MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATUTORY FINANCIAL STATEMENTS

As of September 30, 2016 and December 31, 2015 and for the nine months ended September 30, 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)

	September 30, 2016	December 31, 2015	$ Change	% Change
	($ In Millions)			
Assets:				
Bonds	$ 91,137	$ 83,970	$ 7,167	9 %
Preferred stocks	521	563	(42)	(7)
Common stocks – subsidiaries and affiliates	9,669	6,571	3,098	47
Common stocks – unaffiliated	1,248	1,142	106	9
Mortgage loans	22,395	22,999	(604)	(3)
Policy loans	12,542	12,062	480	4
Real estate	973	924	49	5
Partnerships and limited liability companies	7,296	7,704	(408)	(5)
Derivatives	16,601	9,822	6,779	69
Cash, cash equivalents and short-term investments	3,534	3,424	110	3
Other invested assets	511	235	276	117
Total invested assets	166,427	149,416	17,011	11
Investment income due and accrued	2,030	1,939	91	5
Federal income taxes	-	67	(67)	(100)
Deferred income taxes	1,272	1,341	(69)	(5)
Other than invested assets	3,035	3,026	9	-
Total assets excluding separate accounts	172,764	155,789	16,975	11
Separate account assets	69,867	66,408	3,459	5
Total assets	$ 242,631	$ 222,197	$ 20,434	9 %
Liabilities and Surplus:				
Policyholders' reserves	$ 113,346	$ 107,200	$ 6,146	6 %
Liabilities for deposit-type contracts	11,003	10,567	436	4
Contract claims and other benefits	374	520	(146)	(28)
Policyholders' dividends	1,799	1,742	57	3
General expenses due or accrued	1,047	959	88	9
Federal income taxes	47	-	47	100
Asset valuation reserve	3,395	2,899	496	17
Repurchase agreements	5,130	5,370	(240)	(4)
Commercial paper and other borrowed money	292	277	15	5
Collateral	4,298	2,250	2,048	91
Derivatives	12,280	6,354	5,926	93
Other liabilities	3,207	2,677	530	20
Total liabilities excluding separate accounts	156,218	140,815	15,403	11
Separate account liabilities	69,858	66,399	3,459	5
Total liabilities	226,076	207,214	18,862	9
Surplus	16,555	14,983	1,572	10
Total liabilities and surplus	$ 242,631	$ 222,197	$ 20,434	9 %

See notes to condensed consolidated statutory financial statements

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

	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015	$ Change	% Change
	($ In Millions)			
Revenue:				
Premium income	$ 15,917	$ 15,488	$ 429	3 %
Net investment income	5,006	4,747	259	5
Fees and other income	778	723	55	8
Total revenue	21,701	20,958	743	4
Benefits and expenses:				
Policyholders' benefits	13,799	12,473	1,326	11
Change in policyholders' reserves	5,494	5,823	(329)	(6)
Change in group annuity reserves assumed	(1,215)	(662)	(553)	(84)
General insurance expenses	1,554	1,321	233	18
Commissions	709	641	68	11
State taxes, licenses and fees	172	161	11	7
Total benefits and expenses	20,513	19,757	756	4
Net gain from operations before dividends and federal income taxes	1,188	1,201	(13)	(1)
Dividends to policyholders	1,214	1,215	(1)	-
Net loss from operations before federal income taxes	(26)	(14)	(12)	(86)
Federal income tax benefit	(160)	(69)	(91)	(132)
Net gain from operations	134	55	79	144
Net realized capital gains	56	94	(38)	(40)
Net income	$ 190	$ 149	$ 41	28 %

See notes to condensed consolidated statutory financial statements

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

	Nine Months Ended September 30, 2016	2015	$ Change	% Change
	($ In Millions)			
Surplus, beginning of year	$ 14,983	$ 14,231	$ 752	5 %
Increase (decrease) due to:				
Net income	190	149	41	28
Change in net unrealized capital gains (losses), net of tax	2,177	180	1,997	NM
Change in net unrealized foreign exchange capital gains (losses), net of tax	(197)	(148)	(49)	(33)
Change in other net deferred income taxes	101	297	(196)	(66)
Change in nonadmitted assets	(235)	(127)	(108)	(85)
Change in asset valuation reserve	(496)	(272)	(224)	(82)
Change in surplus notes	-	491	(491)	(100)
Cumulative effect of accounting changes	-	3	(3)	(100)
Prior period adjustments	35	14	21	150
Other	(3)	(4)	1	25
Net increase	1,572	583	989	170
Surplus, end of period	$ 16,555	$ 14,814	$ 1,741	12 %

