MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

INTERIM STATUTORY FINANCIAL STATEMENTS

As of September 30, 2024 and December 31, 2023 and for the nine months ended
September 30, 2024 and 2023

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

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

	September 30, 2024	December 31, 2023
	(In Millions)	
Assets:		
Bonds	$ 163,444	$ 144,433
Preferred stocks	585	446
Common stocks – subsidiaries and affiliates	26,102	25,496
Common stocks – unaffiliated	2,199	1,623
Mortgage loans	24,109	24,021
Policy loans	17,298	15,897
Real estate	310	329
Partnerships and limited liability companies	14,308	12,907
Derivatives	20,094	20,740
Cash, cash equivalents and short-term investments	6,965	11,134
Other invested assets	2,710	2,401
Total invested assets	278,124	259,427
Investment income due and accrued	4,711	5,236
Federal income taxes	528	280
Net deferred income taxes	1,761	1,660
Other than invested assets	5,902	5,670
Total assets excluding separate accounts	291,026	272,273
Separate account assets	51,649	52,593
Total assets	$ 342,675	$ 324,866
Liabilities and Surplus:		
Policyholders' reserves	$ 175,864	$ 167,250
Liabilities for deposit-type contracts	21,427	19,645
Contract claims and other benefits	630	714
Policyholders' dividends	2,250	2,150
General expenses due or accrued	984	1,049
Asset valuation reserve	6,720	5,989
Repurchase agreements	3,670	3,219
Debt	499	50
Collateral	1,514	2,073
Derivatives	13,660	13,734
Funds held under coinsurance	28,096	22,520
Other liabilities	7,435	5,141
Total liabilities excluding separate accounts	262,749	243,534
Separate account liabilities	51,503	52,455
Total liabilities	314,252	295,989
Surplus	28,423	28,877
Total liabilities and surplus	$ 342,675	$ 324,866

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

	Nine Months Ended September 30, 2024	Nine Months Ended September 30, 2023
	($ In Millions)	
Revenue:		
Premium income	$ 16,515	$ 16,329
Net investment income	7,979	7,711
Fees and other income	956	730
Total revenue	25,450	24,770
Benefits, expenses and other deductions:		
Policyholders' benefits	12,851	13,808
Change in policyholders' reserves	7,117	5,584
General insurance expenses	1,733	1,675
Commissions	1,087	1,003
State taxes, licenses and fees	264	247
Other deductions	701	926
Total benefits, expenses and other deductions	23,753	23,243
Net gain from operations before dividends and federal income taxes	1,697	1,527
Dividends to policyholders	1,554	1,408
Net gain from operations before federal income taxes	143	119
Federal income tax (benefit) expense	(26)	133
Net gain (loss) from operations	169	(14)
Net realized capital losses	(636)	(387)
Net loss	$ (467)	$ (401)

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY
INTERIM STATUTORY STATEMENTS OF CHANGE IN SURPLUS
(UNAUDITED)

	Nine Months Ended September 30, 2024	Nine Months Ended September 30, 2023
	(In Millions)	
Surplus, beginning of year	$ 28,877	$ 27,941
Net increase (decrease) due to:		
Net loss	(467)	(401)
Change in net unrealized capital gains, net of tax	659	374
Change in net unrealized foreign exchange capital gains, net of tax	300	(27)
Change in other net deferred income taxes	148	285
Change in nonadmitted assets	137	533
Change in asset valuation reserve	(731)	181
Change in surplus notes	(53)	(25)
Change in minimum pension liability	5	-
Prior period adjustments	(288)	81
Other	(164)	87
Net (decrease) increase	(454)	1,088
Surplus, end of period	$ 28,423	$ 29,029

