MassMutual Global Funding II

USD 21,000,000,000
GLOBAL DEBT ISSUANCE PROGRAM

This base prospectus supplement dated November 14, 2018 (this **"Supplement"**) is in addition to and must be read in conjunction with the base prospectus dated May 31, 2018, as supplemented by the base prospectus supplement dated August 15, 2018 (collectively, the **"Base Prospectus"**) prepared by MassMutual Global Funding II (the **"Issuer"**) under the Issuer's Global Debt Issuance Program (the **"Program"**). Capitalized terms used herein and not otherwise defined shall have the meanings of such terms set forth in the Base Prospectus.

This Supplement comprises a supplement in accordance with Article 16 of the Prospectus Directive. This Supplement has been approved by the Central Bank, as competent authority under the Prospectus Directive. The Central Bank only approves this Supplement as meeting the requirements imposed under Irish and EU law pursuant to the Prospectus Directive 2003/71/EC.

On November 12, 2018, Massachusetts Mutual Life Insurance Company (**"MassMutual"**) published its unconsolidated quarterly unaudited condensed statutory statements (including any notes thereto, the **"Third Quarter 2018 Condensed Statutory Financial Statements"**), which are attached hereto as Annex 1.

Except as disclosed in this Supplement, there has been no other significant new factor, material mistake or inaccuracy relating to the information included in the Base Prospectus since the publication of the Base Prospectus.

Where there is any inconsistency between this Supplement and the Base Prospectus, the language used in this Supplement shall prevail.

The Issuer accepts responsibility for the information contained in this Supplement. To the best of the knowledge and belief of the Issuer (which has taken all reasonable care to ensure that such is the case), the information contained in this Supplement is in accordance with the facts and does not omit anything likely to affect the import of such information.

Supplement dated November 14, 2018

Recent Developments

Sale of MM Asia and MM Japan

In August 2017, MassMutual International LLC (**"MMI"**) entered into an agreement to sell MassMutual Asia Limited (**"MM Asia"**), a wholly owned Hong Kong based life insurance and wealth management subsidiary, to Yunfeng Financial Group (**"Yunfeng FG"**). The sale is expected to close in 2018, subject to regulatory approval and customary closing conditions. Under the terms of the agreement, MMI will receive cash of $1.0 billion and Yunfeng FG shares valued as of September 30, 2018 at approximately $384 million. On the closing date, the agreement also requires MM Asia to have a solvency margin ratio at a certain level. MMI has made a capital contribution to MM Asia in order to meet this capital level.

In March 2018, MassMutual and MMI entered into an agreement to sell 85.1% of MassMutual Life Insurance Company in Japan (**"MM Japan"**), a wholly-owned life insurance and wealth management subsidiary of MMI, to Nippon Life Insurance Co. (**"Nippon"**). MMI estimated the fair value of the retained portion of MM Japan based upon the agreed selling price of the sold portion of MM Japan with Nippon. The sale of MM Japan closed in May 2018. MMI received $960 million in cash proceeds from the sale.

The amount of the proceeds from the sale of MM Japan and the anticipated proceeds from the sale of MM Asia are expected to be less than MMI's book value for these entities. As such, MMI's book value was reduced to an estimated fair value of $2.7 billion and an impairment of $1.3 billion was recorded in net realized capital gains (losses). The impairment reduced MassMutual's asset valuation reserve by approximately $900 million, resulting in approximately a $300 million net decrease to surplus, net of a tax benefit of $103 million. Any additional gain or loss on disposal will be realized when the MM Asia sale is finalized.

A $27 million net loss was recorded for the recapture of certain yearly renewable term life insurance treaties, with $14 million recorded in premium income and $41 million recorded in policyholder benefits.

Sale of OppenheimerFunds

On October 18, 2018, MassMutual announced a strategic transaction in which Invesco Ltd. ("**Invesco**"), a global asset manager, will acquire MassMutual's retail asset management affiliate, OppenheimerFunds, Inc. **("OFI")**. In turn, MassMutual is expected to receive an approximate 15.5% common equity interest in the combined company, becoming Invesco's largest shareholder. Under the terms of the agreement, MassMutual and OFI employee shareholders will receive 81.9 million shares of Invesco common equity and $4.0 billion in preferred shares with a fixed dividend rate of 5.9%. As part of this transaction, Invesco and MassMutual will enter into a shareholder agreement in which MassMutual will have customary minority shareholder rights, including appointment of a director to Invesco's board of directors. Pending regulatory and other customary approvals, the transaction is expected to close in the second quarter of 2019.

Accounting Changes

During the second quarter of 2018, MassMutual evaluated the accounting for income annuities and determined that these annuities did not contain significant mortality risk, and, therefore, should have been classified as a deposit-type contract rather than as a component of policyholder reserves. As a result, approximately $1.3 billion of policyholders' reserves were reclassified as liabilities for deposit-type contracts in 2018, which is reflected within MassMutual's Condensed Statutory Statements of Operations and Statements of Cash Flows. There were no corresponding differences in valuation, and, as a result, there were no impacts to surplus or net income.

Interim Update for the Nine Months Ended September 30, 2018

The unaudited statements of operations and statements of financial position of MassMutual for the nine months ended September 30, 2018 and September 30, 2017, and as of September 30, 2018, respectively, presented below should be read in conjunction with, and is qualified in its entirety by reference to, the Statutory Financial Statements, Notes to Statutory Financial Statements, "Management's Discussion and Analysis of Financial Condition and Results of Operations - Analysis of Results of Operations – For the Years Ended December 31, 2017, 2016 and 2015" and "Management's Discussion and Analysis of Financial Condition and Results of Operations - Statement of Financial Position at December 31, 2017 compared to December 31, 2016," in each case, included in the Base Prospectus and the Third Quarter 2018 Condensed Statutory Financial Statements of MassMutual as of and for the nine months ended September 30, 2018 which are attached hereto as Annex 1.

Analysis of Results of Operations – For the Nine Months Ended September 30, 2018 Compared to the Nine Months Ended September 30, 2017

The following table sets forth the components of MassMutual's statement of operations for the periods presented:

	Nine Months Ended September 30,		
	2018	**2017**	**% Change**
	(unaudited)	**(unaudited)**	
	($ In Millions)		
Revenue:			
Premium income	$ 16,730	$ 15,037	11 %
Net investment income	5,304	5,020	6
Fees and other income	739	1,144	(35)
Total revenue	22,773	21,201	7
Benefits and expenses:			
Policyholders' benefits	15,874	15,800	-
Change in policyholders' reserves	4,040	1,659	144
Change in group annuity reserves assumed	(1,007)	(645)	(56)
General insurance expenses	1,754	1,909	(8)
Commissions	775	736	5
State taxes, licenses and fees	186	153	22
Total benefits and expenses	21,622	19,612	10
Net gain from operations before dividends and federal income taxes	1,151	1,589	(28)
Dividends to policyholders	1,145	1,151	(1)
Net gain from operations before federal income taxes	6	438	(99)
Federal income tax expense (benefit)	21	(169)	112
Net (loss) gain from operations	(15)	607	(102)
Net realized capital losses	(1,284)	(414)	(210)
Net (loss) income	**$ (1,299)**	**$ 193**	(773)**%**

The $1.5 billion increase in net loss to $1.3 billion for the nine months ended September 30, 2018 is primarily due to a $1.3 billion net realized capital loss due to the sale of MM Japan and a decrease in fees and other income primarily due to the accelerated increase in legacy Premier Group maintenance revenue of $314 million in 2017 that did not recur in 2018.

Selected premium income information is presented below:

	Nine Months Ended September 30,		
	2018	2017	% Change
	(unaudited)	(unaudited)	
	($ In Millions)		
Premium income:			
Group annuity	$ 9,551	$ 7,876	21 %
Whole life	4,214	3,948	7
Individual annuity and supplemental contracts	1,542	1,506	2
Universal, variable, group and other life	832	1,253	(34)
Disability income	380	371	2
Other	211	83	154
Total	**$ 16,730**	**$ 15,037**	**11 %**

Premium income increased $1.7 billion in 2018, primarily due to increases in group annuities of $1.7 billion, whole life of $266 million, other of $128 million and individual annuities and supplemental contracts of $36 million, partially offset by a decrease in universal, variable and group life of $421 million. The increase in group annuities was primarily due to higher sales in investment-only, defined contribution plan and pension risk transfer products. The increase in whole life was primarily due to higher sales and renewal premium. The increase in other was primarily due to a recapture of a modified coinsurance **("Modco")** agreement for $102 million, which is offset by a decrease in fees and other income. The increase in annuities and supplemental contracts was primarily due to increased sales in income annuities of $308 million and in fixed annuities of $126 million, partially offset by a $372 million decrease in income annuities due to a change in classification from annuities with life contingencies to annuities without life contingencies. The impact to premium due to the reclassification is offset in the change in policyholders' reserves and policyholders' benefits. The decrease in universal, variable and group life is primarily due to bank-owned life insurance **("BOLI")** sales.

Net investment income increased $284 million to $5.3 billion for the nine months ended September 30, 2018. The change was primarily due to increased income of $285 million for bonds, $159 million for partnerships and LLCs and $43 million for mortgage loans, partially offset by a $174 million decrease in the dividend from MassMutual Holding LLC (**"MMHLLC"**). MassMutual's overall net annualized portfolio yield, less affiliated dividends from MMHLLC, was 4.66% for the nine months ended September 30, 2018 and 4.53% for the nine months ended September 30, 2017.

Fees and other income decreased $405 million for the nine months ended September 30, 2018 primarily due to the accelerated increase in legacy Premier Group maintenance revenue of $314 million in 2017 that did not recur in 2018 and a recapture of a Modco agreement for $102 million, which is offset by an increase in premium income.