NM = not meaningful

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

	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015	$ Change	% Change
	($ In Millions)			
Cash from operations:				
Premium and other income collected	$ 15,930	$ 16,312	$ (382)	(2)%
Net investment income	5,071	4,793	278	6
Benefit payments	(13,711)	(12,486)	(1,225)	(10)
Net transfers from separate accounts	723	466	257	55
Net receipts from RPG reinsurance agreement	1,215	662	553	84
Commissions and other expenses	(2,498)	(2,222)	(276)	(12)
Dividends paid to policyholders	(1,157)	(1,096)	(61)	(6)
Federal and foreign income taxes recovered (paid)	248	(449)	697	155
Net cash from operations	5,821	5,980	(159)	(3)
Cash from investments:				
Proceeds from investments sold, matured or repaid:				
Bonds	10,575	11,016	(441)	(4)
Preferred and common stocks – unaffiliated	393	335	58	17
Common stocks – affiliated	70	549	(479)	(87)
Mortgage loans	2,892	1,695	1,197	71
Real estate	28	37	(9)	(24)
Partnerships and limited liability companies	679	1,804	(1,125)	(62)
Derivatives	879	333	546	164
Other	(620)	(289)	(331)	(115)
Total investment proceeds	14,896	15,480	(584)	(4)
Cost of investments acquired:				
Bonds	(17,118)	(14,949)	(2,169)	(15)
Preferred and common stocks – unaffiliated	(342)	(470)	128	27
Common stocks – affiliated	(799)	(525)	(274)	(52)
Mortgage loans	(2,465)	(3,679)	1,214	33
Real estate	(150)	(223)	73	33
Partnerships and limited liability companies	(1,135)	(2,409)	1,274	53
Derivatives	(401)	(369)	(32)	(9)
Other	430	412	18	4
Total investments acquired	(21,980)	(22,212)	232	1
Net increase in policy loans	(480)	(522)	42	8
Net cash from investing activities	(7,564)	(7,254)	(310)	(4)
Cash from financing and miscellaneous sources:				
Net deposits on deposit-type contracts	221	655	(434)	(66)
Cash provided by surplus note issuance	-	491	(491)	(100)
Change in repurchase agreements	(240)	492	(732)	(149)
Change in collateral	2,038	731	1,307	179
Other cash used	(166)	(204)	38	19
Net cash from financing and miscellaneous sources	1,853	2,165	(312)	(14)
Net change in cash, cash equivalents and short-term investments	110	891	(781)	(88)
Cash, cash equivalents and short-term investments:				
Beginning of year	3,424	2,196	1,228	56
End of period	$ 3,534	$ 3,087	$ 447	14 %

See notes to condensed consolidated statutory financial statements

1. Nature of operations

Massachusetts Mutual Life Insurance Company (MassMutual), a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and its domestic life insurance subsidiaries domiciled in the State of Connecticut (collectively, the Company), 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.), the District of Columbia and Puerto Rico. Products and services are offered primarily through the Company’s MM Financial Advisors (MMFA), Direct to Consumer, Institutional Solutions and Workplace Solutions distribution channels.

MMFA is a sales force that operates in the U.S. via 9,200 financial advisors. MMFA sells individual life, annuities, disability income and long-term care. The Company’s Direct to Consumer distribution channel sells individual life primarily through direct response television advertising, digital media, search engine optimization and search engine marketing. The Company’s Institutional Solutions distribution channel sells group annuities, corporate owned life insurance, bank owned life insurance, note programs and municipal contracts. The Company’s Institutional Solutions distribution channel sells primarily through retirement advisory firms, actuarial consulting firms, investment banks, insurance benefit advisors and investment management companies. The Company’s Workplace Solutions distribution channel sells group annuity and registered products to retirement plans as well as individual and group life products distributed through investment advisors.

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 subsidiary, C.M. Life Insurance Company (C.M. Life), and its wholly-owned subsidiary, MML Bay State Life Insurance Company (MML Bay State). 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 presented on a legal entity basis rather than 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 for MassMutual prescribed or permitted by the Commonwealth of Massachusetts Division of Insurance (the Division); and for C.M. Life and MML Bay State, the State of Connecticut Insurance Department.