See accompanying notes to interim statutory financial statements

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

	Nine Months Ended September 30, 2024	2023
	(In Millions)	
Cash from operations:		
Premium and other income collected	$ 18,278	$ 17,348
Net investment income	7,958	8,917
Benefit payments	(12,704)	(13,663)
Net transfers from separate accounts	1,470	1,096
Commissions and other expenses	(3,562)	(3,744)
Dividends paid to policyholders	(1,461)	(1,315)
Federal and foreign income taxes recovered	3	36
Net cash provided from operations	9,982	8,675
Cash from investments:		
Proceeds from investments sold, matured or repaid:		
Bonds	29,047	17,485
Preferred and common stocks – unaffiliated	198	152
Common stocks – affiliated	80	1
Mortgage loans	2,588	2,446
Real estate	(2)	5
Partnerships and limited liability companies	953	1,214
Derivatives	(559)	(295)
Other	(292)	(959)
Total investment proceeds	32,013	20,049
Cost of investments acquired:		
Bonds	(46,471)	(22,374)
Preferred and common stocks – unaffiliated	(557)	(253)
Common stocks – affiliated	(290)	(211)
Mortgage loans	(2,861)	(1,744)
Real estate	(1)	(6)
Partnerships and limited liability companies	(2,207)	(2,048)
Derivatives	284	(76)
Other	772	192
Total investments acquired	(51,331)	(26,520)
Net (increase) decrease in policy loans	(1,402)	1,632
Net cash used in investing activities	(20,720)	(4,839)
Cash from financing and miscellaneous sources:		
Net deposits on deposit-type contracts	1,377	837
Net cash provided by surplus notes	(50)	(25)
Change in repurchase agreements	456	103
Change in collateral	(499)	(1,723)
Other cash provided (used)	5,285	(1,690)
Net cash provided from financing and miscellaneous sources	6,569	(2,498)
Net change in cash, cash equivalents and short-term investments	(4,169)	1,338
Cash, cash equivalents and short-term investments:		
Beginning of year	11,134	5,568
End of period	$ 6,965	$ 6,906

1. Nature of operations

Massachusetts Mutual Life Insurance Company (MassMutual or 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 (DI), individual and group annuities and guaranteed interest contracts (GIC) 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), MassMutual Strategic Distributors (MMSD), Institutional Solutions (IS) and Worksite distribution channels.

The affiliated distribution channel is a sales force of financial professionals that operate in the U.S. The affiliated distribution channel sells individual life, individual annuities, hybrid life and long term care (LTC) and DI. The Company’s MMSD channel sells life insurance, disability, annuity, and hybrid life and LTC solutions through a network of third-party distribution partners. The Company’s IS distribution channel places group annuities, life insurance and GIC primarily through retirement advisory firms, actuarial consulting firms, investment banks, insurance benefit advisors and investment management companies. The Company’s Worksite channel works with advisors and employers across the country to provide American workers with voluntary and executive benefits such as group whole life, critical illness, accident insurance and DI, through the workplace.

2. Summary of significant accounting policies

a. Basis of presentation

The interim 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 interim statutory financial statements and notes as of September 30, 2024 and December 31, 2023, and for the nine months ended September 30, 2024 and 2023, are unaudited. The Interim Statutory Statement of Financial Position as of December 31, 2023 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. These interim 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 interim statutory financial statements and notes should be read in conjunction with the statutory financial statements and notes thereto included in the Company’s 2023 audited yearend financial statements as these interim statutory financial statements disclose only significant changes from yearend 2023. The results of operations for the interim periods should not be considered indicative of results to be expected for the full year.

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 2023 audited yearend financial statements.

b. Corrections of errors and reclassification

For the nine months ended September 30, 2024, corrections of prior years' errors were recorded in surplus, net of tax:

	Nine Months Ended September 30, 2024 Increase (Decrease) to:		
	Prior Years' Net Income	Current Year Surplus	Asset or Liability Balances
	(In Millions)		
Investment income due and accrued	$ (123)	$ (123)	$ (123)
Other Liabilities	(85)	(85)	85
Bonds	(77)	(77)	(77)
Common stocks	(1)	(1)	(1)
Cash, cash equivalents and short-term investments	16	16	16
Policyholders' reserves	(15)	(15)	(15)
Partnerships and limited liability companies	(3)	(3)	(3)
Total	$ (288)	$ (288)	

