

**MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY
AND SUBSIDIARIES**

CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS

As of March 31, 2016 and December 31, 2015 and for the three months ended
March 31, 2016 and 2015

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS
(UNAUDITED)

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MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATUTORY STATEMENTS OF FINANCIAL POSITION
(UNAUDITED)

	March 31, 2016	December 31, 2015	\$ Change	% Change
	(\$ In Millions)			
Assets:				
Bonds	\$ 86,185	\$ 83,970	\$ 2,215	3 %
Preferred stocks	491	563	(72)	(13)
Common stocks – subsidiaries and affiliates	7,830	6,571	1,259	19
Common stocks – unaffiliated	1,186	1,142	44	4
Mortgage loans	23,133	22,999	134	1
Policy loans	12,176	12,062	114	1
Real estate	930	924	6	1
Partnerships and limited liability companies	7,134	7,704	(570)	(7)
Derivatives	13,911	9,822	4,089	42
Cash, cash equivalents and short-term investments	3,510	3,424	86	3
Other invested assets	319	235	84	36
Total invested assets	<u>156,805</u>	<u>149,416</u>	<u>7,389</u>	<u>5</u>
Investment income due and accrued	1,931	1,939	(8)	-
Federal income taxes	16	67	(51)	(76)
Deferred income taxes	1,290	1,341	(51)	(4)
Other than invested assets	3,092	3,026	66	2
Total assets excluding separate accounts	<u>163,134</u>	<u>155,789</u>	<u>7,345</u>	<u>5</u>
Separate account assets	67,341	66,408	933	1
Total assets	<u>\$ 230,475</u>	<u>\$ 222,197</u>	<u>\$ 8,278</u>	<u>4 %</u>
Liabilities and Surplus:				
Policyholders' reserves	\$ 108,932	\$ 107,200	\$ 1,732	2 %
Liabilities for deposit-type contracts	10,571	10,567	4	-
Contract claims and other benefits	513	520	(7)	(1)
Policyholders' dividends	1,763	1,742	21	1
General expenses due or accrued	919	959	(40)	(4)
Asset valuation reserve	3,077	2,899	178	6
Repurchase agreements	5,187	5,370	(183)	(3)
Commercial paper and other borrowed money	282	277	5	2
Collateral	2,896	2,250	646	29
Derivatives	10,402	6,354	4,048	64
Other liabilities	3,193	2,677	516	19
Total liabilities excluding separate accounts	<u>147,735</u>	<u>140,815</u>	<u>6,920</u>	<u>5</u>
Separate account liabilities	67,331	66,399	932	1
Total liabilities	<u>215,066</u>	<u>207,214</u>	<u>7,852</u>	<u>4</u>
Surplus	15,409	14,983	426	3
Total liabilities and surplus	<u>\$ 230,475</u>	<u>\$ 222,197</u>	<u>\$ 8,278</u>	<u>4 %</u>

See notes to condensed consolidated statutory financial statements

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATUTORY STATEMENTS OF OPERATIONS
(UNAUDITED)

	Three Months Ended			
	March 31,			
	2016	2015	\$ Change	% Change
	(\$ In Millions)			
Revenue:				
Premium income	\$ 5,060	\$ 4,634	\$ 426	9 %
Net investment income	1,582	1,621	(39)	(2)
Fees and other income	<u>226</u>	<u>236</u>	<u>(10)</u>	<u>(4)</u>
Total revenue	<u>6,868</u>	<u>6,491</u>	<u>377</u>	<u>6</u>
Benefits and expenses:				
Policyholders' benefits	4,569	4,121	448	11
Change in policyholders' reserves	1,897	1,414	483	34
Change in group annuity reserves assumed	(521)	(244)	(277)	(114)
General insurance expenses	498	444	54	12
Commissions	219	205	14	7
State taxes, licenses and fees	<u>60</u>	<u>60</u>	<u>-</u>	<u>-</u>
Total benefits and expenses	<u>6,722</u>	<u>6,000</u>	<u>722</u>	<u>12</u>
Net gain from operations before dividends and federal income taxes	146	491	(345)	(70)
Dividends to policyholders	<u>395</u>	<u>368</u>	<u>27</u>	<u>7</u>
Net (loss) gain from operations before federal income taxes	(249)	123	(372)	(302)
Federal income tax benefit	<u>(117)</u>	<u>(40)</u>	<u>(77)</u>	<u>(193)</u>
Net (loss) gain from operations	(132)	163	(295)	(181)
Net realized capital gains	<u>159</u>	<u>112</u>	<u>47</u>	<u>42</u>
Net income	<u>\$ 27</u>	<u>\$ 275</u>	<u>\$ (248)</u>	<u>(90) %</u>

See notes to condensed consolidated statutory financial statements

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATUTORY STATEMENTS OF CHANGES IN SURPLUS
(UNAUDITED)

	Three Months Ended			
	March 31,			
	2016	2015	\$ Change	% Change
	(\$ In Millions)			
Surplus, beginning of year	\$ 14,983	\$ 14,231	\$ 752	5 %
Increase (decrease) due to:				
Net income	27	275	(248)	(90)
Change in net unrealized capital gains (losses), net of tax	605	436	169	39
Change in net unrealized foreign exchange capital gains (losses), net of tax	54	(196)	250	128
Change in other net deferred income taxes	(60)	(3)	(57)	NM
Change in nonadmitted assets	3	(15)	18	120
Change in asset valuation reserve	(178)	(178)	-	-
Cumulative effect of accounting changes	-	3	(3)	(100)
Prior period adjustments	(23)	9	(32)	(356)
Other	(2)	(1)	(1)	(100)
Net increase	<u>426</u>	<u>330</u>	<u>96</u>	29
Surplus, end of period	<u>\$ 15,409</u>	<u>\$ 14,561</u>	<u>\$ 848</u>	6 %

NM = not meaningful

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATUTORY STATEMENTS OF CASH FLOWS
(UNAUDITED)