The condensed consolidated statutory financial statements and notes as of September 30, 2016 and December 31, 2015, and for the nine months ended September 30, 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.

b. Corrections of errors and reclassifications

For the nine months ended September 30, 2016, corrections of prior year errors were recorded in surplus, net of tax:

	Increase (Decrease) to: Prior Years Net Income	Increase (Decrease) to: Current Year Surplus	Correction of Asset or Liability Balances
	(In Millions)		
Policyholders' reserves	$ 52	$ 52	$ (52)
Partnerships and limited liability companies	-	5	(5)
Federal income tax receivable	(14)	(14)	14
Fees and other income	(3)	(3)	3
Total	$ 35	$ 40	$ (40)

Of the $40 million increase to surplus for prior year errors, $35 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 nine months ended September 30, 2015, corrections of prior year errors were recorded in surplus, net of tax:

	Increase (Decrease) to: Prior Years Net Income	Increase (Decrease) to: Current Year Surplus	Correction of Asset or Liability Balances
	(In Millions)		
Policyholders' reserves	$ 11	$ 11	$ (11)
Policyholders' benefits	4	4	(4)
Net investment income	(1)	(1)	(1)
Total	$ 14	$ 14	$ (16)

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

c. 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. GAAP equity value adjusted to remove certain nonadmitted and intangible assets, as well as a portion of its noncontrolling interests (NCI) and appropriated retained earnings (ARE), 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 $2,641 million as of September 30, 2016 and $2,600 million as of December 31, 2015. Operating results, less dividend distributions, for MMHLLC are reflected as net unrealized capital gains (losses) in the Consolidated Statutory Statements of Changes in Surplus. Dividend distributions received from MMHLLC are recorded in net investment income and are limited to MMHLLC's U.S. GAAP retained earnings. The cost basis of common stocks – subsidiaries and affiliates is adjusted for impairments deemed to be other than temporary.

Refer to *Note 4b. "Common stocks – subsidiaries and affiliates"* for further information on the valuation of MMHLLC.

3. New accounting standards

Adoption of new accounting standards

In March 2015, the NAIC adopted the requirements of Accounting Standards Update (ASU) No. 2014-15, *Presentation of Financial Statements – Going Concern (Topic 205): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern,* which led to non-substantive revisions to Statement of Statutory Accounting Principle (SSAP) No. 1, *Accounting Policies, Risks & Uncertainties, and Other Disclosures;* SSAP No. 48, *Joint Ventures, Partnerships and Limited Liability Companies;* SSAP No. 68, *Business Combinations and Goodwill;* and SSAP No. 97, *Investments in Subsidiary, Controlled and Affiliated (SCA) Entities*, which is effective on December 31, 2016. The ASU requires management of an entity to evaluate whether or not there is substantial doubt about the entity's ability to continue as a going concern and, if so, disclose that fact. The adoption of this guidance did not have an impact on the Company's financial statements.

In April and August 2016, the NAIC adopted and made effective modifications to SSAP No. 1, *Accounting Policies, Risks and Other Disclosures*. The modifications clarify the disclosure presentation for permitted and prescribed practices, as well as clarify that the disclosure shall include practices that result in different statutory accounting reporting (such as gross or net) presentations that differ from the Accounting Practices and Procedures (AP&P) Manual. This clarification did not have an impact on the Company as the Company currently does not have any permitted or prescribed practices.

In April 2016, the NAIC adopted and made effective modifications to SSAP No. 1, *Accounting Policies, Risks and Other Disclosures*. The modifications clarify that disclosure of restricted assets should be included in the annual financial statements, and, pursuant to the AP&P manual preamble, in the interim financial statements if significant changes have occurred since the annual statement. This clarification did not have an impact on the Company's financial statements.

In June, 2016, the NAIC adopted and made effective a modification to SSAP No. 92, *Postretirement Benefits Other than Pensions*, and SSAP No. 102, *Pensions*. The modification allows the use of the spot yield curve method as an alternative to the single weighted-average discount rate to measure net periodic benefit costs. Under SSAPs No. 92 and 102, the most commonly used measurement approach is to develop a single weighted-average discount rate determined at the pension plan measurement date based on the projected future benefit payments used in determining the pension obligation. The new alternative spot yield curve approach measures the service cost and interest cost components of net periodic benefit costs by using individual duration-specific spot discount rates derived from an acceptable high-quality corporate bond yield curve and matched with separate cash flows for each future year. The Company is currently reviewing this guidance to determine if this alternative method should be elected during the fourth quarter pension plan measurement process.

In June 2016, the NAIC adopted and made effective modifications to SSAP No. 97, Investments in SCA Entities. The modifications clarify which entities are subject to the SCA disclosure and add a new appendix detailing the filing guidance that was previously included within the Purposes and Procedures Manual of the NAIC Investment Analysis Office for SCA entities. These modifications did not have an impact on the Company's financial statements.

In June 2016, the NAIC adopted modifications to SSAP No. 2, Cash, Drafts and Short-Term Investments, SSAP No. 26, Bonds, Excluding Loan-backed and Structured Securities, and SSAP No. 30, Unaffiliated Common Stock, which were effective September 30, 2016. These modifications clarified the accounting for short-term investments and the classification of Money Market Mutual Funds registered under the Investment Company Act of 1940 (the Act) and regulated under rule 2a-7 of the Act as short-term investments under SSAP No. 2, whether they were accounted for under SSAP No. 26 or SSAP No. 30. These modifications did not have a significant impact on the Company's financial statements.