Policyholders' benefits, which include payments for supplementary contracts involving life contingencies, matured endowments, death, annuity, disability and surrender benefits and interest, increased $74 million for the nine months ended September 30, 2018. The increase was primarily due to increases in individual annuity surrenders of $627 million, the pass through of investment income on the funds held under coinsurance of $149 million, group annuity benefits of $125 million, whole life surrenders of $108 million and individual annuity interest of $49 million, partially offset by a decrease in group annuity surrenders of $844 million and individual annuity benefits of $133 million.

Change in policyholders' reserves, including transfers to and from separate accounts, increased $2.4 billion for the nine months ended September 30, 2018. The increase was primarily due to higher sales of group annuity products, partially offset by lower BOLI sales.

The change in group annuity reserves assumed reflects the RPG Modco assumption contract. This $362 million decrease in change in reserves was primarily due to a higher level of transfers from RPG separate accounts to MassMutual contracts.

General insurance expenses decreased $155 million for the nine months ended September 30, 2018. The decrease was primarily due to an impairment of previously capitalized software of $221 million in 2017, which did not recur in 2018.

Commissions increased $39 million for the nine months ended September 30, 2018, primarily due to increases in whole life sales.

Federal income tax expense increased $190 million for the nine months ended September 30, 2018. The increase was primarily due to a greater increase over prior year of statutory policyholder reserves not currently tax deductible, including the current year's taxable inclusion of the tax reserve transition adjustment associated with tax reform enacted in 2017, as well as an increase over prior year in revenue currently recognized for tax purposes.

Net realized capital gains (losses), which include other-than-temporary impairments (**"OTTI"**), comprised the following:

	Nine Months Ended September 30,	
	2018	**2017**
	(unaudited)	**(unaudited)**
	(In Millions)	
Net realized capital gains (losses):		
Bonds	$ (106)	$ (68)
Common stocks - subsidiaries and affiliates	(1,259)	9
Common stocks - unaffiliated	72	(21)
Mortgage loans	(2)	(13)
Real estate	168	84
Partnerships and LLCs	(41)	(75)
Derivatives	(293)	(298)
Other	(26)	(183)
Net realized capital losses before federal and state taxes and deferral to the IMR	(1,487)	(565)
Net federal and state tax benefit	7	135
Net realized capital losses before deferral to the IMR	(1,480)	(430)
Net after tax losses deferred to the IMR	196	16
Net realized capital (losses)	**$ (1,284)**	**$ (414)**

OTTI increased $1.2 billion to $1.4 billion for the nine months ended September 30, 2018. OTTI increased $1.3 billion for common stocks of subsidiaries and affiliates primarily due to the impairment of MMI and $32 million for bonds and $1 million for partnerships and LLCs, partially offset by $47 million decrease for unaffiliated common stocks. The book values of investments are written down when a decline in value is considered to be other than temporary. OTTI is determined in a disciplined manner using available evidence in both quantitative and qualitative processes.

Residential mortgage-backed exposure

During the nine months ended September 30, 2018, there were no significant credit downgrades for the securities held by MassMutual that were backed by residential mortgage pools.

Residential mortgage backed securities **("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, 2018, RMBS had a total carrying value of $1.4 billion and a fair value of $1.5 billion, of which approximately 19%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of $492 million and a fair value of $589 million. As of December 31, 2017, RMBS had a total carrying value of $1.5 billion and a fair value of $1.6 billion, of which approximately 21%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of $566 million and a fair value of $687 million.

Derivative financial instruments

MassMutual 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. MassMutual 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 MassMutual's credit and foreign currency exposure or to create an investment in a particular asset. MassMutual held synthetic investments with a notional amount of $13.4 billion as of September 30, 2018 and $13.1 billion as of December 31, 2017. These notional amounts included replicated asset transaction values of $11.4 billion as of September 30, 2018 and $11.5 billion as of December 31, 2017, as defined under statutory accounting practices as the result of pairing of a long derivative contract with cash instruments.

MassMutual's principal derivative exposures to market risk are interest rate risk, which includes inflation and credit risk. Interest rate risk pertains to the change in fair value of the derivative instruments as a result of changes in market interest rates. MassMutual is exposed to credit-related losses in the event of nonperformance by counterparties to derivative financial instruments. MassMutual regularly monitors counterparty credit ratings, derivative positions, valuations and the value of collateral posted to ensure counterparties are credit-worthy and the concentration of exposure is minimized, and monitors its derivative credit exposure as part of its overall risk management program.

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

Net collateral pledged by the counterparties was $1.3 billion as of September 30, 2018 and $2.5 billion as of December 31, 2017. In the event of default, the full market value exposure at risk in a net gain position, net of offsets and collateral, was $205 million as of September 30, 2018 and $115 million as of December 31, 2017. The statutory net amount at risk, defined as net collateral pledged and statement values excluding accrued interest, was $804 million as of September 30, 2018 and $595 million as of December 31, 2017.

MassMutual had the right to rehypothecate or repledge securities totaling $407 million of the $1.3 billion as of September 30, 2018 and $635 million of the $2.5 billion as of December 31, 2017 of net collateral pledged by counterparties. There were no securities rehypothecated to other counterparties as of September 30, 2018 or December 31, 2017.

Analysis of Financial Condition – at September 30, 2018 Compared to at December 31, 2017

The following table sets forth MassMutual's significant assets, liabilities and surplus for the dates presented:

	September 30, 2018 (unaudited)	December 31, 2017	% Change
	($ In Millions)		
Assets:			
Bonds	$ 96,383	$ 90,435	7 %
Preferred stocks	752	768	(2)
Common stocks – subsidiaries and affiliates	12,884	14,424	(11)
Common stocks – unaffiliated	1,031	1,212	(15)
Mortgage loans	23,328	22,580	3
Policy loans	14,055	13,327	5
Real estate	765	857	(11)
Partnerships and LLCs	7,788	7,678	1
Derivatives	8,558	8,857	(3)
Cash, cash equivalents and short-term investments	1,690	3,580	(53)
Other invested assets	755	203	272
Total invested assets	167,989	163,921	2
Investment income due and accrued	2,423	2,199	10
Federal income taxes	318	544	(42)
Deferred income taxes	1,013	761	33
Other than invested assets	3,290	3,476	(5)
Total assets excluding separate accounts	175,033	170,901	2
Separate account assets	70,839	69,162	2
Total assets	**$ 245,872**	**$ 240,063**	**2 %**
Liabilities and Surplus:			
Policyholders' reserves	$ 119,597	$ 115,764	3 %
Liabilities for deposit-type contracts	14,145	13,014	9
Contract claims and other benefits	469	513	(9)
Policyholders' dividends	1,639	1,601	2
General expenses due or accrued	1,051	1,074	(2)
Asset valuation reserve	2,716	3,207	(15)
Repurchase agreements	4,831	4,204	15
Commercial paper and other borrowed money	250	250	-
Collateral	2,011	2,661	(24)
Derivatives	5,413	5,979	(9)
Funds held under coinsurance	4,072	4,001	2
Other liabilities	4,117	2,928	41
Total liabilities excluding separate accounts	160,311	155,196	3
Separate account liabilities	70,839	69,162	2
Total liabilities	**231,150**	**224,358**	**3**
Surplus	14,722	15,705	(6)
Total liabilities and surplus	**$ 245,872**	**$ 240,063**	**2 %**

Assets

Total assets increased $5.8 billion as of September 30, 2018, primarily due to an increase in bonds of $5.9 billion, separate account assets of $1.7 billion, mortgage loans of $748 million and policy loans of $728 million, partially offset by decreases in cash, cash equivalents and short-term investments of $1.9 billion and common stocks of subsidiaries and affiliates of $1.5 billion.

Bonds increased $5.9 billion to $96.4 billion as of September 30, 2018 from $90.4 billion as of December 31, 2017. The increase was primarily due to $6.3 billion of net acquisitions, partially offset by $380 million of unrealized foreign exchange losses due to the weakening of the British Pound and Euro against the U.S. Dollar.

Common stocks – subsidiaries and affiliates decreased $1.5 billion, primarily due to the impairment of MMI of $1.3 billion (in connection with the sale of MM Japan and the proposed sale of MM Asia as discussed under "Recent Developments"), net dispositions of $359 million, partially offset by net unrealized gains of $76 million.

Common stocks – unaffiliated decreased $181 million, primarily due to net dispositions.

Mortgage loans increased $748 million to $23.3 billion as of September 30, 2018, primarily due to $981 million of net acquisitions, partially offset by $182 million of transfers to partnerships and LLCs and $84 million of net unrealized foreign currency revaluation losses primarily related to the weakening of the British Pound against the U.S. Dollar. Residential mortgage loans are primarily seasoned pools of homogeneous residential mortgage loans that are predominantly Federal Housing Administration insured or Veterans Administration guaranteed, though the pools may contain mortgages of subprime credit quality. MassMutual had residential mortgage loan pools with a carrying value of $1.4 billion as of September 30, 2018 and $1.8 billion as of December 31, 2017.

Policy loans increased $728 million to $14.1 billion as of September 30, 2018 primarily due to new loans and interest capitalization of $1.4 billion, partially offset by loan repayments and surrenders of $665 million.

Real estate decreased $92 million to $765 million as of September 30, 2018, due to a net change of sales of $174 million, depreciation of $61 million, and increase in encumbrances of $18 million, partially offset by capital improvements of $104 million and a transfer from a real partnerships and LLCs of $57 million.

Partnerships and LLCs increased $110 million to $7.8 billion as of September 30, 2018, primarily due to additional investments of $1.5 billion, earnings of $840 million, net transfers of $25 million, realized gains on sales of $7 million, partially offset by returns of capital of $1.2 billion, income distributions of $547 million, liquidation proceeds of $418 million, unrealized foreign exchange valuation losses of $35 million, unrealized losses of $34 million, and OTTI of $24 million.

Derivative assets decreased $299 million to $8.6 billion as of September 30, 2018, primarily due to a decrease in interest related hedge values resulting from the increase in the swap curve rates, decreased equity related hedge values resulting from the strengthening of equity markets, net of increased foreign currency hedge values resulting from the weakening of the British Pound and Euro relative to the U.S. Dollar, and increase in futures resulting from the rolling of positions followed by the decrease in treasury rates, as well as changes in notional related to the repositioning of the portfolio as part of ongoing asset-liability management activity.