	Three Months Ended			
	March 31,			
	2016	2015	\$ Change	% Change
	(\$ In Millions)			
Cash from operations:				
Premium and other income collected	\$ 5,338	\$ 4,928	\$ 410	8 %
Net investment income	1,643	1,641	2	-
Benefit payments	(4,567)	(4,273)	(294)	(7)
Net transfers to separate accounts	(158)	(431)	273	63
Net receipts from RPG reinsurance agreement	521	244	277	114
Commissions and other expenses	(837)	(922)	85	9
Dividends paid to policyholders	(373)	(355)	(18)	(5)
Federal and foreign income taxes recovered (paid)	188	(265)	453	171
Net cash from operations	<u>1,755</u>	<u>567</u>	<u>1,188</u>	210
Cash from investments:				
Proceeds from investments sold, matured or repaid:				
Bonds	2,738	2,217	521	24
Preferred and common stocks – unaffiliated	134	95	39	41
Common stocks – affiliated	3	49	(46)	(94)
Mortgage loans	734	517	217	42
Real estate	1	-	1	NM
Partnerships and limited liability companies	132	227	(95)	(42)
Derivatives	536	289	247	85
Other	(191)	(201)	10	5
Total investment proceeds	<u>4,087</u>	<u>3,193</u>	<u>894</u>	28
Cost of investments acquired:				
Bonds	(4,959)	(3,473)	(1,486)	(43)
Preferred and common stocks – unaffiliated	(102)	(152)	50	33
Common stocks – affiliated	-	(5)	5	100
Mortgage loans	(887)	(620)	(267)	(43)
Real estate	(29)	(34)	5	15
Partnerships and limited liability companies	(364)	(419)	55	13
Derivatives	(114)	(55)	(59)	(107)
Other	210	141	69	49
Total investments acquired	<u>(6,245)</u>	<u>(4,617)</u>	<u>(1,628)</u>	(35)
Net increase in policy loans	<u>(114)</u>	<u>(134)</u>	<u>20</u>	15
Net cash from investing activities	<u>(2,272)</u>	<u>(1,558)</u>	<u>(714)</u>	(46)
Cash from financing and miscellaneous sources:				
Net (withdrawals) deposits on deposit-type contracts	(12)	10	(22)	(220)
Change in repurchase agreements	(183)	110	(293)	(266)
Change in collateral	644	1,175	(531)	(45)
Other cash provided	154	107	47	44
Net cash from financing and miscellaneous sources	<u>603</u>	<u>1,402</u>	<u>(799)</u>	(57)
Net change in cash, cash equivalents and short-term investments	86	411	\$ (325)	(79)%
Cash, cash equivalents and short-term investments:				
Beginning of year	<u>3,424</u>	<u>2,196</u>		
End of period	<u>\$ 3,510</u>	<u>\$ 2,607</u>		

NM = not meaningful

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS
(UNAUDITED)

1. Nature of operations

Massachusetts Mutual Life Insurance Company (MassMutual), a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and its domestic subsidiaries provide life insurance, disability income insurance, long-term care insurance, annuities, retirement products, investment management, mutual funds and trust services to individual and institutional customers in all 50 states of the United States of America (U.S.) and the District of Columbia and Puerto Rico. Products and services are offered primarily through its career agency system, broker-dealers, insurance brokers, wire houses, consultants and other third-party distributors.

2. Summary of significant accounting policies

a. Basis of presentation

The condensed consolidated statutory financial statements include the accounts of MassMutual and its wholly-owned U.S. domiciled life insurance subsidiary, C.M. Life Insurance Company (C.M. Life), and its wholly-owned U.S. domiciled life insurance subsidiary, MML Bay State Life Insurance Company (collectively, the Company). All intercompany transactions and balances for these consolidated entities have been eliminated. Other subsidiaries and affiliates are accounted for under the equity method in accordance with statutory accounting practices. Statutory financial statements filed with regulatory authorities are not presented on a consolidated basis.

The condensed consolidated 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 Commonwealth of Massachusetts Division of Insurance (the Division); and for the wholly-owned U.S. domiciled life insurance subsidiaries, the State of Connecticut Insurance Department.

The condensed consolidated statutory financial statements and notes as of March 31, 2016 and December 31, 2015, and for the three months ended March 31, 2016 and 2015, are unaudited. These condensed consolidated statutory financial statements, in the opinion of management, reflect the fair presentation of the financial position, results of operations, changes in surplus and cash flows for the interim periods. These condensed consolidated statutory financial statements and notes should be read in conjunction with the consolidated statutory financial statements and notes thereto included in the Company's 2015 audited year end financial statements as these condensed consolidated statutory financial statements disclose only significant changes from year end 2015. The results of operations for the interim periods should not be considered indicative of results to be expected for the full year. The Condensed Consolidated Statutory Statements of Financial Position as of December 31, 2015 have been derived from the audited consolidated financial statements at that date, but do not include all of the information and footnotes required by statutory accounting practices for complete financial statements.

For the full description of accounting policies, see *Note 2. "Summary of significant accounting policies"* of Notes to Consolidated Statutory Financial Statements included in the Company's 2015 audited consolidated year end financial statements.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
(UNAUDITED)

b. Corrections of errors and reclassifications

For the three months ended March 31, 2016, corrections of prior year errors were recorded in surplus, net of tax:

	Decrease to:		
	Prior Year Net Income	Current Year Surplus	Asset Balances
	(In Millions)		
Federal income tax receivable	\$ 23	\$ 23	\$ 23
Partnerships and limited liability companies	-	5	5
Total	\$ 23	\$ 28	\$ 28

Of the \$28 million adjustment to surplus for prior year errors, \$23 million was recorded as prior period adjustments and \$5 million was recorded as a change in net unrealized capital gains (losses), net of tax in the Condensed Consolidated Statutory Statements of Changes in Surplus.

For the three months ended March 31, 2015, corrections of prior year errors were recorded in surplus:

	Increase (Decrease) to:		Correction of Asset or Liability Balances
	Prior Year Net Income	Current Year Surplus	
	(In Millions)		
Policyholders' reserves, net of tax	\$ 11	\$ 11	\$ (11)
Net investment income	(2)	(2)	(2)
Total	\$ 9	\$ 9	\$ (13)

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

3. New accounting standards

Future adoption of new accounting standards

In April 2016, the NAIC issued Statement of Statutory Accounting Principles (SSAP) No. 41 - Revised, *Surplus Notes*, which is effective January 1, 2017 and shall be accounted for as a change in accounting principle in accordance with SSAP No. 3, *Accounting Changes and Corrections of Errors*. The revisions of this guidance change the valuation method for holders of surplus notes. Under the revised guidance, surplus notes with a designation equivalent to NAIC 1 or NAIC 2 shall be reported at amortized cost and all other surplus notes are required to be reported at the lesser of amortized cost or fair value. The revisions also incorporate guidance to clarify when surplus notes shall be nonadmitted, have an unrealized loss, and undergo an other-than-temporary impairment (OTTI) assessment. The adoption of this guidance is not expected to have a significant impact on the Company's financial statements.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
(UNAUDITED)

4. 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:

	March 31, 2016			
	Carrying	Gross	Gross	Fair
	Value	Unrealized Gains	Unrealized Losses	Value
(In Millions)				
U.S. government and agencies	\$ 8,486	\$ 949	\$ 11	\$ 9,424
All other governments	797	51	18	830
States, territories and possessions	759	75	2	832
Political subdivisions	489	51	-	540
Special revenue	5,547	857	3	6,401
Industrial and miscellaneous	63,197	2,935	1,204	64,928
Parent, subsidiaries and affiliates	6,910	252	42	7,120
Total	<u>\$ 86,185</u>	<u>\$ 5,170</u>	<u>\$ 1,280</u>	<u>\$ 90,075</u>

The March 31, 2016 gross unrealized losses exclude \$58 million of losses embedded in the carrying value. These losses include \$56 million from NAIC Class 6 bonds and \$2 million from residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS) whose ratings were obtained from outside modelers.