In August 2016, the NAIC adopted and made effective modifications to SSAP No. 86, *Accounting for Derivative Instruments and Hedging, Income Generation, and Replication (Synthetic Asset) Transactions*. The modifications incorporate swaptions, contracts granting the owner the right but not the obligation to enter into an underlying swap, as an example of a derivative instrument. This clarification did not have an impact on the Company's financial statements.

In August 2016, the NAIC adopted and made effective modifications to SSAP No. 51, *Life Contracts*, to clarify that annual assumption changes from reserving methods used in principles-based reserving (PBR) would not qualify as a change in valuation basis. Changes in valuation basis are recorded in surplus instead of income. This modification was made to accommodate PBR, which goes into effect starting on January 1, 2017. The adoption of the modification did not have an impact on the Company's financial statements.

Future adoption of new accounting standards

In April 2016, the NAIC issued 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 with a designation equivalent to NAIC 3 through 5 by requiring that these surplus notes be reported at the lesser of amortized cost or fair value. Currently these surplus notes are reported at amortized cost. The revisions also incorporate guidance to clarify when surplus notes shall be nonadmitted, an unrealized loss should be recognized, and an other-than-temporary impairment (OTTI) assessment should be performed. The adoption of this guidance is not expected to have an impact on the Company's financial statements.

In June 2016, the NAIC adopted revisions to SSAP No. 1, *Accounting Policies, Risks and Uncertainties, and Other Disclosures*, which is effective December 31, 2016. This clarification requires the reporting entity to disclose the amount and nature of any assets reflected within the reporting entity's financial statements that was received as collateral and the recognized liability to return these collateral assets. The Company is currently reviewing this guidance to determine the effect on its financial statement disclosures.

In June 2016, the NAIC issued SSAP No. 103, *Revised, Transfers and Servicing of Financial Assets and Extinguishment of Liabilities*, which is effective January 1, 2017. Under this guidance, obligations to deliver securities resulting from short sales are accounted for as contra-assets measured at fair value with changes in fair value recognized as unrealized gains and losses. Unrealized gains and losses are realized upon settlement of the short sale obligation. Interest on short sale positions is accrued periodically and reported as interest expense. Additionally, this guidance requires specific disclosure of short sale transactions. The adoption of this guidance is not expected to have an impact on the Company's financial statements.

In June 2016, the NAIC adopted substantive revisions to SSAP No. 51, *Life Contracts*, to incorporate references to the Valuation Manual (VM) and to facilitate the implementation of PBR, which is effective on January 1, 2017. The adoption of PBR will be phased-in over 3 years and only applies to new policies issued after the revised Standard Valuation Law and VM are in effect. Under the current system of reserving, formulas and assumptions are used to determine reserves as prescribed by state laws and regulations. Under PBR, companies will hold the higher of a) the reserve using prescribed factors and b) the PBR reserve which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. Even though the reserving methods only change for life insurance, PBR is expected to be developed for other insurance products. The adoption of the revisions to SSAP No. 51 relating to PBR will not affect the inforce block of business issued prior to the January 1, 2017 effective date.

In June 2016, the NAIC made modifications to SSAP No. 26, *Bonds, Excluding Loan-backed and Structured Securities*, and SSAP No. 43R, *Loan-backed and Structured Securities*, which are to be applied prospectively effective January 1, 2017 with early application permitted. These modifications clarified that the amount of prepayment penalty or acceleration fees to be reported as investment income is equal to the total proceeds received less the par value of the investment; and any difference between the carrying value and the par value at the time of disposal should be reported as realized capital gains and losses. These modifications also added specific disclosures related to securities sold, redeemed or otherwise disposed as a result of a callable feature. The Company is currently reviewing these modifications.

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:

	September 30, 2016			
	Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(In Millions)			
U.S. government and agencies	$ 8,732	$ 1,129	$ 1	$ 9,860
All other governments	980	84	2	1,062
States, territories and possessions	696	89	1	784
Political subdivisions	512	63	-	575
Special revenue	5,670	1,001	1	6,670
Industrial and miscellaneous	67,845	4,523	417	71,951
Parent, subsidiaries and affiliates	6,702	321	20	7,003
Total	$ 91,137	$ 7,210	$ 442	$ 97,905

The September 30, 2016 gross unrealized losses exclude $42 million of losses included in the carrying value. These losses include $40 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. These losses were primarily included in industrial and miscellaneous or parent, subsidiaries and affiliates.