Cash, cash equivalents and short-term investments decreased $1.9 billion to $1.7 billion as of September 30, 2018. The decrease was primarily due to net cash applied to investing activities of $7.5 billion, partially offset by net cash from operations of $5.1 billion and net cash from financing and other sources of $476 million.

Other invested assets increased $552 million to $755 million as of September 30, 2018 due to increases in pending securities settlements and collateral posted to counterparties.

Investment income due and accrued increased $224 million to $2.4 billion as of September 30, 2018. The change is primarily due to income accrual increases in bonds of $274 million and policy loans of $56 million related to policy loans on institutional business, partially offset by a decrease in derivatives of $105 million.

Federal income tax receivable decreased $226 million to $318 million as of September 30, 2018 primarily due to the receipt of $230 million in net tax refunds associated with tax loss carrybacks and global interest netting.

The deferred income tax assets increased $252 million to $1.0 billion as of September 30, 2018, primarily due to a greater reliance on tax planning strategies to realize deferred tax assets and greater deferred deductions of policyholder reserves and tax basis policy acquisition costs.

Separate account assets increased $1.7 billion to $70.8 billion as of September 30, 2018, primarily due to net market appreciation of $1.8 billion, net customer cash inflows of $92 million and pending security settlements of $48 million, partially offset by fees of $295 million.

Liabilities

Total liabilities increased $6.8 billion to $231.2 billion as of September 30, 2018, primarily due to increases in policyholders' reserves of $3.8 billion, separate account liabilities of $1.7 billion, other liabilities of $1.2 billion, liabilities for deposit-type contracts of $1.1 billion and repurchase agreements of $627 million, partially offset by decreases in collateral of $650 million, derivatives of $566 million and the asset valuation reserve of $491 million.

Policyholders' reserves increased $3.8 billion to $119.6 billion as of September 30, 2018. Whole life products increased $2.5 billion primarily due to sales and renewal premium, partially offset by reserves released due to benefits and policy charges. Group annuity products increased $1.3 billion primarily due to sales in pension risk transfer products. Group life products increased $917 million primarily due to premium and interest on reserves out pacing reserves released. Universal, variable, group and other life products increased $304 million primarily due to universal life sales and renewal premium. Individual annuity products decreased $1.3 billion primarily in income annuities due to a change in classification from annuities with life contingencies to annuities without life contingencies.

Liabilities for deposit-type contracts increased $1.1 billion to $14.1 billion as of September 30, 2018, primarily due to a change in classification of income annuities from annuities with life contingencies to annuities without life contingencies of $1.3 billion, partially offset by guaranteed interest contract net deposits for the notes program of $228 million.

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 liabilities for GMDBs, GMIBs, GMABs and GMWBs (in millions):

Liability as of January 1, 2017	$ 651
Incurred guarantee benefits	(131)
Paid guarantee benefits	(8)
Liability as of December 31, 2017	512
Incurred guarantee benefits	(137)
Paid guarantee benefits	(4)
Liability as of September 30, 2018	$ 371

MassMutual held reserves for variable annuity guarantees in accordance with the stochastic scenarios as of September 30, 2018 and December 31, 2017. As of September 30, 2018 and December 31, 2017, MassMutual held additional reserves above those indicated based on the stochastic scenarios in order to maintain a prudent level of reserve adequacy.

The following table summarizes the account values, net amount at risk and weighted average attained age for variable annuity contracts with GMDB, GMIB, GMAB and GMWB 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, 2018			December 31, 2017		
	Account Value	Net Amount at Risk	Weighted Average Attained Age	Account Value	Net Amount at Risk	Weighted Average Attained Age
	($ In Millions)					
GMDB.....	$ 19,379	$ 30	64	$ 20,118	$ 25	64
GMIB Basic .	835	36	68	910	37	68
GMIB Plus ...	3,035	467	67	3,210	416	66
GMAB.....	2,954	4	59	3,233	1	59
GMWB.....	184	12	70	204	7	69

As of September 30, 2018, the GMDB account value above consists of $3.9 billion within the general account and $15.5 billion within the separate accounts that includes $4.5 billion of modified coinsurance. As of December 31, 2017, the GMDB account value above consists of $4.1 billion within the general account and $16.1 billion within the separate accounts that includes $4.7 billion of modified coinsurance.

AVR decreased $491 million to $2.7 billion as of September 30, 2018. The decrease was primarily due to net realized capital losses of $825 million, primarily due to the impairment of MMI, partially offset by an increase in reserve contributions of $307 million and an increase in net unrealized capital gains of $28 million. AVR is a formula driven reserve, the purpose of which is to reduce the surplus volatility of after-tax credit-related realized and unrealized gains and losses. It is calculated based on statement values by asset type, credit quality and reserve factors. AVR can range from zero to a maximum allowable reserve. Any amounts calculated in excess of the maximum allowable reserve will not be included in the calculation of AVR. Any losses that exceed their related component of the AVR will not be absorbed. Changes in statement values, credit quality and capital gains or losses will affect the reserve balance.

Repurchase agreements increased $627 million to $4.8 billion as of September 30, 2018. Proceeds from repurchase agreements are used in overall portfolio management to help ensure MassMutual has the assets needed to provide yield, spread and duration to support liabilities and other corporate needs. MassMutual increases and decreases repurchase agreements in response to changing market conditions and changing liability needs.

Collateral decreased $650 million to $2.0 billion as of September 30, 2018. This increase in collateral liability was consistent with the change in net derivative asset values. In addition, securities that were held as collateral by a trustee off the balance sheet decreased by $265 million to $370 million as of September 30, 2018 from $635 million as of December 31, 2017. The derivative collateral liability is a function of contractual requirements. When certain threshold exposure levels and transfer amount levels are reached, MassMutual requires additional collateral or returns excess collateral held.

Derivative liabilities decreased $566 million to $5.4 billion as of September 30, 2018, primarily due to a decrease in interest related hedge values resulting from the increase in the swap curve rates and decrease in foreign currency hedge values resulting from the weakening of the British Pound and Euro relative to the U.S. Dollar, as well as changes in notional related to the repositioning of the portfolio as part of ongoing asset-liability management activity.

Other liabilities increased $1.2 billion to $4.1 billion as of September 30, 2018, primarily due to the timing of cash settlements.

Separate account liabilities increased $1.7 billion to $70.8 billion as of September 30, 2018. See analysis related to separate account assets.

Surplus

Surplus decreased $983 million to $14.7 billion as of September 30, 2018. The following table shows the change in surplus:

	September 30, 2018
	(In Millions)
Beginning surplus	$ 15,705
Net loss	(1,299)
Change in net unrealized capital gains (losses), net of tax	343
Change in net unrealized foreign exchange capital gains (losses), net of tax	(384)
Change in other net deferred income taxes	301
Change in nonadmitted assets	(376)
Change in AVR	491
Prior period adjustments	(49)
Other	(10)
Net decrease	(983)
Ending surplus	**$ 14,722**

MassMutual's total adjusted capital, as defined by the NAIC, increased to $18.4 billion as of September 30, 2018 compared to $17.4 billion as of December 31, 2017.

The following table sets forth the calculation of total adjusted capital:

	September 30, 2018	December 31, 2017
	(In Millions)	
Surplus[1]	$ 14,722	$ 15,705
AVR[2]	2,823	3,309
One-half of the apportioned dividend liability[2]	816	796
Foreign insurance subsidiaries deduction	-	(2,382)
Total adjusted capital [3]	**$ 18,361**	**$ 17,428**

[1] *Surplus as of September 30, 2018 includes surplus notes with a carrying value of $2,268 million, comprised of the following surplus notes at face value issued and outstanding: $250 million of surplus notes maturing in 2023, $100 million of surplus notes maturing in 2024, $250 million of surplus notes maturing in 2033, $310 million of surplus notes maturing in 2039, $400 million of surplus notes maturing in 2041, $500 million of surplus notes maturing in 2065 and $475 million of surplus notes maturing in 2077.*

[2] *Consolidated for MassMutual, C.M. Life Insurance Company and MML Bay State Life Insurance Company.*

[3] *Defined by the NAIC as surplus plus consolidated AVR and one-half of the consolidated apportioned dividend liability and a deduction for applicable foreign insurance subsidiaries.*

Annex 1

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

CONDENSED STATUTORY FINANCIAL STATEMENTS

As of September 30, 2018 and December 31, 2017 and for the nine months ended September 30, 2018 and 2017

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

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

	September 30, 2018	December 31, 2017	$ Change	% Change
	($ In Millions)			
Assets:				
Bonds	$ 96,383	$ 90,435	$ 5,948	7 %
Preferred stocks	752	768	(16)	(2)
Common stocks – subsidiaries and affiliates	12,884	14,424	(1,540)	(11)
Common stocks – unaffiliated	1,031	1,212	(181)	(15)
Mortgage loans	23,328	22,580	748	3
Policy loans	14,055	13,327	728	5
Real estate	765	857	(92)	(11)
Partnerships and limited liability companies	7,788	7,678	110	1
Derivatives	8,558	8,857	(299)	(3)
Cash, cash equivalents and short-term investments	1,690	3,580	(1,890)	(53)
Other invested assets	755	203	552	272
Total invested assets	167,989	163,921	4,068	2
Investment income due and accrued	2,423	2,199	224	10
Federal income taxes	318	544	(226)	(42)
Deferred income taxes	1,013	761	252	33
Other than invested assets	3,290	3,476	(186)	(5)
Total assets excluding separate accounts	175,033	170,901	4,132	2
Separate account assets	70,839	69,162	1,677	2
Total assets	$ 245,872	$ 240,063	$ 5,809	2 %
Liabilities and Surplus:				
Policyholders' reserves	$ 119,597	$ 115,764	$ 3,833	3 %
Liabilities for deposit-type contracts	14,145	13,014	1,131	9
Contract claims and other benefits	469	513	(44)	(9)
Policyholders' dividends	1,639	1,601	38	2
General expenses due or accrued	1,051	1,074	(23)	(2)
Asset valuation reserve	2,716	3,207	(491)	(15)
Repurchase agreements	4,831	4,204	627	15
Commercial paper	250	250	-	-
Collateral	2,011	2,661	(650)	(24)
Derivatives	5,413	5,979	(566)	(9)
Funds held under coinsurance	4,072	4,001	71	2
Other liabilities	4,117	2,928	1,189	41
Total liabilities excluding separate accounts	160,311	155,196	5,115	3
Separate account liabilities	70,839	69,162	1,677	2
Total liabilities	231,150	224,358	6,792	3
Surplus	14,722	15,705	(983)	(6)
Total liabilities and surplus	$ 245,872	$ 240,063	$ 5,809	2 %