	December 31, 2015			
	Carrying	Gross	Gross	Fair
	Value	Unrealized Gains	Unrealized Losses	Value
(In Millions)				
U.S. government and agencies	\$ 8,341	\$ 654	\$ 125	\$ 8,870
All other governments	763	34	34	763
States, territories and possessions	761	57	5	813
Political subdivisions	483	39	3	519
Special revenue	5,545	670	11	6,204
Industrial and miscellaneous	61,568	1,964	1,643	61,889
Parent, subsidiaries and affiliates	6,509	205	29	6,685
Total	<u>\$ 83,970</u>	<u>\$ 3,623</u>	<u>\$ 1,850</u>	<u>\$ 85,743</u>

The December 31, 2015 gross unrealized losses exclude \$37 million of losses embedded in the carrying value of NAIC Class 6 bonds.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
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Sales proceeds and related gross realized capital gains (losses) from bonds were as follows:

	Three Months Ended March 31,	
	2016	2015
(In Millions)		
Proceeds from sales	\$ 1,285	\$ 782
Gross realized capital gains from sales	26	60
Gross realized capital losses from sales	(82)	(40)

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:

	March 31, 2016					
	Less Than 12 Months			12 Months or Longer		
	Fair Value	Unrealized Losses	Number of Issuers	Fair Value	Unrealized Losses	Number of Issuers
(\$ In Millions)						
U.S. government and agencies	\$ 432	\$ 10	5	\$ 114	\$ 2	3
All other governments	97	6	19	125	11	19
States, territories and possessions	40	2	3	35	1	4
Special revenue	85	1	38	89	2	163
Industrial and miscellaneous	11,896	524	1,212	9,238	704	912
Parent, subsidiaries and affiliates	464	29	26	730	46	20
Total	<u>\$ 13,014</u>	<u>\$ 572</u>	<u>1,303</u>	<u>\$ 10,331</u>	<u>\$ 766</u>	<u>1,121</u>

The March 31, 2016 unrealized losses include \$58 million of losses embedded in the carrying value. These losses include \$56 million from NAIC Class 6 bonds and \$2 million from RMBS and CMBS whose ratings were obtained from outside modelers.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
(UNAUDITED)

	December 31, 2015					
	Less Than 12 Months			12 Months or Longer		
	Fair Value	Unrealized Losses	Number of Issuers	Fair Value	Unrealized Losses	Number of Issuers
	(\$ In Millions)					
U.S. government and agencies	\$ 2,135	\$ 122	11	\$ 123	\$ 3	3
All other governments	356	22	40	56	10	15
States, territories and possessions	131	5	7	-	-	-
Political subdivisions	93	3	9	-	-	-
Special revenue	476	8	112	47	3	137
Industrial and miscellaneous	24,392	1,071	2,063	6,726	584	633
Parent, subsidiaries and affiliates	255	21	20	656	35	16
Total	<u>\$ 27,838</u>	<u>\$ 1,252</u>	<u>2,262</u>	<u>\$ 7,608</u>	<u>\$ 635</u>	<u>804</u>

The December 31, 2015 unrealized losses include \$37 million of losses embedded in the carrying value of NAIC Class 6 bonds.

As of March 31, 2016 and December 31, 2015, 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 March 31, 2016, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of \$9,552 million. Securities in an unrealized loss position for less than 12 months had a fair value of \$4,864 million and unrealized losses of \$150 million. Securities in an unrealized loss position for greater than 12 months had a fair value of \$4,688 million and unrealized losses of \$194 million. These securities were primarily categorized as industrial and miscellaneous or parent, subsidiaries and affiliates.

As of December 31, 2015, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of \$9,627 million. Securities in an unrealized loss position for less than 12 months had a fair value of \$5,048 million and unrealized losses of \$116 million. Securities in an unrealized loss position for greater than 12 months had a fair value of \$4,578 million and unrealized losses of \$177 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 three months ended March 31, 2016 or the year ended December 31, 2015, that were reacquired within 30 days of the sale date.

Residential mortgage-backed exposure

RMBS are included in the U.S. government and agencies, 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 March 31, 2016, RMBS had a total carrying value of \$1,875 million and a fair value of \$2,125 million, of which approximately 23%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of \$855 million and a fair value of \$998 million.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
(UNAUDITED)

As of December 31, 2015, RMBS had a total carrying value of \$1,978 million and a fair value of \$2,242 million, of which approximately 23%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of \$902 million and a fair value of \$1,064 million.

b. Common stocks – subsidiaries and affiliates

Common stocks of unconsolidated subsidiaries, primarily MassMutual Holding LLC (MMHLLC), are accounted for using the statutory equity method. The Company accounts for the value of MMHLLC at its underlying U.S. generally accepted accounting principles equity value adjusted to remove certain nonadmitted and intangible assets, as well as a portion of its noncontrolling interests (NCI) and appropriated retained earnings, after consideration of MMHLLC's fair value and the Company's capital levels. The Division has affirmed the statutory recognition of the Company's application of the NCI guidelines in MMHLLC's statutory carrying value. However, the Company has limited this recognition to \$2,601 million as of March 31, 2016 and \$2,600 million as of December 31, 2015. The current fair value of MMHLLC remains significantly greater than its statutory carrying value.

MassMutual received cash dividends, recorded in net investment income, from MMHLLC of \$100 million in 2016 and \$500 million in 2015.

MassMutual contributed nine investments with a book value of \$670 million to MMHLLC in 2016. This contribution was recorded at book value, and accordingly, there was no gain or loss recognized. No capital contribution was made to MMHLLC through the three months ended March 31, 2015.