	December 31, 2015			
	Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair 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	$ 83,970	$ 3,623	$ 1,850	$ 85,743

The December 31, 2015 gross unrealized losses exclude $37 million of losses included in the carrying value of NAIC Class 6 bonds. These losses were primarily included in industrial and miscellaneous or parent, subsidiaries and affiliates.

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

	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015
	(In Millions)	
Proceeds from sales	$ 4,248	$ 2,674
Gross realized capital gains from sales	148	184
Gross realized capital losses from sales	(185)	(114)

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:

	September 30, 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	$ -	$ -	-	$ 102	$ 1	4
All other governments	76	1	12	23	1	8
States, territories and possessions	-	-	-	45	1	2
Special revenue	-	-	-	44	1	142
Industrial and miscellaneous	3,950	67	516	8,996	371	768
Parent, subsidiaries and affiliates	612	7	10	479	34	21
Total	$ 4,638	$ 75	538	$ 9,689	$ 409	945

The September 30, 2016 unrealized losses include $42 million of losses included in the carrying value. These losses include $40 million from NAIC Class 6 bonds and $2 million from RMBS and CMBS whose ratings were obtained from outside modelers.

	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	$ 27,838	$ 1,252	2,262	$ 7,608	$ 635	804

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

As of September 30, 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 September 30, 2016, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of $7,142 million. Securities in an unrealized loss position for less than 12 months had a fair value of $1,557 million and unrealized losses of $48 million. Securities in an unrealized loss position for greater than 12 months had a fair value of $5,585 million and unrealized losses of $114 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 nine months ended September 30, 2016 or for 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 September 30, 2016, RMBS had a total carrying value of $1,682 million and a fair value of $1,928 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 $767 million and a fair value of $912 million.

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

The MMHLLC statutory carrying values consist of $7,994 million as of September 30, 2016 and $5,717 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 $338 million through the nine months ended September 30, 2016 and $200 million through the nine months ended September 30, 2015.

MassMutual contributed capital of $845 million to MMHLLC through the nine months ended September 30, 2016 and $12 million through the nine months ended September 30, 2015. As part of the current year capital contributions, MassMutual contributed nine investments with a book value of $670 million to MMHLLC during the first quarter of 2016. This contribution was recorded at book value, and accordingly, there was no gain or loss recognized.

For further information on related party transactions with subsidiaries and affiliates, see *Note 17*, "*Related Party Transactions*" and *Note 18*, *"Business combinations and goodwill."*

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.

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

	September 30, 2016		December 31, 2015	
	Carrying Value	Fair Value	Carrying Value	Fair Value
	(In Millions)			
Commercial mortgage loans:				
Primary lender	$ 20,434	$ 21,430	$ 21,020	$ 21,571
Mezzanine loans	64	66	71	74
Total commercial mortgage loans	20,498	21,496	21,091	21,645
Residential mortgage loans:				
FHA insured and VA guaranteed	1,889	1,873	1,899	1,858
Other residential loans	8	8	9	9
Total residential mortgage loans	1,897	1,881	1,908	1,867
Total mortgage loans	$ 22,395	$ 23,377	$ 22,999	$ 23,512

The following presents a summary of the Company's impaired mortgage loans:

	September 30, 2016				
	Carrying Value	Average Carrying Value	Unpaid Principal Balance	Valuation Allowance	Interest Income
	(In Millions)				
With no allowance recorded:					
Commercial mortgage loans:					
Primary lender	$ 7	$ 11	$ 15	$ -	$ -

	September 30, 2015				
	Carrying Value	Average Carrying Value	Unpaid Principal Balance	Valuation Allowance	Interest Income
	(In Millions)				
With allowance recorded:					
Commercial mortgage loans:					
Primary lender	$ 28	$ 31	$ 33	$ (5)	$ 2

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

	Nine Months Ended September 30,	
	2016	2015
	Primary Lender	
	(In Millions)	
Beginning balance	$ -	$ -
Additions	(6)	(5)
Write-downs	6	-
Ending balance	$ -	$ (5)

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 $11,647 million as of September 30, 2016 and $10,394 million as of December 31, 2015. These net notional amounts included replicated asset transaction values of $10,239 million as of September 30, 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 credit exposure. Net collateral pledged by the counterparties was $5,427 million as of September 30, 2016 and $2,964 million as of December 31, 2015. The Company had the right to rehypothecate or repledge securities totaling $1,855 million of the $5,427 million as of September 30, 2016 and $1,291 million of the $2,964 million as of December 31, 2015 of net collateral pledged by counterparties. There were no securities rehypothecated to other counterparties as of September 30, 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 $153 million as of September 30, 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 $729 million as of September 30, 2016 and $681 million as of December 31, 2015. 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. The Company monitors its derivative credit exposure as part of its overall risk management program.