See notes to condensed statutory financial statements

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

	Nine Months Ended September 30, 2018	2017	$ Change	% Change
	($ In Millions)			
Revenue:				
Premium income	$ 16,730	$ 15,037	$ 1,693	11 %
Net investment income	5,304	5,020	284	6
Fees and other income	739	1,144	(405)	(35)
Total revenue	22,773	21,201	1,572	7
Benefits and expenses:				
Policyholders' benefits	15,874	15,800	74	-
Change in policyholders' reserves	4,040	1,659	2,381	144
Change in group annuity reserves assumed	(1,007)	(645)	(362)	(56)
General insurance expenses	1,754	1,909	(155)	(8)
Commissions	775	736	39	5
State taxes, licenses and fees	186	153	33	22
Total benefits and expenses	21,622	19,612	2,010	10
Net gain from operations before dividends and federal income taxes	1,151	1,589	(438)	(28)
Dividends to policyholders	1,145	1,151	(6)	(1)
Net gain from operations before federal income taxes	6	438	(432)	(99)
Federal income tax expense (benefit)	21	(169)	190	112
Net (loss) gain from operations	(15)	607	(622)	(102)
Net realized capital (losses) gains	(1,284)	(414)	(870)	(210)
Net (loss) income	$ (1,299)	$ 193	$ (1,492)	(773) %

See notes to condensed statutory financial statements

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

	Nine Months Ended September 30, 2018	2017	$ Change	% Change
	($ In Millions)			
Surplus, beginning of year	$ 15,705	$ 15,423	$ 282	2 %
Decrease due to:				-
Net (loss) income	(1,299)	193	(1,492)	(773)
Change in net unrealized capital gains (losses), net of tax	343	87	256	294
Change in net unrealized foreign exchange capital (losses) gains, net of tax	(384)	632	(1,016)	- (161)
Change in other net deferred income taxes	301	24	277	NM
Change in nonadmitted assets	(376)	(153)	(223)	(146)
Change in asset valuation reserve	491	(88)	579	658
Prior period adjustments	(49)	11	(60)	(545)
Other	(10)	23	(33)	(143)
Net (decrease) increase	(983)	729	(1,712)	(235)
Surplus, end of period	$ 14,722	$ 16,152	$ (1,430)	(9) %

NM = not meaningful

See notes to condensed statutory financial statements

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

	Nine Months Ended September 30, 2018	2017	$ Change	% Change
	($ In Millions)			
Cash from operations:				
Premium and other income collected	$ 17,779	$ 15,613	$ 2,166	14%
Net investment income	4,940	5,077	(137)	(3)
Benefit payments	(16,025)	(15,498)	(527)	(3)
Net transfers from separate accounts	1,125	3,014	(1,889)	(63)
Net receipts from group annuity reserves assumed	1,007	645	362	56
Commissions and other expenses	(2,857)	(2,618)	(239)	(9)
Dividends paid to policyholders	(1,112)	(1,096)	(16)	(1)
Federal and foreign income taxes recovered (paid)	230	(51)	281	551
Net cash from operations	5,087	5,086	1	-%
Cash from investments:				
Proceeds from investments sold, matured or repaid:				
Bonds	13,181	14,990	(1,809)	(12)
Preferred and common stocks – unaffiliated	489	344	145	42
Common stocks – affiliated	915	115	800	696
Mortgage loans	2,113	2,183	(70)	(3)
Real estate	276	225	51	23
Partnerships and limited liability companies	1,643	1,429	214	15
Derivatives	287	6	281	NM
Other	(569)	(362)	(207)	(57)
Total investment proceeds	18,335	18,930	(595)	(3)
Cost of investments acquired:				
Bonds	(19,639)	(19,428)	(211)	(1)
Preferred and common stocks – unaffiliated	(270)	(752)	482	64
Common stocks – affiliated	(541)	(132)	(409)	(310)
Mortgage loans	(2,993)	(3,264)	271	8
Real estate	(20)	(189)	169	89
Partnerships and limited liability companies	(1,384)	(979)	(405)	(41)
Derivatives	(615)	(442)	(173)	-
Other	403	55	348	633
Total investments acquired	(25,059)	(25,131)	72	-%
Net increase in policy loans	(728)	(680)	(48)	(7)
Net cash from investing activities	(7,452)	(6,881)	(571)	(8)
Cash from financing and miscellaneous sources:				
Net (withdrawals) deposits on deposit-type contracts	(254)	1,358	(1,612)	(119)
Net cash provided by surplus notes	-	36	(36)	(100)
Change in repurchase agreements	628	(483)	1,111	230
Change in collateral	(657)	(193)	(464)	(240)
Other cash provided (used)	758	(153)	911	596
Net cash from financing and miscellaneous sources	475	565	(90)	(16)
Net change in cash, cash equivalents and short-term investments	(1,890)	(1,230)	(660)	(54)
Cash, cash equivalents and short-term investments:				
Beginning of year	3,580	3,726	(146)	(4)
End of period	$ 1,690	$ 2,496	$ (806)	(32)%

1. Nature of operations

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

MMFA is a sales force that includes financial advisors that operate in the U.S. MMFA sells individual life, individual annuities and disability insurance. The Company's DTC distribution channel sells individual life and supplemental health insurance primarily through direct response television advertising, digital media, search engine optimization and search engine marketing. The Company's IS distribution channel sells group annuities, group life and GICs primarily through retirement advisory firms, actuarial consulting firms, investment banks, insurance benefit advisors and investment management companies. The Company's WS distribution channel sells group life insurance and annuity products as well as individual life insurance, critical illness and long term care products distributed through investment advisors.

2. Summary of significant accounting policies

a. Basis of presentation

The condensed 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).

The condensed statutory financial statements and notes as of September 30, 2018 and December 31, 2017, and for the nine months ended September 30, 2018 and 2017, are unaudited. These condensed 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 statutory financial statements and notes should be read in conjunction with the statutory financial statements and notes thereto included in the Company's 2017 audited yearend financial statements as these condensed statutory financial statements disclose only significant changes from yearend 2017. The results of operations for the interim periods should not be considered indicative of results to be expected for the full year. The Condensed Statutory Statement of Financial Position as of December 31, 2017 has been derived from the audited 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 Statutory Financial Statements included in the Company's 2017 audited yearend financial statements.

b. Common stocks – subsidiaries and affiliates

Common stocks of unconsolidated subsidiaries, primarily C.M. Life Insurance Company, MML Bay State Life Insurance Company, MassMutual Holding LLC (MMHLLC) and MassMutual International LLC (MMI), are accounted for using the statutory equity method. The Company accounts for the value of MMHLLC and MMI at its underlying United States (U.S.) generally accepted accounting principles (U.S. GAAP) equity value adjusted to remove certain nonadmitted and intangible assets. MMHLLC's value is also adjusted by a portion of its noncontrolling interests (NCI) 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 $2.8 billion as of September 30, 2018 and $2.7 billion as of December 31, 2017. Operating results, less dividends declared, for MMHLLC are reflected as net unrealized capital gains (losses) in the Statutory Statements of Changes in Surplus. Dividends declared from MMHLLC are recorded in net investment income when declared 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 5b. "Common stocks – subsidiaries and affiliates"* for further information on the valuation of MMHLLC and MMI.

3. New accounting standards

Adoption of new accounting standards

In June 2016, the NAIC adopted substantive revisions to Statements of Statutory Accounting Principles (SSAP) No. 51R, *Life Contracts*, to incorporate references to the Valuation Manual and to facilitate the implementation of principles-based reserving (PBR), which were effective on January 1, 2017. The adoption of PBR only applies to new life insurance policies issued after January 1, 2017, however the Company plans to adopt these revisions to SSAP No. 51R using the 3-year phased in approach by no later than January 1, 2020. The Company currently uses formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company will be required to 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. The Company is currently assessing the impact of these modifications on the Company's financial statements.

In January 2017, the NAIC adopted modifications to SSAP No. 86, *Derivatives*, which were effective January 1, 2018. The modifications maintain gross reporting of derivative variation margin as a separate unit of account, rather than characterizing as a legal settlement with mark-to-market changes recorded in surplus. Regarding exchange traded futures, these modifications further clarified that variation margin and mark-to-market changes should be recorded in the same manner as all other derivative instruments. Starting in 2018, the Company records mark-to-market gains and losses from exchange traded futures as unrealized gains or losses instead of realized gains or losses and grosses up the derivatives and collateral line items on its financial statements. These modifications did not impact total surplus and did not have a material impact on the Company's financial statements.