Subsidiaries of MMHLLC are involved in litigation and investigations arising in the ordinary course of their business, which seek compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably should give rise to a material adverse impact to the Company's financial position or liquidity, the outcome of litigation cannot be foreseen with certainty. It is the opinion of management that the ultimate resolution of these matters will not materially impact the Company's financial position or liquidity. However, the outcome of a particular proceeding may be material to the Company's Condensed Consolidated Statutory Statements of Changes in Surplus for a particular period depending upon, among other factors, the size of the loss and the level of the Company's changes in surplus for the period.

c. Mortgage loans

Mortgage loans comprised 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 the primary lender and mezzanine loans that are subordinate to senior secured first liens. Residential mortgage loans are primarily seasoned pools of homogeneous residential mortgage loans substantially backed by Federal Housing Administration (FHA) and Veterans Administration (VA) guarantees.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
(UNAUDITED)

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

	March 31, 2016		December 31, 2015	
	Carrying Value	Fair Value	Carrying Value	Fair Value
(In Millions)				
Commercial mortgage loans:				
Primary lender	\$ 21,034	\$ 21,797	\$ 21,020	\$ 21,571
Mezzanine loans	75	77	71	74
Total commercial mortgage loans	21,109	21,874	21,091	21,645
Residential mortgage loans:				
FHA insured and VA guaranteed	2,015	1,998	1,899	1,858
Other residential loans	9	9	9	9
Total residential mortgage loans	2,024	2,007	1,908	1,867
Total mortgage loans	\$ 23,133	\$ 23,881	\$ 22,999	\$ 23,512

The following presents a summary of the Company's impaired mortgage loans as of March 31, 2016:

	Carrying Value	Average Carrying Value	Unpaid Principal Balance	Valuation Allowance	Interest Income
With allowance recorded:					
Commercial mortgage loans:					
Primary lender	\$ 11	\$ 13	\$ 15	\$ (5)	\$ -

As of March 31, 2015, the Company had no impaired mortgage loans with or without a valuation allowance.

The following presents changes in the valuation allowance recorded for the Company's commercial mortgage loans:

	Three Months Ended March 31,	
	2016	2015
Primary Lender (In Millions)		
Beginning balance	\$ -	\$ -
Additions	(5)	-
Ending balance	\$ (5)	\$ -

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS, continued
(UNAUDITED)

d. 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 asset/liability analyses. The Company also uses a combination of derivatives and fixed income investments to create synthetic investments. These synthetic investments are created when they are economically more attractive than the actual instrument or when similar instruments are unavailable. Synthetic investments are created either to hedge and reduce the Company's credit exposure or to create an investment in a particular asset. The Company held synthetic investments with a net notional amount of \$10,297 million as of March 31, 2016 and \$10,394 million as of December 31, 2015. These net notional amounts included replicated asset transaction values of \$9,889 million as of March 31, 2016 and \$9,986 million as of December 31, 2015, as defined under statutory accounting practices as the result of pairing of a long derivative contract with cash instruments.

The Company's principal derivative market risk exposures are interest rate risk, which includes the impact of inflation, and credit risk. Interest rate risk pertains to the change in fair value of the derivative instruments as market interest rates move. The Company is exposed to credit-related losses in the event of nonperformance by counterparties to derivative financial instruments. To minimize credit risk for bilateral transactions (individual contracts entered between the Company and a counterparty), the Company and its derivative counterparties generally enter into master netting agreements that allow the use of credit support annexes and require collateral 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, among 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 into which the Company enters are considered cleared transactions. These cleared transactions require initial and daily variation margin collateral postings. These same 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 exposure. Net collateral pledged by the counterparties was \$3,913 million as of March 31, 2016 and \$2,964 million as of December 31, 2015. The Company also has the right to rehypothecate or repledge securities. As of March 31, 2016, the Company had the right to rehypothecate \$1,666 million of the \$3,913 million of the net collateral pledged by counterparties and as of December 31, 2015, the Company had the right to rehypothecate \$1,291 million of the \$2,964 million of the net collateral pledged by counterparties. Securities collateral rehypothecated to other counterparties was \$48 million as of March 31, 2016 and \$23 million as of December 31, 2015. In the event of default, the full market value exposure at risk in a net gain position, net of offsets and collateral, was \$109 million as of March 31, 2016 and \$276 million as of December 31, 2015. The statutory net amount at risk, defined as net collateral pledged and statement values excluding accrued interest, was \$589 million as of March 31, 2016 and \$681 million as of December 31, 2015. The Company regularly monitors counterparty credit ratings and exposures, derivative positions and valuations and the value of collateral posted to ensure counterparties are credit-worthy and the concentration of exposure is minimized. The Company monitors this exposure as part of its management of the Company's overall credit exposures.

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

	March 31, 2016			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	\$ 12,622	\$ 73,976	\$ 10,260	\$ 80,520
Options	696	6,316	5	219
Currency swaps	562	5,255	67	1,394
Forward contracts	13	1,349	58	1,918
Credit default swaps	18	1,780	12	1,024
Financial futures	-	3,616	-	-
Total	\$ 13,911	\$ 92,292	\$ 10,402	\$ 85,075

	December 31, 2015			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	\$ 8,506	\$ 66,191	\$ 6,310	\$ 84,263
Options	670	7,030	7	109
Currency swaps	568	5,505	5	565
Forward contracts	56	2,534	13	1,117
Credit default swaps	22	1,860	19	1,066
Financial futures	-	2,418	-	-
Total	\$ 9,822	\$ 85,538	\$ 6,354	\$ 87,120

In most cases, the notional amounts are not a measure of the Company's credit exposure. However, notional amounts are a measure of the Company's credit exposure for credit default swaps that are in the form of a replicated asset and mortgage-backed forwards. For these swaps and forwards, the Company is fully exposed to notional amounts of \$2,443 million as of March 31, 2016 and \$3,008 million as of December 31, 2015.

The collateral amounts exchanged are calculated on the basis of the notional amounts and the other terms of the instruments, which relate to interest rates, exchange rates, security prices or financial or other indices.

The average fair value of outstanding derivative assets was \$11,867 million for the three months ended March 31, 2016 and \$10,221 million for the three months ended March 31, 2015. The average fair value of outstanding derivative liabilities was \$8,378 million for the three months ended March 31, 2016 and \$6,790 million for the three months ended March 31, 2015.