c. Common stocks – subsidiaries and affiliates

Common stocks of unconsolidated subsidiaries, primarily C.M. Life Insurance Company, MML Bay State Life Insurance Company, MMHLLC, Glidepath Holdings Inc. (Glidepath) and MM Investment Holding (MMIH), are accounted for using the statutory equity method. The Company accounts for the value of MMHLLC at its underlying U.S. generally accepted accounting principles (U.S. GAAP) equity value less adjustments for the limited statutory basis of accounting related to foreign insurance subsidiaries and controlled affiliates entities as well as an adjustment of $519 million as of September 30, 2024 for a portion of its noncontrolling interests. Glidepath is valued on its underlying GAAP equity with adjustment to recognize its investment in MassMutual Ascend Life Insurance Company (formerly known as Great American Life Insurance Company) and other subsidiaries and affiliated entities (MM Ascend) based on MM Ascend's underlying statutory surplus, adjusted for any unamortized goodwill that would have been recognized under the statutory purchase method. Operating results, less dividends declared, for MMHLLC, Glidepath and MMIH are reflected as net unrealized capital gains in the Statutory Statements of Changes in Surplus. Dividends declared from MMHLLC, Glidepath and MMIH are recorded in net investment income when declared and are limited to MMHLLC, Glidepath and MMIH'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.

3. New accounting standards

Adoption of new accounting standards

In August 2023, the NAIC adopted INT 23-01T — Disallowed Interest Maintenance Reserve (IMR) ("INT 23-01T"). INT 23-01T provides optional, limited-term guidance for the assessment of disallowed IMR for up to 10% of adjusted general account capital and surplus. An insurer's capital and surplus must first be adjusted to exclude certain "soft assets" including net positive goodwill, electronic data processing equipment and operating system software, net deferred tax assets and admitted disallowed IMR. An insurer will only be able to admit the negative IMR if the insurer's risk-based capital is over 300% authorized control level after adjusting to remove the assets described above.

As adopted, negative IMR may be admitted first in the insurer's general account and then, if all disallowed IMR in the general account is admitted and the percentage limit is not reached, to the separate account proportionately between insulated and noninsulated accounts. If the insurer can demonstrate historical practice in which acquired gains from derivatives were also reversed to IMR (as liabilities) and amortized, there is no exclusion for derivatives losses. INT 23-01T was adopted by the Company as of September 30, 2023 and will be effective through December 31, 2025. To the extent the Company's IMR balance is a net negative, the effects of INT 23-01T will be reflected in the Company's financial position, results of operations, and financial statement disclosures. The Company has adopted this guidance and the adoption resulted in an admitted disallowed IMR of $1,112 million for MassMutual.

In March 2023, the NAIC adopted modifications to SSAP No. 34 – Investment Income Due and Accrued, effective December 31, 2023. The modifications require additional disclosures and data capture related to gross, non-admitted and admitted amounts for interest income due and accrued, deferred interest, and paid-in-kind (PIK) interest. In August 2023, the NAIC adopted revisions to further clarify the PIK interest disclosure in SSAP No. 34, effective December 31, 2023. The revisions clarify that decreasing amounts to principal balances are first applied to any PIK interest included in the principal balance. The original principal would not be reduced until the PIK interest had been fully eliminated from the balance. The revisions also provide a practical expedient for determining the PIK interest in the cumulative balance by subtracting the original principal/ par value from the current principal/ par value, with the resulting PIK interest not to go less than zero. The modifications did not have a material effect on the Company's financial statements.

In December 2023, the NAIC adopted revisions, effective January 1, 2024, to avoid allocating realized gains or losses from bond sales to the IMR when sold before a rating downgrade. Revisions were also made to avoid allocating realized gains or losses from mortgage loan sales when there is a credit loss allowance, where payments are not 90 days past due. Revisions were also made to update guidance on changes in credit ratings used to allocate credit or interest rate related gains or losses, requiring identification of realized losses from acute credit events to be allocated to AVR. The modifications did not have a material effect on the Company's financial statements.

In March 2024, the NAIC adopted revisions to the requirements of audit and admissibility in SSAP No. 97 – Investments in Subsidiary, Controlled and Affiliated Entities, effective March 16, 2024, to better align with the guidance on the look-through methodology. The revisions allow for admitting audited investments in entities owned by unaudited downstream noninsurance holding company SCA entity. The modifications did not have a material effect on the Company's financial statements.