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

	September 30, 2016			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	$ 14,907	$ 78,902	$ 12,192	$ 86,409
Options	790	6,071	5	730
Currency swaps	857	6,010	70	1,705
Forward contracts	25	3,532	5	873
Credit default swaps	22	2,385	8	725
Financial futures	-	3,629	-	-
Total	$ 16,601	$ 100,529	$ 12,280	$ 90,442

	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 $4,293 million as of September 30, 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 $14,345 million for the nine months ended September 30, 2016 and $9,418 million for the nine months ended September 30, 2015. The average fair value of outstanding derivative liabilities was $10,422 million for the nine months ended September 30, 2016 and $6,219 million for the nine months ended September 30, 2015.

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

	September 30, 2016	December 31, 2015
	(In Millions)	
Due in one year or less	$ 185	$ 59
Due after one year through five years	2,425	2,067
Due after five years through ten years	500	800
Total	$ 3,110	$ 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:

	Nine Months Ended September 30,			
	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	$ (25)	$ 524	$ (130)	$ (172)
Currency swaps	20	223	19	272
Options	(90)	106	(74)	77
Credit default swaps	(5)	1	10	(1)
Forward contracts	191	(23)	216	(35)
Financial futures	409	-	24	-
Total	$ 500	$ 831	$ 65	$ 141

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

	September 30, 2016			December 31, 2015		
	Derivative Assets	Derivative Liabilities	Net	Derivative Assets	Derivative Liabilities	Net
	(In Millions)					
Gross	$ 16,601	$ 12,280	$ 4,321	$ 9,822	$ 6,354	$ 3,468
Due and accrued	842	1,773	(931)	856	1,565	(709)
Gross amounts offset	(12,732)	(12,732)	-	(5,119)	(5,119)	-
Net asset	4,711	1,321	3,390	5,559	2,800	2,759
Collateral posted	(6,116)	(689)	(5,427)	(3,516)	(552)	(2,964)
Net	$ (1,405)	$ 632	$ (2,037)	$ 2,043	$ 2,248	$ (205)

e. Net investment income

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

	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015
	(In Millions)	
Bonds	$ 2,854	$ 2,689
Preferred stocks	17	17
Common stocks - subsidiaries and affiliates	339	206
Common stocks - unaffiliated	50	32
Mortgage loans	784	757
Policy loans	572	544
Real estate	133	134
Partnerships and LLCs	315	392
Derivatives	282	259
Cash, cash equivalents and short-term investments	22	10
Other	(1)	6
Subtotal investment income	5,367	5,046
Amortization of the IMR	114	121
Investment expenses	(475)	(420)
Net investment income	$ 5,006	$ 4,747

f. Net realized capital gains (losses)

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

	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015
	(In Millions)	
Bonds	$ (113)	$ (55)
Preferred stocks	10	6
Common stocks - subsidiaries and affiliates	11	23
Common stocks - unaffiliated	(45)	(7)
Mortgage loans	(10)	(3)
Real estate	7	(2)
Partnerships and LLCs	(67)	(44)
Derivatives	500	65
Other	21	222
Net realized capital gains before federal and state taxes and deferral to the IMR	314	205
Net federal and state tax benefit (expense)	9	(208)
Net realized capital gains (losses) before deferral to the IMR	323	(3)
Net after tax (gains) losses deferred to the IMR	(267)	97
Net realized capital gains	$ 56	$ 94

The IMR liability balance was $533 million as of September 30, 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:

	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015
	(In Millions)	
Bonds	$ (75)	$ (124)
Common stocks	(8)	(8)
Preferred stocks	(1)	-
Mortgage loans	(8)	-
Partnerships and LLCs	(62)	(29)
Total OTTI	$ (154)	$ (161)

The Company recognized OTTI of $6 million for the nine months ended September 30, 2016 and $8 million for the nine months ended September 30, 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.

5. Federal income taxes

No significant changes.

6. Other than invested assets

No significant changes.

7. Policyholders' liabilities

a. Liabilities for deposit-type contracts

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.

b. 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	213
Paid guarantee benefits	(5)
Liability as of September 30, 2016	$ 787

The Company held reserves in accordance with the stochastic scenarios as of September 30, 2016 and December 31, 2015. As of September 30, 2016 and December 31, 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.

	September 30, 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	$ 20,426	$ 73	63	$ 20,689	$ 133	63
GMIB Basic	917	94	67	959	107	66
GMIB Plus	3,082	530	65	3,106	561	65
GMAB	3,167	19	58	3,072	57	58
GMWB	210	13	69	209	15	68

As of September 30, 2016, the GMDB account value above consists of $4,337 million within the general account and $16,088 million within separate accounts that includes $4,257 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.