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The following summarizes the notional amounts of the Company's credit default swaps by contractual maturity:

	March 31, 2016	December 31, 2015
	(In Millions)	
Due in one year or less	\$ 114	\$ 59
Due after one year through five years	175	2,067
Due after five years through ten years	2,515	800
Total	\$ 2,804	\$ 2,926

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:

	Three Months Ended March 31,			
	2016		2015	
	Net Realized Gains (Losses) on Closed Contracts	Change In Net Unrealized Gains (Losses) on Open Contracts	Net Realized Gains (Losses) on Closed Contracts	Change In Net Unrealized Gains (Losses) on Open Contracts
	(In Millions)			
Interest rate swaps	\$ 56	\$ 166	\$ (9)	\$ 171
Currency swaps	8	(68)	3	274
Options	13	57	(23)	82
Credit default swaps	(1)	-	2	-
Forward contracts	64	(87)	217	-
Financial futures	253	-	34	-
Total	\$ 393	\$ 68	\$ 224	\$ 527

The following summarizes gross and net information of derivative assets and liabilities, along with collateral posted in connection with master netting agreements:

	March 31, 2016			December 31, 2015		
	Derivative Assets	Derivative Liabilities	Net	Derivative Assets	Derivative Liabilities	Net
	(In Millions)					
Gross	\$ 13,911	\$ 10,402	\$ 3,509	\$ 9,822	\$ 6,354	\$ 3,468
Due and accrued	803	1,685	(882)	856	1,565	(709)
Gross amounts offset	(11,003)	(11,003)	-	(5,119)	(5,119)	-
Net asset	3,711	1,084	2,627	5,559	2,800	2,759
Collateral posted	(4,589)	(676)	(3,913)	(3,516)	(552)	(2,964)
Net	\$ (878)	\$ 408	\$ (1,286)	\$ 2,043	\$ 2,248	\$ (205)

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e. Net investment income

Net investment income, including interest maintenance reserve (IMR) amortization, comprised the following:

	Three Months Ended	
	March 31,	
	2016	2015
	<u>(In Millions)</u>	
Bonds	\$ 914	\$ 891
Preferred stocks	4	4
Common stocks - subsidiaries and affiliates	100	101
Common stocks - unaffiliated	7	6
Mortgage loans	260	249
Policy loans	187	177
Real estate	38	44
Partnerships and LLCs	90	120
Derivatives	87	98
Cash, cash equivalents and short-term investments	9	3
Other	<u>(3)</u>	<u>5</u>
Subtotal investment income	1,693	1,698
Amortization of the IMR	32	40
Investment expenses	<u>(143)</u>	<u>(117)</u>
Net investment income	<u>\$ 1,582</u>	<u>\$ 1,621</u>

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f. Net realized capital gains (losses)

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

	Three Months Ended	
	March 31,	
	2016	2015
	<u>(In Millions)</u>	
Bonds	\$ (98)	\$ 6
Preferred stocks	4	-
Common stocks - subsidiaries and affiliates	(1)	3
Common stocks - unaffiliated	(27)	10
Mortgage loans	-	(3)
Real estate	-	(3)
Partnerships and LLCs	(16)	(11)
Derivatives	393	224
Other	<u>6</u>	<u>(31)</u>
Net realized capital gains before federal and state taxes and deferral to the IMR	261	195
Net federal and state tax benefit (expense)	<u>37</u>	<u>(63)</u>
Net realized capital gains before deferral to the IMR	298	132
Net after tax (gains) deferred to the IMR	<u>(139)</u>	<u>(20)</u>
Net realized capital gains	<u>\$ 159</u>	<u>\$ 112</u>

The IMR liability balance was \$510 million as of March 31, 2016 and \$410 million as of December 31, 2015 and was included in other liabilities on the Condensed Consolidated Statutory Statements of Financial Position.

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

	Three Months Ended	
	March 31,	
	2016	2015
	<u>(In Millions)</u>	
Bonds	\$ (42)	\$ (15)
Common stocks	(7)	-
Preferred stocks	(1)	-
Partnerships and LLCs	(16)	(6)
Total OTTI	<u>\$ (66)</u>	<u>\$ (21)</u>

The Company recognized OTTI of \$2 million for the three months ended March 31, 2016 and less than \$1 million for the three months ended March 31, 2015 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.

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5. Federal income taxes

No significant changes.

6. Other than invested assets

No significant changes.

7. Policyholders' liabilities

Additional liability for annuity contracts

Certain variable annuity contracts include additional death or other insurance benefit features, such as guaranteed minimum death benefits (GMDBs), guaranteed minimum income benefits (GMIBs), guaranteed minimum accumulation benefits (GMABs) and guaranteed minimum withdrawal benefits (GMWBs). In general, living benefit guarantees require the contract holder or policyholder to adhere to a company-approved asset allocation strategy. Election of these benefits is generally only available at contract issue.

The following shows the changes in the liabilities for GMDBs, GMIBs, GMABs and GMWBs (in millions):

Liability as of January 1, 2015	\$	493
Incurred guarantee benefits		90
Paid guarantee benefits		(4)
Liability as of December 31, 2015		579
Incurred guarantee benefits		174
Paid guarantee benefits		(2)
Liability as of March 31, 2016	\$	751

The Company held reserves in accordance with the stochastic scenarios as of March 31, 2016 and 2015. As of March 31, 2016 and 2015, the Company held additional reserves above those indicated based on the stochastic scenarios in order to maintain a prudent level of reserve adequacy.

The following summarizes the account values, net amount at risk and weighted average attained age for variable annuity contracts with GMDBs, GMIBs, GMABs and GMWBs 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.

	March 31, 2016			December 31, 2015		
	Account Value	Net Amount at Risk	Weighted Average Attained Age	Account Value	Net Amount at Risk	Weighted Average Attained Age
	(\$ In Millions)					
GMDB	\$ 17,459	\$ 134	63	\$ 20,689	\$ 133	63
GMIB Basic	928	119	66	959	107	66
GMIB Plus	3,053	598	65	3,106	561	65
GMAB	3,074	56	58	3,072	57	58
GMWB	207	17	68	209	15	68

As of March 31, 2016, the GMDB account value above consists of \$4,247 million within the general account and \$13,212 million within separate accounts that includes \$4,306 million of modified coinsurance assumed. As of December 31, 2015, the GMDB account value above consists of \$4,279 million within the general account and \$16,410 million within separate accounts that includes \$4,675 million of modified coinsurance assumed.

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8. Reinsurance

No significant changes.

9. Withdrawal characteristics

No significant changes.

10. Debt

No significant changes.

11. Employee benefit plans

The Company provides multiple benefit plans including retirement plans and life and health benefits to employees, certain employees of unconsolidated subsidiaries, agents and retirees.