In April 2017, the NAIC adopted modifications to SSAP No. 69, *Statement of Cash Flows*, to adopt Accounting Standards Update (ASU) No. 2016-15, *Classification of Certain Cash Receipts and Cash Payments*, in its entirety, effective January 1, 2018 on a retrospective basis. In June 2017, the NAIC adopted additional modifications to SSAP No. 69 to incorporate portions of ASU No. 2016-18, *Restricted Cash*, effective December 31, 2019 with early adoption permitted. The initial modifications address the classification and disclosure of certain items within the statements of cash flows. Upon adoption, proceeds from the settlement of the Company's corporate owned life insurance policies were classified as investing activities instead of operating activities. Additionally, the Company elected to apply the nature of distribution approach to subsidiary, controlled or affiliated equity method investments and the cumulative earnings approach to all other equity method investments in determining whether distributions received from equity method investees are returns on investment, recorded as operating activities, or returns of investment, recorded as investing activities. Effective January 1, 2018, the Company early adopted on a retrospective basis the second modification by adding restricted cash, cash equivalents and short-term investments to the existing statutory disclosure requirements, which are defined in SSAP No. 1, *Accounting Policies, Risks & Uncertainties and Other Disclosures*. Although the adoption of these modifications required reclassification between investing and operating cash flows, they did not have a material impact on the Company's financial statements.

In October 2017, the NAIC adopted revisions to SSAP No. 68, *Business Combinations and Goodwill*, to include information about impairment triggering events that previously existed in SSAP No. 90, *Impairment or Disposal of Real Estate Investments,* to ensure that the impairment process is discussed in its entirety within SSAP No. 68. Specifically the NAIC modified paragraph 8 of SSAP No. 68 to include information about impairment triggering events affecting long-lived assets which include; a) a significant decrease in its fair value, b) a significant adverse change in the extent or manner in which the asset is being utilized, c) a significant adverse change in legal factors or in the business climate that could potentially affect its value, d) an accumulation of costs that significantly exceed the amount originally anticipated for acquisition or construction, e) a current period operating or cash flow loss combined with a history of operating or cash flow losses, or a projection or forecast demonstrating continuous loss associated with its use, and f) a current expectation that, more likely than not, the asset will be sold or disposed of before the end of its estimated useful life. The Company continues to assess goodwill impairment in accordance with the revisions to SSAP No. 68. The adoption of the revisions did not have a material effect on the Company's financial statements.

In November 2017, the NAIC adopted modifications to SSAP No. 100R, *Fair Value*, allowing net asset value (NAV) per share as a practical expedient to fair value, either when specifically named in a SSAP or when the investee qualifies as an investment company, which were effective January 1, 2018. These modifications adopted, with modification, applicable U.S. GAAP, allowing greater consistency with Financial Accounting Standards Board's allowable use of NAV. These modifications also included the U.S. GAAP requirement to report instruments measured at NAV as a practical expedient outside of the fair value hierarchy disclosure as a separate item, along with a description of the terms and conditions of redemption features, amounts of unfunded commitments, restrictions to sell, and various other items. As a result of these modifications, the NAIC issued SSAP No. 100R, *Fair Value*. The adoption of these modifications did not have an impact on the Company's financial statements.

In November 2017, the NAIC adopted modifications to SSAP No. 97, *Investments in Subsidiary, Controlled and Affiliated Entities*, for SCA (Subsidiary and Controlled Affiliate) loss tracking and filing deadlines, which are effective December 31, 2018. The modifications add a loss-tracking disclosure for inclusion in yearend financials, which will track the losses beginning when the SCA's equity value falls below zero and will remain as long as the SCA's equity value remains in a deficit position and through the first year in which the equity position becomes positive. The modifications further clarify the SCA filing deadlines that have extended the Sub-1 filings from a 30-day to a 90-day timeframe and the Sub 2 from a June 30th deadline to an August 31st deadline. For SCA filings that regularly occur after the August 31st deadline, the filing is due one month after the audit date. The Company has adopted these modifications and currently has very few SCA's in a loss position.

In February 2018, the NAIC adopted modifications to SSAP No. 9, *Subsequent Events*, and SSAP No. 101, *Income Taxes*, to temporarily allow any revised tax calculations resulting from the Tax Cuts and Job Act that occurred after statutory filing, to be classified as changes in estimate, thus avoiding classification as Type 1 subsequent events. Under SSAP No. 9, reporting entities are generally required to amend their filed statutory financial statements in their domestic state to ensure that the statutory financial statements and the audited financial statements are consistent if a Type 1 event is identified after the statutory financial statements are filed, but before the audited financial statements are issued. The adoption of this modification did not materially impact the Company's financial statements.

In February 2018, the NAIC adopted modifications to SSAP No. 92, *Pensions,* and SSAP No. 102, *Postretirement Benefits Other Than Pension*, to eliminate the reconciliation of level 3 pension plan assets from the Company's financial statement disclosures, which were effective March 24, 2018. This guidance further clarifies that detailed information regarding the reconciliation of the level 3 fair value categories of these assets is no longer required for statutory reporting purposes as the plan assets are not reported in the balance sheet of insurance entities. The Company has adopted these modifications.

4. 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, 2018				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(In Millions)				
Financial assets:					
Bonds:					
U. S. government and agencies	$ 5,895	$ 6,144	$ -	$ 6,143	$ 1
All other governments	1,387	1,397	-	1,330	67
States, territories and possessions	604	637	-	637	-
Political subdivisions	545	561	-	561	-
Special revenue	6,014	6,421	-	6,412	9
Industrial and miscellaneous	75,398	75,522	10	43,356	32,156
Parent, subsidiaries and affiliates	6,540	6,540	-	1,032	5,508
Preferred stocks	752	741	12	-	729
Common stocks - subsidiaries and affiliates	402	402	279	-	123
Common stocks - unaffiliated	1,031	1,031	728	-	303
Mortgage loans - commercial	21,904	21,915	-	-	21,915
Mortgage loans - residential	1,424	1,349	-	-	1,349
Derivatives:					
Interest rate swaps	7,174	7,213	-	7,213	-
Options	794	794	-	794	-
Currency swaps	487	487	-	487	-
Forward contracts	68	68	-	68	-
Credit default swaps	18	19	-	19	-
Interest rate caps and floors	10	10	-	10	-
Financial futures	7	7	-	7	-
Cash, cash equivalents and short-term investments	1,690	1,690	201	1,489	-
Separate account assets	70,839	70,839	46,989	23,237	613
Financial liabilities:					
Guaranteed interest contracts	8,642	8,440	-	-	8,440
Group annuity contracts and other deposits	17,803	17,890	-	-	17,890
Individual annuity contracts	5,968	6,998	-	-	6,998
Supplementary contracts	1,150	1,151	-	-	1,151
Repurchase agreements	4,831	4,831	-	4,831	-
Commercial paper	250	250	-	250	-
Derivatives:					
Interest rate swaps	4,787	5,071	-	5,071	-
Options	2	2	-	2	-
Currency swaps	450	450	-	450	-
Forward contracts	37	63	-	63	-
Credit default swaps	2	3	-	3	-
Financial futures	135	135	-	135	-

Common stocks – subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of $12,482 million.

	December 31, 2017				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(In Millions)				
Financial assets:					
Bonds:					
U. S. government and agencies	$ 7,149	$ 7,697	$ -	$ 7,696	$ 1
All other governments	1,181	1,269	-	1,200	69
States, territories and possessions	596	651	-	651	-
Political subdivisions	532	576	-	576	-
Special revenue	5,814	6,518	-	6,507	11
Industrial and miscellaneous	68,140	71,342	-	41,333	30,009
Parent, subsidiaries and affiliates	7,023	7,133	-	1,075	6,058
Preferred stocks	768	786	36	-	750
Common stocks - subsidiaries and affiliates	454	454	344	-	110
Common stocks - unaffiliated	1,212	1,212	901	-	311
Mortgage loans - commercial	20,777	21,301	-	-	21,301
Mortgage loans - residential	1,803	1,760	-	-	1,760
Derivatives:					
Interest rate swaps	7,684	8,269	-	8,269	-
Options	745	745	-	745	-
Currency swaps	386	386	-	385	1
Forward contracts	13	22	-	22	-
Credit default swaps	29	36	-	36	-
Cash, cash equivalents and short-term investments	3,580	3,580	218	3,362	-
Separate account assets	69,162	69,162	46,006	22,447	709
Financial liabilities:					
Guaranteed interest contracts	8,834	8,549	-	-	8,549
Group annuity contracts and other deposits	18,132	18,505	-	-	18,505
Individual annuity contracts	6,570	8,009	-	-	8,009
Supplementary contracts	1,167	1,168	-	-	1,168
Repurchase agreements	4,204	4,204	-	4,204	-
Commercial paper	250	250	-	250	-
Derivatives:					
Interest rate swaps	5,314	5,372	-	5,372	-
Options	7	7	-	7	-
Currency swaps	569	569	-	561	8
Forward contracts	88	88	-	88	-
Credit default swaps	1	1	-	1	-

Common stocks – subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of $13,970 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, 2018			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
Industrial and miscellaneous	$ 10	$ 37	$ 121	$ 168
Parent, subsidiaries and affiliates	-	66	58	124
Preferred stocks	-	-	1	1
Common stocks - subsidiaries and affiliates	279	-	123	402
Common stocks - unaffiliated	728	-	303	1,031
Derivatives:				
Interest rate swaps	-	7,174	-	7,174
Options	-	794	-	794
Currency swaps	-	487	-	487
Forward contracts	-	68	-	68
Interest rate caps and floors	-	10	-	10
Financial futures	-	6	-	6
Separate account assets	46,989	23,237	613	70,839
Total financial assets carried at fair value	$ 48,006	$ 31,879	$ 1,219	$ 81,104
Financial liabilities:				
Derivatives:				
Interest rate swaps	$ -	$ 4,787	$ -	$ 4,787
Options	-	2	-	2
Currency swaps	-	450	-	450
Forward contracts	-	37	-	37
Financial futures	-	134	-	134
Total financial liabilities carried at fair value	$ -	$ 5,410	$ -	$ 5,410

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

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
Special revenue	$ -	$ 6	$ -	$ 6
Industrial and miscellaneous	-	11	55	66
Parent, subsidiaries and affiliates	-	18	61	79
Preferred stocks	3	-	2	5
Common stocks - subsidiaries and affiliates	344	-	110	454
Common stocks - unaffiliated	901	-	311	1,212
Cash equivalents and short-term investments				
Derivatives:				
Interest rate swaps	-	7,684	-	7,684
Options	-	745	-	745
Currency swaps	-	385	1	386
Forward contracts	-	13	-	13
Separate account assets	46,006	22,447	709	69,162
Total financial assets carried at fair value	$ 47,254	$ 31,309	$ 1,249	$ 79,812
Financial liabilities:				
Derivatives:				
Interest rate swaps	$ -	$ 5,314	$ -	$ 5,314
Options	-	7	-	7
Currency swaps	-	561	8	569
Forward contracts	-	88	-	88
Total financial liabilities carried at fair value	$ -	$ 5,970	$ 8	$ 5,978

For the year ended December 31, 2017, $298 million of unaffiliated common stock were transferred from Level 2 to Level 1.