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 is included in general insurance expenses in the Condensed Consolidated Statutory Statements of Operations. The net periodic cost recognized is as follows:

	Nine Months Ended September 30,			
	2016	2015	2016	2015
	Pension Benefits		Other Postretirement/ Postemployment Benefits	
	(In Millions)			
Service cost	$ 75	$ 54	$ 11	$ 8
Interest cost	85	74	9	11
Expected return on plan assets	(109)	(116)	-	-
Amortization of unrecognized net actuarial and other losses	53	49	2	5
Amortization of unrecognized prior service cost	2	3	(2)	2
Total net periodic cost	$ 106	$ 64	$ 20	$ 26

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 nine months ended September 30, 2016 and 2015. Accordingly, the Company has excluded these non-cash activities from the Condensed Consolidated Statutory Statements of Cash Flows for the nine months ended September 30, 2016 and 2015.

	Nine Months Ended September 30,	
	2016	2015
	(In Millions)	
Premium recognized for group annuity contracts	$ 734	$ 816
Partnerships and LLCs contributed to MMHLLC	682	-
Bond conversions and refinancing	344	1,970
Stock distributions from partnerships and LLCs	117	-
Mortgage loans to partnerships	100	
Bank loan rollovers	5	228
Bonds received as consideration for assignment of deposit-type liabilities	-	(541)
Deposit-type liabilities assigned in exchange for bonds	-	541
Bonds received as consideration for group annuity contracts	(734)	(812)
Other	145	118

15. *Fair value of financial instruments*

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

	September 30, 2016				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(In Millions)				
Financial assets:					
Bonds:					
U. S. government and agencies	$ 8,732	$ 9,860	$ -	$ 9,856	$ 4
All other governments	980	1,062	-	987	75
States, territories and possessions	696	784	-	784	-
Political subdivisions	512	575	-	575	-
Special revenue	5,670	6,670	-	6,619	51
Industrial and miscellaneous	67,845	71,951	-	43,249	28,702
Parent, subsidiaries and affiliates	6,702	7,003	-	622	6,381
Preferred stocks	521	531	30	33	468
Common stocks - subsidiaries and affiliates	752	752	530	24	198
Common stocks - unaffiliated	1,248	1,248	577	479	192
Mortgage loans - commercial	20,498	21,496	-	-	21,496
Mortgage loans - residential	1,897	1,881	-	-	1,881
Derivatives:					
Interest rate swaps	14,907	16,798	-	16,798	-
Options	790	790	-	790	-
Currency swaps	857	857	-	857	-
Forward contracts	25	25	-	25	-
Credit default swaps	22	34	-	34	-
Cash, cash equivalents and short-term investments	3,534	3,534	182	3,352	-
Separate account assets	69,867	69,906	43,138	26,002	766
Financial liabilities:					
Guaranteed interest contracts	6,467	6,550	-	-	6,550
Group annuity contracts and other deposits	18,093	18,979	-	-	18,979
Individual annuity contracts	9,966	13,282	-	-	13,282
Supplementary contracts	1,216	1,218	-	-	1,218
Repurchase agreements	5,130	5,130	-	5,130	-
Commercial paper and other borrowed money	292	292	-	250	42
Derivatives:					
Interest rate swaps	12,192	12,192	-	12,192	-
Options	5	5	-	5	-
Currency swaps	70	70	-	70	-
Forward contracts	5	5	-	5	-
Credit default swaps	8	8	-	8	-

Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of $8,917 million.

	December 31, 2015				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(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.

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

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

	September 30, 2016			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
States, territories and possessions	$ -	$ 8	$ -	$ 8
Special revenue	-	3	-	3
Industrial and miscellaneous	-	12	53	65
Parent, subsidiaries and affiliates	-	92	53	145
Preferred stocks	-	-	3	3
Common stocks - subsidiaries and affiliates	530	24	198	752
Common stocks - unaffiliated	577	479	192	1,248
Derivatives:				
Interest rate swaps	-	14,907	-	14,907
Options	-	790	-	790
Currency swaps	-	857	-	857
Forward contracts	-	25	-	25
Credit default swaps	-	-	-	-
Separate account assets	43,138	24,883	749	68,770
Total financial assets carried at fair value	$ 44,245	$ 42,080	$ 1,248	$ 87,573
Financial liabilities:				
Derivatives:				
Interest rate swaps	$ -	$ 12,192	$ -	$ 12,192
Options	-	5	-	5
Currency swaps	-	70	-	70
Forward contracts	-	5	-	5
Credit default swaps	-	1	-	1
Total financial liabilities carried at fair value	$ -	$ 12,273	$ -	$ 12,273

For the nine months ended September 30, 2016, 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, 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

For the year ended December 31, 2015, there were no significant transfers between Level 1 and Level 2.