Net periodic cost

The net periodic cost represents the annual accounting income or expense recognized by the Company and included in general insurance expenses. The net periodic cost recognized in the Condensed Consolidated Statutory Statements of Operations is as follows:

	Three Months Ended March 31,			
	2016	2015	2016	2015
	Pension Benefits		Other Postretirement/ Postemployment Benefits	
	(In Millions)			
Service cost	\$ 21	\$ 18	\$ 3	\$ 3
Interest cost	28	26	4	4
Expected return on plan assets	(36)	(39)	-	-
Amortization of unrecognized net actuarial and other losses	18	16	1	1
Amortization of unrecognized prior service cost	1	1	(2)	1
Total net periodic cost	<u>\$ 32</u>	<u>\$ 22</u>	<u>\$ 6</u>	<u>\$ 9</u>

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12. Employee compensation plans

No significant changes.

13. Surplus notes

No significant changes.

14. Presentation of the Condensed Consolidated Statutory Statements of Cash Flows

The following table presents those transactions that have affected the Company's recognized assets or liabilities but have not resulted in cash receipts or payments during the three months ended March 31, 2016 and 2015. In the Company's March 31, 2015 Condensed Consolidated Statutory Financial Statements, the non-cash investing activities shown below were included within the Condensed Consolidated Statutory Statements of Cash Flows. In the fourth quarter of 2015, the NAIC issued clarifying guidance related to the exclusion of non-cash activities from the statement of cash flows. As a result, the Company has retrospectively applied this guidance and has excluded the non-cash activities below from the Condensed Consolidated Statutory Statements of Cash Flows for the three months ended March 31, 2016 and 2015.

	Three Months Ended March 31,	
	2016	2015
	(In Millions)	
Partnerships and LLCs contributed to MMHLLC	\$ 682	\$ -
Bond conversions and refinancing	145	579
Bank loan rollovers	5	91
Other	32	66

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15. Fair value of financial instruments

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

	March 31, 2016				
	Carrying	Fair			
	Value	Value	Level 1	Level 2	Level 3
(In Millions)					
Financial assets:					
Bonds:					
U. S. government and agencies	\$ 8,486	\$ 9,424	\$ -	\$ 9,419	\$ 5
All other governments	797	830	-	756	74
States, territories and possessions	759	832	-	832	-
Political subdivisions	489	540	-	540	-
Special revenue	5,547	6,401	-	6,345	56
Industrial and miscellaneous	63,197	64,928	-	38,287	26,641
Parent, subsidiaries and affiliates	6,910	7,120	-	718	6,402
Preferred stocks	491	469	30	29	410
Common stocks - subsidiaries and affiliates	478	478	378	44	56
Common stocks - unaffiliated	1,186	1,186	507	489	190
Mortgage loans - commercial	21,109	21,874	-	-	21,874
Mortgage loans - residential	2,024	2,007	-	-	2,007
Derivatives:					
Interest rate swaps	12,622	13,935	-	13,935	-
Options	696	696	-	696	-
Currency swaps	562	562	-	562	-
Forward contracts	13	13	-	13	-
Credit default swaps	18	19	-	19	-
Cash, cash equivalents and short-term investments	3,510	3,510	166	3,344	-
Separate account assets	67,341	67,369	41,665	24,967	737
Financial liabilities:					
Guaranteed interest contracts	5,990	6,045	-	-	6,045
Group annuity contracts and other deposits	17,767	18,215	-	-	18,215
Individual annuity contracts	9,836	12,235	-	-	12,235
Supplementary contracts	1,179	1,180	-	-	1,180
Repurchase agreements	5,187	5,187	-	5,187	-
Commercial paper and other borrowed money	282	282	-	250	32
Derivatives:					
Interest rate swaps	10,260	10,260	-	10,260	-
Options	5	5	-	5	-
Currency swaps	67	67	-	67	-
Forward contracts	58	58	-	58	-
Credit default swaps	12	15	-	15	-

Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$7,352 million.

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The use of different assumptions or valuation methodologies may have a material impact on the estimated fair value amounts.

	December 31, 2015				
	Carrying	Fair	Level 1	Level 2	Level 3
	Value	Value			
(In Millions)					
Financial assets:					
Bonds:					
U. S. government and agencies	\$ 8,341	\$ 8,870	\$ -	\$ 8,865	\$ 5
All other governments	763	763	-	691	72
States, territories and possessions	761	813	-	813	-
Political subdivisions	483	519	-	519	-
Special revenue	5,545	6,204	-	6,167	37
Industrial and miscellaneous	61,568	61,889	-	37,073	24,816
Parent, subsidiaries and affiliates	6,509	6,685	-	695	5,990
Preferred stocks	563	550	29	30	491
Common stocks - subsidiaries and affiliates	448	448	314	94	40
Common stocks - unaffiliated	1,142	1,142	445	516	181
Mortgage loans - commercial	21,091	21,645	-	-	21,645
Mortgage loans - residential	1,908	1,867	-	-	1,867
Derivatives:					
Interest rate swaps	8,506	9,027	-	9,027	-
Options	670	670	-	670	-
Currency swaps	568	568	-	568	-
Forward contracts	56	56	-	56	-
Credit default swaps	22	13	-	13	-
Cash, cash equivalents and short-term investments	3,424	3,424	199	3,225	-
Separate account assets	66,408	66,415	42,020	23,651	744
Financial liabilities:					
Guaranteed interest contracts	5,944	5,933	-	-	5,933
Group annuity contracts and other deposits	17,939	18,667	-	-	18,667
Individual annuity contracts	9,650	11,674	-	-	11,674
Supplementary contracts	1,158	1,159	-	-	1,159
Repurchase agreements	5,370	5,370	-	5,370	-
Commercial paper and other borrowed money	277	277	-	250	27
Derivatives:					
Interest rate swaps	6,310	6,352	-	6,352	-
Options	7	7	-	7	-
Currency swaps	5	5	-	5	-
Forward contracts	13	13	-	13	-
Credit default swaps	19	20	-	20	-

Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$6,123 million.

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

	March 31, 2016			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
States, territories and possessions	\$ -	\$ 9	\$ -	\$ 9
Special revenue	-	5	-	5
Industrial and miscellaneous	-	13	85	98
Parent, subsidiaries and affiliates	-	79	52	131
Preferred stocks	-	-	3	3
Common stocks - subsidiaries and affiliates	378	44	56	478
Common stocks - unaffiliated	507	489	190	1,186
Derivatives:				
Interest rate swaps	-	12,622	-	12,622
Options	-	696	-	696
Currency swaps	-	562	-	562
Forward contracts	-	13	-	13
Credit default swaps	-	-	-	-
Separate account assets	41,665	24,839	719	67,223
Total financial assets carried at fair value	\$ 42,550	\$ 39,371	\$ 1,105	\$ 83,026
Financial liabilities:				
Derivatives:				
Interest rate swaps	\$ -	\$ 10,260	\$ -	\$ 10,260
Options	-	5	-	5
Currency swaps	-	67	-	67
Forward contracts	-	58	-	58
Credit default swaps	-	2	-	2
Total financial liabilities carried at fair value	\$ -	\$ 10,392	\$ -	\$ 10,392

In 2016, there were no significant transfers between Level 1 and Level 2.