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

	Balance as of 1/1/18	Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Transfers In	Transfers Out	Other	Balance as of 9/30/18
	(In Millions)										
Financial assets:											
Bonds:											
Industrial and miscellaneous	$ 55	$ (27)	$ (5)	$ -	$ 4	$ -	$ (1)	$ -	$ -	$ 95	$ 121
Parent, subsidiaries, and affiliates	61	-	(3)	-	-	-	-	-	-	-	58
Preferred stocks	2	-	-	-	1	-	-	-	-	(2)	1
Common stocks - subsidiaries and affiliates	110	-	3		4	-		9	-	(3)	123
Common stocks - unaffiliated	311	2	1	16	-	-	(27)	-	-	-	303
Derivatives:											
Currency swaps	1	-	-	-	-	-	-	(1)	-	-	-
Separate account assets	709	39	-	92	-	(227)	-	-	-	-	613
Total financial assets	$ 1,249	$ 14	$ (4)	$ 108	$ 9	$ (227)	$ (28)	$ 8	$ -	$ 90	$ 1,219
Financial liabilities											
Derivatives:											
Currency swaps	$ 8	$ -	$ -	$ -	$ -	$ -	$ -	$ (8)	$ -	$ -	$ -

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 in other transfers are assets that are no longer carried at fair value.

	Balance as of 1/1/17	Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Transfers In	Transfers Out	Other	Balance as of 12/31/17
	(In Millions)										
Financial assets:											
Bonds:											
Industrial and miscellaneous	$ 57	$ 1	$ (4)	$ -	$ -	$ -	$ (4)	$ -	$ (8)	$ 13	$ 55
Parent, subsidiaries, and affiliates	52	-	9	-	-	-	-	-	-	-	61
Preferred stocks	3	-	-	1	-	-	-	-	-	(2)	2
Common stocks - subsidiaries and affiliates	63	-	13	-	46	-	(11)	-	-	(1)	110
Common stocks - unaffiliated	189	(6)	30	38	-	(8)	(3)	75	(6)	2	311
Derivatives:											
Currency swaps	-	-	(5)	-	-	-	-	6	-	-	1
Separate account assets	738	55	-	72	-	(150)	(1)	-	(5)	-	709
Total financial assets	$ 1,102	$ 50	$ 43	$ 111	$ 46	$ (158)	$ (19)	$ 81	$ (19)	$ 12	$ 1,249
Financial liabilities											
Derivatives:											
Currency swaps	$ -	$ -	$ 4	$ -	$ -	$ -	$ -	$ 4	$ -	$ -	$ 8

Level 3 transfers in are assets that are consistently carried at fair value but have had a level change. Common stocks unaffiliated assets were transferred from Level 2 to Level 3 due to a change in the observability of pricing inputs, at the beginning fair value for the reporting period.

5. Investments

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

a. Bonds

As of September 30, 2018, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of $7.6 billion. Securities in an unrealized loss position for less than 12 months had a fair value of $6.2 billion and unrealized losses of $66 million. Securities in an unrealized loss position for greater than 12 months had a fair value of $1.4 billion and unrealized losses of $55 million. These securities were primarily categorized as industrial and miscellaneous or parent, subsidiaries and affiliates.

As of December 31, 2017, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of $3.2 billion. Securities in an unrealized loss position for less than 12 months had a fair value of $1.5 billion and unrealized losses of $18 million. Securities in an unrealized loss position for greater than 12 months had a fair value of $1.7 billion and unrealized losses of $49 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, 2018 or for the year ended December 31, 2017, that were reacquired within 30 days of the sale date.

Residential mortgage-backed exposure

Residential mortgage-backed securities (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, 2018, RMBS had a total carrying value of $1.4 billion and a fair value of $1.5 billion, of which approximately 19%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of $492 million and a fair value of $589 million. As of December 31, 2017, RMBS had a total carrying value of $1.5 billion and a fair value of $1.6 billion, of which approximately 21%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of $566 million and a fair value of $687 million.

b. Common stocks – subsidiaries and affiliates

In August 2017, MMI entered into an agreement to sell MassMutual Asia Limited (MM Asia) to Yunfeng Financial Group (Yunfeng FG). The sale is expected to close in 2018, subject to regulatory approval and customary closing conditions. Under the terms of the agreement, MMI will receive cash of $1.0 billion and Yunfeng FG shares valued at approximately $384 million as of September 30, 2018. On the closing date, the agreement also requires MM Asia to have a Solvency Margin Ratio at a certain level, MMI has made a capital contribution to MM Asia in order to meet this capital level.

In March, 2018, MassMutual and MMI entered into an agreement to sell 85.1% of MassMutual Life Insurance Company in Japan (MM Japan), a wholly-owned life insurance and wealth management subsidiary of MMI, to Nippon Life Insurance Co. MMI estimated the fair value of the retained portion of MM Japan based upon the agreed selling

price of the sold portion of MM Japan with the buyer. The sale of MM Japan closed in May 2018. MMI received $960 million in cash proceeds from the sale.

The amount of the proceeds from the sale of MM Japan and anticipated proceeds from the sale of MM Asia is expected to be less than MMI's book value. As such, MMI's book value was reduced to an estimated fair value of $2.7 billion and an impairment of $1.3 billion was recorded in net realized capital gains (losses). The impairment reduced MassMutual's asset valuation reserve by approximately $900 million, resulting in approximately a $300 million net decrease to surplus, net of a tax benefit of $103 million. Any additional gain or loss on disposal will be realized when the MM Asia sale is finalized.

MassMutual contributed additional capital of $204 million to MMI during the nine months ended September 30, 2018 and contributed additional capital of $20 million during the nine months ended September 30, 2017.

During the nine months ended September 30, 2018, MassMutual received $858 million as a return of capital from MMI.

MMHLLC paid $250 million in dividends during the nine months ended September 30, 2018 and $424 million during the nine months ended September 30, 2017.

MassMutual contributed additional capital of $371 million to MMHLLC during the nine months ended September 30, 2018 and $135 million during the nine months ended September 30, 2017.

Subsidiaries of MMHLLC and MMI 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 could 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 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 or a participant or co-lender in a mortgage loan agreement 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, 2018		December 31, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
	(In Millions)			
Commercial mortgage loans:				
Primary lender	$ 21,835	$ 21,846	$ 20,729	$ 21,253
Mezzanine loans	69	69	48	48
Total commercial mortgage loans	21,904	21,915	20,777	21,301
Residential mortgage loans:				
FHA insured and VA guaranteed	1,420	1,345	1,799	1,756
Other residential loans	4	4	4	4
Total residential mortgage loans	1,424	1,349	1,803	1,760
Total mortgage loans	$ 23,328	$ 23,264	$ 22,580	$ 23,061

As of September 30, 2018, the loan-to-value ratios of 99% of the Company's commercial mortgage loans were less than 81%.

As of September 30, 2018 and 2017, the Company had no impaired mortgage loans with or without a valuation allowance or mortgage loans derecognized as a result of foreclosure, including mortgage loans subject to a participant or co-lender mortgage loan agreement with a unilateral mortgage loan foreclosure restriction.

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

	Nine Months Ended September 30,	
	2018	2017
	Primary Lender	
	(In Millions)	
Beginning balance	$ -	$ (3)
Decreases	-	3
Ending balance	$ -	$ -

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 and foreign currency exposure or to create an investment in a particular asset. The Company held synthetic investments with a notional amount of $13.4 billion as of September 30, 2018 and $13.1 billion as of December 31, 2017. These notional amounts included replicated asset transaction values of $11.4 billion as of September 30, 2018 and $11.5 billion as of December 31, 2017, as defined under statutory accounting practices as the result of pairing of a long derivative contract with cash instruments.

The Company’s principal derivative exposures to market risk are interest rate risk, which includes inflation and credit risk. Interest rate risk pertains to the change in fair value of the derivative instruments as a result of changes in market

interest rates. The Company is exposed to credit-related losses in the event of nonperformance by counterparties to derivative financial instruments. The Company regularly monitors counterparty credit ratings, derivative positions, valuations and the value of collateral posted to ensure counterparties are credit-worthy and the concentration of exposure is minimized, and monitors its derivative credit exposure as part of its overall risk management program.

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

Net collateral pledged by the counterparties was $1.3 billion as of September 30, 2018 and $2.5 billion as of December 31, 2017. In the event of default, the full market value exposure at risk in a net gain position, net of offsets and collateral, was $205 million as of September 30, 2018 and $115 million as of December 31, 2017. The statutory net amount at risk, defined as net collateral pledged and statement values excluding accrued interest, was $804 million as of September 30, 2018 and $595 million as of December 31, 2017.

The Company had the right to rehypothecate or repledge securities totaling $407 million of the $1.3 billion as of September 30, 2018 and $635 million of the $2.5 billion as of December 31, 2017 of net collateral pledged by counterparties. There were no securities rehypothecated to other counterparties as of September 30, 2018 or December 31, 2017.