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

	Nine months Ended September 30, 2016						
	Bonds						Total Level 3
	Industrial and Miscellaneous	Parent, Subsidiaries, and Affiliates	Preferred Stock	Common Stock Affiliated	Common Stock Unaffiliated	Separate Account Assets	Financial Assets Carried at Fair Value
	(In Millions)						
Balance as of January 1, 2016	$ 22	$ 50	$ 3	$ 40	$ 181	$ 725	$ 1,021
(Losses) gains in net income	(11)	-	-	-	-	17	6
Gains (losses) in surplus	(10)	3	(1)	1	1	-	(6)
Purchases	-	2	3	88	12	112	217
Issuances	3	(1)	-	18	-	-	20
Sales	-	(3)	-	-	(2)	(104)	(109)
Settlements	(5)	(7)	-	35	-	(6)	17
Transfers in	-	-	-	-	-	5	5
Transfers out	(1)	-	-	-	-	-	(1)
Other transfers	55	9	(2)	16	-	-	78
Balance as of September 30, 2016	$ 53	$ 53	$ 3	$ 198	$ 192	$ 749	$ 1,248

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

	Year Ended December 31, 2015						
	Bonds						Total Level 3
	Industrial and Miscellaneous	Parent, Subsidiaries, and Affiliates	Preferred Stock	Common Stock Affiliated	Common Stock Unaffiliated	Separate Account Assets	Financial Assets Carried at Fair Value
	(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 bonds 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 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 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.

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.

Political Uncertainties

Political events, such as the ongoing volatility with respect to the European Union, may trigger or exacerbate 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 us to utilize the mitigating actions described above to attempt to reduce the potential impact of each underlying risk factor on the Company.

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 $39 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.

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. Motions for summary judgment are pending. 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. The case is expected to proceed to trial in 2017. 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 April 2016, discovery was completed. Summary judgment motions are currently pending in court. 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 alleged, 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. In June 2016, the parties reached a tentative settlement agreement, which has been preliminarily approved by the court. MassMutual expects final court approval by the end of the year. The final settlement is not expected to have a significant financial impact on MassMutual.

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. In April 2016, the court granted MassMutual’s motion to transfer the case to federal court in Massachusetts. 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.

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.

d. Commitments

In the normal course of business, the Company enters into letter of credit arrangements. As of September 30, 2016, the Company had approximately $102 million of outstanding letter of credit arrangements and $159 million as of December 31, 2015. As of September 30, 2016 and December 31, 2015, the Company did not have any funding requests attributable to these letter of credit arrangements.

17. Related party transactions

MassMutual has management and service contracts and cost-sharing arrangements with various subsidiaries and affiliates where MassMutual, for a fee, will furnish a subsidiary or affiliate, as required, operating facilities, human resources, computer software development and managerial services.

In June, MassMutual purchased several affiliated entities from MMHLLC for $507 million. This purchase was part of the Company’s execution of its’ operating strategy.

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.

18. Business combinations and goodwill

On July 1, 2016, MassMutual acquired the MetLife Premier Client Group (MPCG), a U.S. retail advisor force, which includes an affiliated broker dealer, MSI Financial Services (MSIFS), formerly known as MetLife Securities, Inc. The advisor force includes more than 40 local sales and advisory operations and approximately 4,000 advisors across the country, which expands MassMutual's existing MMFA to more than 9,200 financial professionals. The purchase of MSIFS was accounted for under the statutory purchase method, classified as investments in common stocks – subsidiaries and affiliates at a cost of $126 million and resulted in the recognition of statutory goodwill of $38 million. MassMutual also paid $162 million of cash to acquire the remaining MPCG assets of $198 million and liabilities of $36 million. The remaining MPCG assets include $164 million of assets that are nonadmitted. $1 million of goodwill has been amortized as of September 30, 2016.

19. Subsequent events

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

On October 1, 2016, MassMutual purchased MassMutual International LLC (MMI) from MMHLLC for approximately $3,900 million, which represented MMHLLC's carrying value of MMI. In exchange for MMI, MassMutual transferred cash and assets to MMHLLC. As this transaction was between related parties no gain or loss was recorded associated with this transaction. This purchase was part of MassMutual's execution of its' operating strategy and segregated its foreign insurance subsidiaries from its asset manager subsidiaries.

On October 11, 2016, MassMutual issued a $600 million funding agreement, which supports a series of medium-term notes with 1.55% fixed rate coupons and 3-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.