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

	December 31, 2015			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
States, territories and possessions	\$ -	\$ 2	\$ -	\$ 2
Special revenue	-	4	-	4
Industrial and miscellaneous	-	19	22	41
Parent, subsidiaries and affiliates	-	50	50	100
Preferred stocks	1	3	3	7
Common stocks - subsidiaries and affiliates	314	94	40	448
Common stocks - unaffiliated	445	516	181	1,142
Derivatives:				
Interest rate swaps	-	8,506	-	8,506
Options	-	670	-	670
Currency swaps	-	568	-	568
Forward contracts	-	56	-	56
Credit default swaps	-	2	-	2
Separate account assets	42,020	22,572	725	65,317
Total financial assets carried at fair value	\$ 42,780	\$ 33,062	\$ 1,021	\$ 76,863
Financial liabilities:				
Derivatives:				
Interest rate swaps	\$ -	\$ 6,310	\$ -	\$ 6,310
Options	-	7	-	7
Currency swaps	-	5	-	5
Forward contracts	-	12	-	12
Credit default swaps	-	2	-	2
Total financial liabilities carried at fair value	\$ -	\$ 6,336	\$ -	\$ 6,336

In 2015, there were no significant transfers between Level 1 and Level 2.

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

	Three Months Ended March 31, 2016						Total Level 3 Financial Assets Carried at Fair Value
	Bonds		Preferred Stock	Common Stock		Separate Account Assets	
	Industrial and Miscellaneous	Parent, Subsidiaries, and		Affiliated	Unaffiliated		
	(In Millions)						
Balance as of January 1, 2016	\$ 22	\$ 50	\$ 3	\$ 40	\$ 181	\$ 725	\$ 1,021
(Losses) gains in net income	(10)	-	-	-	1	(3)	(12)
Gains (losses) in surplus	(16)	2	-	-	7	-	(7)
Purchases	-	-	-	-	1	20	21
Issuances	-	7	-	-	-	-	7
Sales	-	-	-	-	(1)	(27)	(28)
Settlements	(2)	(7)	-	-	-	(1)	(10)
Transfers in	-	-	-	-	-	5	5
Other transfers	91	-	-	16	1	-	108
Balance as of March 31, 2016	\$ 85	\$ 52	\$ 3	\$ 56	\$ 190	\$ 719	\$ 1,105

Level 3 transfers in are assets that are consistently carried at fair value but have had a level change. The separate account assets were transferred from Level 2 to Level 3 due to a change in the observability of pricing inputs.

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. Industrial and miscellaneous were transferred from Level 2 to Level 3 due to a change in the observability of pricing inputs.

	Year Ended December 31, 2015						Total Level 3 Financial Assets Carried at Fair Value
	Bonds		Preferred Stock	Common Stock		Separate Account Assets	
	Industrial and Miscellaneous	Parent, Subsidiaries, and Affiliates		Affiliated	Unaffiliated		
	(In Millions)						
Balance as of January 1, 2015	\$ 133	\$ 66	\$ 4	\$ 81	\$ 162	\$ 600	\$ 1,046
(Losses) gains in net income	(41)	-	-	8	12	25	4
Gains (losses) in surplus	1	(6)	-	(29)	(11)	-	(45)
Purchases	-	-	-	460	37	169	666
Issuances	3	-	-	35	-	-	38
Sales	(4)	-	-	(493)	(13)	(68)	(578)
Settlements	(4)	(2)	-	(26)	(1)	(1)	(34)
Transfers out	-	(22)	-	-	(1)	-	(23)
Other transfers	(66)	14	(1)	4	(4)	-	(53)
Balance as of December 31, 2015	\$ 22	\$ 50	\$ 3	\$ 40	\$ 181	\$ 725	\$ 1,021

Transfers out of Level 3 occur when quoted prices are received in markets that have not been previously active, and therefore the assets are moved to Level 2. Industrial and miscellaneous were transferred out of Level 3 into Level 2 due to a change in the observability of pricing inputs.

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.

16. 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, asset/liability management processes and other risk management techniques to mitigate the impact of these risks. This condensed risks and uncertainties disclosure should be read in conjunction with the consolidated statutory disclosure in the Company's 2015 audited year end financial statements.

Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, morbidity, longevity, persistency, interest rates and other factors. If actual policy experience emerges that is significantly and adversely different from assumptions used in product pricing, the effect could be material to the profitability of the Company. For participating whole life products, the Company's dividends to policyholders primarily reflect the difference between actual investment, mortality, expense and persistency experience and the experience embedded in the whole life premiums and guaranteed elements. The Company also reinsures certain life insurance and other long-term care insurance policies to mitigate the impact of its underwriting risk.

Investment and interest rate risks

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

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

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

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

Currency exchange risk

The Company has currency risk due to its non-U.S. dollar investments and medium-term notes along with its indirect international operations. 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 and liabilities through a pre-specified exchange of interest and principal. Forward contracts are used to hedge movements in exchange rates.

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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 quality, 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.

Significant volatility in the financial markets, and government actions taken in response, may exacerbate some of the risks the Company faces. The Company holds investments in energy and certain other commodity sectors, which have experienced similar overall market volatility and declines. With the continued weaker economic outlook in these sectors, there may be an increase in reported default rates or potential downgrades to the ratings of companies exposed to these sectors. In addition, concerns over the solvency of certain countries and sovereignties and the entities that have significant exposure to their debt have created market volatility. This volatility may continue to affect the performance of various asset classes until there is an ultimate resolution of the sovereign debt related concerns.

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.

b. Litigation

The Company is involved in litigation arising in the normal course of business, which seeks compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably should give rise to a material adverse impact to the Company's financial position or liquidity, the outcome of litigation cannot be foreseen with certainty. It is the opinion of management that the ultimate resolution of these matters will not materially impact the Company's financial position or liquidity. However, the outcome of a particular proceeding may be material to the Company's results of operations for a particular period depending upon, among other factors, the size of the loss and the level of the Company's results of operations for the period.