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

	September 30, 2018			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	$ 7,174	$ 92,891	$ 4,787	$ 77,353
Options	794	17,441	2	4
Currency swaps	487	6,331	450	5,929
Interest rate caps and floors	10	8,465	-	-
Forward contracts	68	4,702	37	5,452
Credit default swaps	18	1,035	2	99
Financial futures	7	291	135	2,890
Total	$ 8,558	$ 131,156	$ 5,413	$ 91,727

	December 31, 2017			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	$ 7,684	$ 77,193	$ 5,314	$ 86,754
Options	745	10,562	7	420
Currency swaps	386	4,308	569	6,405
Forward contracts	13	1,384	88	6,723
Credit default swaps	29	1,503	1	64
Financial futures	-	3,288	-	-
Total	$ 8,857	$ 98,238	$ 5,979	$ 100,366

The average fair value of outstanding derivative assets was $8.5 billion for the nine months ended September 30, 2018 and $9.3 billion for the nine months ended September 30, 2017. The average fair value of outstanding derivative liabilities was $5.6 billion for the nine months ended September 30, 2018 and $5.9 billion for the nine months ended September 30, 2017.

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

	September 2018	December 31, 2017
	(In Millions)	
Due in one year or less	$ 20	$ -
Due after one year through five years	9	1,567
Due after five years through ten years	1,105	-
Total	$ 1,134	$ 1,567

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,			
	2018		2017	
	Net Realized Gains 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	$ (90)	$ 15	$ (190)	$ 22
Currency swaps	20	218	63	(701)
Options	(118)	18	(124)	(94)
Credit default swaps	12	2	22	1
Interest rate caps and floors	(3)	(2)	-	-
Forward contracts	86	108	(154)	(44)
Financial futures	(200)	(128)	85	-
Total	$ (293)	$ 231	$ (298)	$ (816)

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

	September 30, 2018			December 31, 2017		
	Derivative Assets	Derivative Liabilities	Net	Derivative Assets	Derivative Liabilities	Net
	(In Millions)					
Gross	$ 8,558	$ 5,413	$ 3,145	$ 8,857	$ 5,979	$ 2,878
Due and accrued	763	1,962	(1,199)	867	1,781	(914)
Gross amounts offset	(6,703)	(6,703)	-	(6,936)	(6,936)	-
Net asset	2,618	672	1,946	2,788	824	1,964
Collateral posted	(2,408)	(1,132)	(1,276)	(3,296)	(803)	(2,493)
Net	$ 210	$ (460)	$ 670	$ (508)	$ 21	$ (529)

e. Net investment income

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

	Nine Months Ended September 30,	
	2018	2017
	(In Millions)	
Bonds	$ 3,017	$ 2,732
Preferred stocks	27	9
Common stocks - subsidiaries and affiliates	258	435
Common stocks - unaffiliated	33	31
Mortgage loans	743	700
Policy loans	633	590
Real estate	81	129
Partnerships and LLCs	686	527
Derivatives	237	225
Cash, cash equivalents and short-term investments	54	28
Other	6	4
Subtotal investment income	5,775	5,410
Amortization of the IMR	59	89
Investment expenses	(530)	(479)
Net investment income	$ 5,304	$ 5,020

f. Net realized capital (losses) gains

Net realized capital losses, which include other-than-temporary impairments (OTTI) and are net of deferral to the IMR, comprised the following:

	Nine Months Ended September 30,	
	2018	2017
	(In Millions)	
Bonds	$ (106)	$ (68)
Common stocks - subsidiaries and affiliates	(1,259)	9
Common stocks - unaffiliated	72	(21)
Mortgage loans	(2)	(13)
Real estate	168	84
Partnerships and LLCs	(41)	(75)
Derivatives	(293)	(298)
Other	(26)	(183)
Net realized capital (losses) before federal and state taxes and deferral to the IMR	(1,487)	(565)
Net federal and state tax benefit	7	135
Net realized capital (losses) before deferral to the IMR	(1,480)	(430)
Net after tax losses deferred to the IMR	196	16
Net realized capital (losses)	$ (1,284)	$ (414)

IMR had an asset balance of $369 million as of September 30, 2018 and $112 million as of December 31, 2017, which was nonadmitted. Refer to *Note 14. "Surplus notes"* for information on the other realized capital loss.

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

	Nine Months Ended September 30,	
	2018	2017
	(In Millions)	
Bonds	$ (68)	$ (36)
Common stocks- subsidiaries and affiliates	(1,258)	-
Common stocks - unaffiliated	(12)	(59)
Partnerships and LLCs	(45)	(44)
Total OTTI	$ (1,383)	$ (139)

The Company recognized OTTI of less than $1 million for the nine months ended September 30, 2018 and $1 million for the nine months ended September 30, 2017 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.

6. Federal income taxes

On December 22, 2017, the president signed into law H.R. 1/Public Law 115-97, commonly known as the Tax Cuts and Jobs Act. As of December 31, 2017, the Company recorded provisional tax amounts with respect to mandatory deemed repatriation of previously untaxed foreign earnings and the impact of a change in the method for computing deductions for life insurance reserves. As of September 30, 2018, the Company recorded an additional tax benefit of $1 million in the statement of operations related to mandatory deemed repatriation. Additionally, the Company revised its life insurance reserve transition adjustment. The Company initially recorded an increase of $487 million in its deferred tax asset as of 12/31/17 which was reduced by $46 million for the period. These amounts were fully offset by corresponding changes to the deferred tax liability related to the future taxable income to be spread over 8 years.

7. Other than invested assets

No significant changes.

8. Policyholders' liabilities

a. Liabilities for deposit-type contracts

On January 11, 2018, MassMutual issued a $500 million funding agreement with a 2.95% fixed rate and a 7-year maturity.

The Company evaluated the accounting for payout annuities and determined that certain contracts did not contain mortality risk, and therefore, should have been classified as a deposit-type contract rather than policyholder reserves. As a result, approximately $1.3 billion classified as policyholders' reserves as of December 31, 2017 were classified as liabilities for deposit-type contracts in 2018. Additionally, the related impacts within the Company's Statements of Operations and the Statements of Cash Flows reflect this classification. There were no corresponding differences in valuation, and as a result, there were no impacts to surplus or net income.

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 benefit guarantees 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, 2017	$ 651
Incurred guarantee benefits	(131)
Paid guarantee benefits	(8)
Liability as of December 31, 2017	512
Incurred guarantee benefits	(137)
Paid guarantee benefits	(4)
Liability as of September 30, 2018	$ 371

The Company held reserves in accordance with the stochastic scenarios as of September 30, 2018 and December 31, 2017. As of September 30, 2018 and December 31, 2017, 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, 2018			December 31, 2017		
	Account Value	Net Amount at Risk	Weighted Average Attained Age	Account Value	Net Amount at Risk	Weighted Average Attained Age
	($ In Millions)					
GMDB	$ 19,379	$ 30	64	$ 20,118	$ 25	64
GMIB Basic	835	36	68	910	37	68
GMIB Plus	3,035	467	67	3,210	416	66
GMAB	2,954	4	59	3,233	1	59
GMWB	184	12	70	204	7	69

As of September 30, 2018, the GMDB account value above consists of $3.9 billion within the general account and $15.5 billion within separate accounts that includes $4.5 billion of modified coinsurance assumed. As of December 31, 2017, the GMDB account value above consists of $4.1 billion within the general account and $16.1 billion within separate accounts that includes $4.7 billion of modified coinsurance assumed.

9. Reinsurance

A $27 million net loss was recorded for the recapture of certain yearly renewable term life reinsurance treaties, with $14 million recorded in premium income and $41 million recorded in policyholders' benefits.

10. Withdrawal characteristics

Refer to *Note 8. "Policyholders' liabilities"* for more information.

11. Debt

No significant changes.

12. Employee benefit plans

The Company sponsors multiple employee benefit plans, providing retirement, life, health and other benefits to employees, certain employees of unconsolidated subsidiaries, agents, general agents and retirees who meet plan eligibility requirements.

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 Statutory Statements of Operations. The net periodic cost recognized is as follows:

	Nine Months Ended September 30,			
	2018	2017	2018	2017
	Pension Benefits		Other Postretirement Benefits	
	(In Millions)			
Service cost	$ 85	$ 75	$ 10	$ 9
Interest cost	81	84	9	9
Expected return on plan assets	(129)	(110)	-	-
Amortization of unrecognized net actuarial and other losses	41	50	2	1
Amortization of unrecognized prior service cost	2	2	(4)	(4)
Total net periodic cost	$ 80	$ 101	$ 17	$ 15

13. Employee compensation plans

No significant changes.

14. Surplus notes

No significant changes.

15. Presentation of the Condensed 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, 2018 and 2017. Accordingly, the Company has excluded these non-cash activities from the Condensed Statutory Statements of Cash Flows for the nine months ended September 30, 2018 and 2017.

	Nine Months Ended September 30,	
	2018	2017
	(In Millions)	
Bond conversions and refinancing	$ 414	$ 404
Transfer of bonds to other invested assets	200	-
Partnerships and LLCs contributed to Insurance Road	188	663
Premium recognized for group annuity contracts	117	271
Transfer of mortgage loans to partnerships and LLCs	81	-
Bonds and common stock contributed to EM Opportunities LLC	74	
Stock conversion	62	93
Transfer of partnerships and LLCs to real estate	57	-
Dividend declared from Insurance Road LLC	40	-
Bank loan rollovers	49	-
Transfer of real estate to partnerships and LLCs	-	138
Transfer of affiliated common stock	-	103
Other invested assets to bonds	-	94
Bonds received as consideration for group annuity contracts	(117)	(271)
Other	56	140

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 statutory disclosure in the Company’s 2017 audited yearend 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 a portion of its 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, 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.

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, domestically or internationally, may directly or indirectly 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 management to utilize the mitigating actions described above to attempt to reduce the potential impact of each underlying risk factor on the Company.

b. Litigation and regulatory matters

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

The Company evaluates the need for accruals of loss contingencies for each matter. When a liability for a matter is probable and can be estimated, the Company accrues an estimate of the loss and any related insurance recoveries, if any. An accrual is subject to subsequent adjustment as a result of additional information and other developments. The resolution of matters are inherently difficult to predict, especially in the early stages of matter. Even if a loss is probable, due to many complex factors, such as speed of discovery and the timing of court decisions or rulings, a loss or range of loss may not be reasonably estimated until the later stages of the matter. For matters where a loss is material and it is either probable or reasonably possible then it is disclosed. For matters where a loss may be reasonably possible, but not probable, or is probable but not reasonably estimated, no accrual is established, but the matter, if material, is disclosed. The Company estimates that as of September 30, 2018, the aggregate range of reasonably possible losses is not material.

