755,970	754,768	(1,202)	754,768	790,386
US74951PBV94	6,287	-	6,287	3,525	(2,763)	3,525	6,872
Totals	\$ 1,165,908	\$ -	\$ 1,165,908	\$ 1,155,765	\$ (10,144)	\$ 1,155,765	\$ 1,186,451

The following is the impairment listing for loan-backed and structured securities for the three months ended December 31,2018.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
65106FAG7	\$ 11,179	\$ -	\$ 11,179	\$ 959	\$ (10,220)	\$ 959	\$ 1,142
22541QQR6	5,700	-	5,700	(1,944)	(7,644)	(1,944)	-
57643QAE5	887,867	-	887,867	771,332	(116,535)	771,332	816,823
Totals	\$ 904,746	s -	\$ 904,746	\$ 770,347	\$ (134,399)	\$ 770,347	\$ 817,965

The following is the impairment listing for loan-backed and structured securities for the three months ended September 30,2018.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
05535DCF9	\$ 495,404	\$ -	\$ 495,404	\$ 450,462	\$ (44,942)	\$ 450,462	\$ 449,510
07386НСР4	564	-	564	(1,633)	(2,197)	(1,633)	83

	76110H4M8	504	=	504	(1,094)	(1,598)	(1,094)	189
ĺ	Totals	\$ 496,473		\$ 496,473	\$ 447,735	\$ (48,737)	\$ 447,735	\$ 449,782

The following is the impairment listing for loan-backed and structured securities for the three months ended June 30, 2018.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
76110H4M8	\$ 2,014	s -	\$ 2,014	\$ 579	\$ (1,435)	\$ 579	\$ 504
863579DV7	37,534	-	37,534	786	(36,748)	786	3,932
Totals	\$ 39,548	\$ -	\$ 39,548	\$ 1,365	\$ (38,183)	\$ 1,365	\$ 4,435

The following is the impairment listing for loan-backed and structured securities for the three months ended March 31, 2018.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
07386HEN7	\$ 2,548	\$ -	\$ 2,548	\$ 136	\$ (2,412)	\$ 136	\$ 94
79548KXQ6	81,567	-	81,567	56,468	(25,099)	56,468	56,792
Totals	\$ 84,116	\$ -	\$ 84,116	\$ 56,604	\$ (27,511)	\$ 56,604	\$ 56,886

The following is the impairment listing for loan-backed and structured securities for the three months ended December 31,2017.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
07386HCP4	\$ 2,087	\$ -	\$ 2,087	\$ 362	\$ (1,726)	\$ 362	\$ 697
22541QQR6	4,224	•	4,224	2,480	(1,744)	2,480	3,194
2254W0NK7	15,047		15,047	14,538	(509)	14,538	21,513
Totals	\$ 21,358	\$ -	\$ 21,358	\$ 17,379	\$ (3,979)	\$ 17,379	\$ 25,404

The following is the impairment listing for loan-backed and structured securities for the three months ended September 30,2017.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
88157QAL2	\$ 31,370	\$ -	\$ 31,370	\$ 30,181	\$ (1,188)	\$ 30,181	\$ 97,082

The following is the impairment listing for loan-backed and structured securities for the three months ended June 30, 2017.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
76110H4M8	\$ 1,298	s -	\$ 1,298	\$ 684	\$ (614)	\$ 684	\$ 1,198
86358RLG0	245	-	245	191	(54)	191	2,120
88157QAL2	37,298	-	37,298	30,852	(6,447)	30,852	88,942
77277LAF4	2,501,621	-	2,501,621	2,463,055	(38,566)	2,463,055	3,813,186
77277LAH0	126,121	-	126,121	124,240	(1,881)	124,240	304,271
77277LAJ6	1,785,908	-	1,785,908	1,759,310	(26,599)	1,759,310	2,399,517
Totals	\$ 4,452,491	\$ -	\$ 4,452,491	\$ 4,378,331	\$ (74,160)	\$ 4,378,331	\$ 6,609,233

The following is the impairment listing for loan-backed and structured securities for the three months ended March 31, 2017.

CUSIP	Amortized Cost before Cumulative Adjustmen		Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
22541QJR4	\$ 3,126	\$ -	\$ 3,126	\$ 15	\$ (3,111)	\$ 15	\$ 1,926
45660LYW3	130,210	•	130,210	121,920	(8,290)	121,920	118,232
86358RA23	224,856	•	224,856	212,421	(12,435)	212,421	218,430
88157QAL2	39,747	1	39,747	36,416	(3,331)	36,416	89,960
77277LAF4	2,504,113	-	2,504,113	2,501,621	(2,492)	2,501,621	3,522,212

77277LAH0	126,242	=	126,242	126,121	(122)		295,836
77277LAJ6	1,787,629	-	1,787,629	1,785,908	(1,721)	1,785,908	2,216,416
Totals	\$ 4,815,924	\$ -	\$ 4,815,924	\$ 4,784,422	\$ (31,502)	\$ 4,784,422	\$ 6,463,013