In 2008, MassMutual and MMHLLC were named as defendants in several lawsuits filed in federal and state courts in Colorado, Massachusetts, New Mexico, New York and Washington by investors seeking to recover investments they allegedly lost as a result of the "Ponzi" scheme run by Bernard L. Madoff through his company, Bernard L. Madoff Investment Securities, LLC. Certain of these lawsuits also named Tremont Group Holdings, Inc. and certain of its affiliates, and certain of their respective current or former officers and directors, as defendants. The plaintiffs alleged a variety of state law and federal security claims against the defendants. In 2015, the companies entered into settlement agreements and paid \$37 million in connection with these agreements. MassMutual recorded the loss as a change in net unrealized capital losses, net of tax, in the 2015 Consolidated Statutory Statements of Changes in Surplus.

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In 2009, several lawsuits were filed as putative class actions and later consolidated before the federal district court in Colorado in connection with the investment performance of Oppenheimer Rochester California Municipal Fund (the California Fund Suit). This fund was advised by OppenheimerFunds, Inc. (OFI) and distributed by its subsidiary OppenheimerFunds Distributor, Inc. (OFDI). The plaintiffs in the California Fund Suit asserted claims against MassMutual, OFI, OFDI and certain present and former trustees and officers of the fund under federal securities laws and allege, among other things, the disclosure documents of the fund contained misrepresentations and omissions, that the investment policies of the fund were not followed, and that the fund and the other defendants violated federal securities laws and regulations and certain state laws. Plaintiffs filed an amended complaint and defendants filed a motion to dismiss. In 2011, the district court issued an order that granted in part and denied in part the defendants' motion to dismiss. In March 2015, the district court granted the plaintiffs' motion to certify a class and to appoint class representatives and class counsel. In December 2015, the appeals court denied defendants' petition to appeal the district court's class certification order. The defendants believe they have substantial defenses and will continue to vigorously defend themselves in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this suit.

In 2009, MassMutual was named as a defendant in a lawsuit filed in North Carolina state court related to certain losses in a bank owned life insurance (BOLI) policy issued by MassMutual. The plaintiff alleges, among other things, fraud, breach of contract and breach of fiduciary duty claims against MassMutual, and it seeks to recover losses arising from investments pursuant to the BOLI policy. The parties have completed discovery and are preparing for trial. In May 2015, the plaintiff voluntarily dismissed its complaint and refiled the case. MassMutual believes it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this suit.

In 2010, Christina Chavez (Chavez) filed a putative class action complaint in California state court against MassMutual. Chavez alleges that MassMutual breached its obligations to its term life policyholders in California by not paying dividends on those policies. The parties are engaged in active discovery. In 2014, the parties participated in a mediation of their dispute, which did not result in a settlement. In July 2015, the judge certified a subclass consisting of one of twenty-six potential term products at issue in this case. All remaining subclasses were dismissed without prejudice. MassMutual believes it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

In 2012, Karen Bacchi filed a putative class action complaint against MassMutual in federal court in Massachusetts alleging that MassMutual breached its contracts by allegedly failing to distribute surplus in excess of the statutorily prescribed limit. In 2015, the court denied MassMutual's motion to dismiss. In 2016, fact discovery was completed. MassMutual believes that it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

In 2013, seven participants in the MassMutual Thrift Plan (the Thrift Plan) filed a putative class action complaint in federal court in Massachusetts. The complaint alleges, among other things, that MassMutual, the Investment Fiduciary Committee, the Thrift Plan Administrative Committee and individually named "fiduciaries" breached their duties by allowing the Thrift Plan to pay excessive fees and by engaging in self-dealing. The parties are in active discovery. MassMutual believes that it has substantial defenses and will continue to vigorously defend itself in this action. No reasonable estimate can be made at this time regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

In January 2016, Deborah Bishop-Bristol (Bishop) filed a putative class action complaint against MassMutual in federal court in Connecticut. The lawsuit alleges that MassMutual breached its fiduciary duty by controlling the crediting rate, and therefore the compensation earned on the stable value products. Further, the complaint alleges that MassMutual failed to adequately disclose the pricing spread and accepted excessive fees for investment, management and administrative services. MassMutual believes that it has substantial defenses and will vigorously defend itself in this action. No reasonable estimate can be made regarding the potential liability, if any, or the amount or range of any loss that may result from this claim.

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c. Regulatory matters

The Company is subject to governmental and administrative proceedings and regulatory inquiries, examinations and investigations in the ordinary course of its business. In connection with regulatory inquiries, examinations and investigations, the Company has been contacted by various regulatory agencies including, among others, the Securities and Exchange Commission, the U.S. Department of Labor and various state insurance departments and state attorneys general. The Company has cooperated fully with these regulatory agencies with regard to their inquiries, examinations and investigations and has responded to information requests and comments.

Market volatility in the financial services industry over the last several years has contributed to increased scrutiny of the entire financial services industry. Therefore, the Company believes that it is reasonable to expect that proceedings, regulatory inquiries, examinations and investigations into the insurance and financial services industries will continue for the foreseeable future. Additionally, new industry-wide legislation, rules and regulations could significantly affect the insurance and financial services industries as a whole. It is the opinion of management that the ultimate resolution of these regulatory inquiries, examinations, investigations, legislative and regulatory changes of which we are aware will not materially impact the Company's financial position or liquidity. However, the outcome of a particular matter may be material to the Company's operating results for a particular period depending upon, among other factors, the financial impact of the matter and the level of the Company's results of operations for the period.

17. Related party transactions

No significant changes.

18. Subsequent events

Management of the Company has evaluated subsequent events through May 11, 2016, the date the financial statements were available to be issued.

On February 28, 2016, MassMutual entered into an agreement to acquire a U.S. retail advisor force; certain assets supporting the advisor force; and an affiliated broker-dealer. The advisor force includes more than 40 local sales and advisory operations and approximately 4,000 advisors across the country, which will expand MassMutual's existing Career Agency System of more than 5,600 financial professionals. The acquisition is expected to close in the second or third quarter of 2016 for cash payments of approximately \$300 million.

MassMutual and C.M. Life, together, provide a revolving credit facility to MassMutual Asset Finance, LLC, an indirect subsidiary of MassMutual, to finance ongoing asset purchases and refinance existing lines of credit. Effective April 1, 2016, the total borrowing capacity under this facility was increased from \$3,275 million to \$4,475 million.

On April 12, 2016, MassMutual issued a \$750 million funding agreement, which supports a series of medium-term notes with 2% fixed rate coupons and 5-year maturities.

No other events have occurred subsequent to the date of the Statement of Financial Position and before the date of evaluation that would require disclosure.