17. Related party transactions

Insurance Road LLC declared $151 million in dividends through the nine months ended September 30, 2018 and declared no dividends through the nine months ended September 30, 2017.

MassMutual received $300 million from Insurance Road LLC as return of capital as of September 30, 2018.

MassMutual contributed $100 million of capital to EM Opportunities LLC as of September 30, 2018.

18. Business combinations and goodwill

No significant changes.

19. Subsequent events

Management of the Company has evaluated subsequent events through November 12, 2018, the date the financial statements were available to be issued.

On October 18, 2018, MassMutual announced a strategic transaction in which Invesco Ltd. (Invesco), a global asset manager, will acquire MassMutual's retail asset management affiliate, OppenheimerFunds, Inc (OFI). In turn, MassMutual is expected to receive an approximate 15.5% common equity interest in the combined company, becoming Invesco's largest shareholder. Under the terms of the agreement, MassMutual and OFI employee shareholders will receive 81.9 million shares of Invesco common equity and $4.0 billion in preferred shares with a fixed dividend rate of 5.9%. As part of this transaction, Invesco and MassMutual will enter into a shareholder agreement in which MassMutual will have customary minority shareholder rights, including appointment of a director to Invesco's board of directors. Pending regulatory and other customary approvals, the transaction is expected to close in the second quarter of 2019.

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

20. Impairment listing for loan-backed and structured securities

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

Period Ended	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
September 30, 2018	$ 5,082,148.05	$ -	$ 5,082,148.05	$ 3,911,982.33	$ (1,170,165.72)	$ 3,911,982.33	$ 4,077,260.70
June 30, 2018	634,235.06	-	634,235.06	279,221.34	(355,013.72)	279,221.34	386,751.77
March 31, 2018	645,689.78	-	645,689.78	488,181.20	(157,508.58)	488,181.20	448,494.30
December 31, 2017	3,949,512.96	-	3,949,512.96	1,958,758.69	(1,990,754.27)	1,958,758.69	2,023,951.71
September 30, 2017	4,436,541.89	-	4,436,541.89	876,942.38	(3,559,599.51)	876,942.38	4,647,683.14
June 30, 2017	40,538,550.91	-	40,538,550.91	39,808,955.56	(729,595.35)	39,808,955.56	60,990,731.58
March 31, 2017	41,788,379.55	-	41,788,379.55	41,391,888.99	(396,490.56)	41,391,888.99	56,156,935.64
December 31, 2016	42,175,937.60	-	42,175,937.60	42,045,720.84	(130,216.76)	42,045,720.84	54,619,477.38
September 30, 2016	44,266,477.52	-	44,266,477.52	41,890,535.09	(2,375,942.43)	41,890,535.09	61,300,065.96
June 30, 2016	49,097,216.64	-	49,097,216.64	48,202,702.65	(894,513.99)	48,202,702.65	63,207,410.31
March 31, 2016	57,985,070.61	-	57,985,070.61	55,783,978.83	(2,201,091.78)	55,783,978.83	70,578,396.73
December 31, 2015	4,881,393.98	-	4,881,393.98	4,783,193.97	(98,200.01)	4,783,193.97	4,728,735.62
September 30, 2015	50,531,382.40	-	50,531,382.40	45,665,858.52	(4,865,523.88)	45,665,858.52	58,523,652.24
June 30, 2015	66,924,926.70	-	66,924,926.70	65,240,585.41	(1,684,341.29)	65,240,585.41	72,953,475.23
March 31, 2015	17,856,447.05	-	17,856,447.05	17,681,510.35	(174,936.70)	17,681,510.35	17,553,998.88
December 31, 2014	69,225,742.98	-	69,225,742.98	68,301,291.28	(924,451.70)	68,301,291.28	79,410,553.48
September 30, 2014	645,720.82	-	645,720.82	604,437.11	(41,283.71)	604,437.11	627,381.39
June 30, 2014	57,012,606.16	-	57,012,606.16	55,422,168.01	(1,590,438.15)	55,422,168.01	75,253,387.54
March 31, 2014	91,702,041.47	-	91,702,041.47	80,744,073.99	(10,957,967.48)	80,744,073.99	97,672,070.74
December 31, 2013	113,707,950.98	-	113,707,950.98	108,815,640.18	(4,892,310.80)	108,815,640.18	111,783,051.88
September 30, 2013	81,945,730.49	-	81,945,730.49	80,589,482.19	(1,356,248.30)	80,589,482.19	77,049,314.39
June 30, 2013	147,215,936.13	-	147,215,936.13	142,140,571.53	(5,075,364.60)	142,140,571.53	130,973,022.96
March 31, 2013	194,772,024.52	-	194,772,024.52	188,372,088.50	(6,399,936.02)	188,372,088.50	176,678,910.26
December 31, 2012	378,096,660.04	-	378,096,660.04	366,323,110.21	(11,773,549.83)	366,323,110.21	333,086,072.58
September 30, 2012	816,573,456.06	-	816,573,456.06	788,350,822.82	(28,222,633.24)	788,350,822.82	697,683,288.85
June 30, 2012	912,025,936.52	-	912,025,936.52	890,494,220.76	(21,531,715.76)	890,494,220.76	708,872,106.49
March 31, 2012	1,095,018,529.18	-	1,095,018,529.18	1,058,132,041.09	(36,886,488.09)	1,058,132,041.09	841,095,012.78
December 31, 2011	1,090,904,993.06	-	1,090,904,993.06	1,056,761,288.41	(34,143,704.65)	1,056,761,288.41	754,310,837.90
September 30, 2011	762,320,631.78	-	762,320,631.78	738,510,047.63	(23,810,584.15)	738,510,047.63	546,494,231.96
June 30, 2011	1,130,732,656.14	-	1,130,732,656.14	1,078,535,670.23	(52,196,985.91)	1,078,535,670.23	839,143,290.12
March 31, 2011	1,097,705,351.09	-	1,097,705,351.09	1,068,852,203.67	(28,853,147.42)	1,068,852,203.67	816,688,348.33
December 31, 2010	968,742,508.30	-	968,742,508.30	950,111,416.81	(18,631,091.49)	950,111,416.81	708,895,636.97
September 30, 2010	915,728,029.86	-	915,728,029.86	889,896,058.18	(25,831,971.68)	889,896,058.18	673,462,492.71
June 30, 2010	1,362,887,892.31	-	1,362,887,892.31	1,335,628,211.52	(27,259,680.79)	1,335,628,211.52	975,241,505.93
March 31, 2010	1,471,905,695.71	-	1,471,905,695.71	1,391,337,542.96	(80,568,152.75)	1,391,337,542.96	1,015,645,802.04
December 31, 2009	1,349,124,213.70	-	1,349,124,213.70	1,290,817,167.68	(58,307,046.02)	1,290,817,167.68	852,088,739.42
September 30, 2009	2,953,442,689.02	(106,853,708.32)	2,846,588,980.70	2,700,948,264.43	(145,640,716.27)	2,700,948,264.43	1,692,409,639.54
Totals		$ (106,853,708.32)			$ (645,679,363.36)		

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

CUSIP	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
05535DCF9	3,453,726.18	-	3,453,726.18	3,140,349.14	(313,377.04)	3,140,349.14	3,134,408.50
07384YPP5	321,556.38	-	321,556.38	148,611.62	(172,944.76)	148,611.62	132,968.16
07386HCP4	2,163.59	-	2,163.59	(6,254.50)	(8,418.09)	(6,254.50)	319.65

07386HEN7	-	-	-	(41,376.61)	(41,376.61)	(41,376.61)	-
59020UW43	329,155.30	-	329,155.30	263,109.21	(66,046.09)	263,109.21	330,939.34
76110H4M8	6,593.79	-	6,593.79	(3,719.10)	(10,312.89)	(3,719.10)	641.34
79548KXQ6	467,479.73	-	467,479.73	383,144.69	(84,335.04)	383,144.69	292,014.50
863579DV7	289,784.43	-	289,784.43	5,695.92	(284,088.51)	5,695.92	28,208.93
45660NZY4	100,127.55	-	100,127.55	28,466.26	(71,661.29)	28,466.26	30,813.47
86359ACG6	(6,046.01)	-	(6,046.01)	(6,044.30)	1.71	(6,044.30)	1.70
939336Z48	117,607.11	-	117,607.11	-	(117,607.11)	-	126,945.11
Totals	5,082,148.05	-	5,082,148.05	3,911,982.33	(1,170,165.72)	3,911,982.33	4,077,260.70

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

CUSIP	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
59020UW43	337,731.70	-	337,731.70	271,685.61	(66,046.09)	271,685.61	354,508.08
76110H4M8	6,848.04	-	6,848.04	1,968.92	(4,879.12)	1,968.92	1,712.76
863579DV7	289,655.32	-	289,655.32	5,566.81	(284,088.51)	5,566.81	30,530.93
Totals	$ 634,235.06	$ -	$ 634,235.06	$ 279,221.34	$ (355,013.72)	$ 279,221.34	$ 386,751.77

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

CUSIP	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
07386HEN7	43,710.61	-	43,710.61	2,334.00	(41,376.61)	2,334.00	1,609.02
79548KXQ6	520,763.81	-	520,763.81	476,293.13	(44,470.68)	476,293.13	365,994.20
45660NZY4	81,215.36	-	81,215.36	9,554.07	(71,661.29)	9,554.07	80,891.08
Totals	$ 645,689.78	$ -	$ 645,689.78	$ 488,181.20	$ (157,508.58)	$ 488,181.20	$ 448,494.30