Future adoption of new accounting standards

In August 2023, the NAIC adopted revisions to clarify and incorporate a new bond definition within disclosures SSAP No. 26 – Bonds, SSAP No. 43 – Asset-Backed Securities, and other related SSAPs, which will become effective January 1, 2025. The revisions were issued in connection with its principle-based bond definition project, "the Bond Project".

The Bond Project began in October 2020 through the development of a principle-based bond definition to be used for all securities in determining whether they qualify for reporting on the statutory annual statement Schedule D. Within the new bond definition, bonds are classified as an "issuer credit obligation" or an "asset-backed security."

An "issuer credit obligation" is defined as a bond where repayment is supported by the general creditworthiness of an operating entity, and an "asset-backed security" is defined as a bond issued by an entity created for the primary purpose of raising capital through debt backed by financial assets. The revisions to SSAP No. 26 reflect the principle-based bond definition, and SSAP No. 43 provides accounting and reporting guidance for investments that qualify as asset-backed securities under the new bond definition. Upon adoption, investments that do not qualify as bonds will not be permitted to be reported as bonds on Schedule D, Part 1 thereafter as there will be no grandfathering for existing investments that do not qualify under the revised SSAPs. The Company is currently assessing the impacts of the adopted SSAP No. 26, SSAP No. 43 and other related SSAPs in relation to the financial statements.

In March 2024, the NAIC adopted revisions to SSAP No. 21 - Other Admitted Assets, effective January 1, 2025, clarifying that residuals follow the effective yield approach with a cap and providing an election for the cost recovery method. The modifications are not expected to have a material effect on the Company’s financial statements.

Effective January 1, 2025, revisions will be made to short-term investments, which include excluding additional investment types from being reported as cash equivalents or short-term investments regardless of maturity date of the investment at the date of acquisition. Investments will be eliminated from being reported as cash equivalents or short-term investments unless they would qualify under SSAP No. 26 – Bonds as an issuer credit obligation. Such investments will then only qualify as a cash equivalent or short-term investment if they have a maturity date within 3-months (cash equivalents) or 12-months (short-term) from the date of acquisition or meet the specifics requirements for money market mutual funds or cash pooling arrangement.

The NAIC adopted revisions to various SSAPs at the Spring 2024 National Meeting for investments in tax credits and acquired tax credits in response to the comments received, as well as updated annual statement reporting categories for tax credit investment risk-based capital. These revisions are in addition to the previous ones, which include broad criteria to scope in various tax credit programs, including solar programs and state specific programs. Proportional amortization will be the measurement approach as with existing low-income housing tax credits, which means recording amortization of the investment in the partnership through net investment income and use of the tax credits in the appropriate tax line. The adopted revisions will be effective on January 1, 2025. The Company is assessing the potential impact on the Company’s financial statements.

4. *Fair value of financial instruments*

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

	September 30, 2024				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(In Millions)				
Financial assets:					
Bonds:					
U. S. government and agencies	$ 5,342	$ 5,032	$ -	$ 5,032	$ -
All other governments	997	871	-	863	8
States, territories and possessions	164	160	-	160	-
Political subdivisions	318	320	-	320	-
Special revenue	3,849	3,901	-	3,863	38
Industrial and miscellaneous	140,092	134,092	727	68,116	65,249
Parent, subsidiaries and affiliates	12,682	12,488	-	3,116	9,372
Preferred stocks	585	614	183	94	337
Common stocks - subsidiaries and affiliates	639	639	361	-	278
Common stocks - unaffiliated	2,199	2,199	850	-	1,349
Mortgage loans - commercial	18,008	16,799	-	-	16,799
Mortgage loans - residential	6,101	6,018	-	-	6,018
Derivatives:					
Interest rate swaps	16,774	11,808	-	11,808	-
Options	559	559	73	486	-
Currency swaps	2,736	2,736	-	2,736	-
Forward contracts	24	24	-	24	-
Credit default swaps	1	1	-	1	-
Cash, cash equivalents and short-term investments	6,965	6,965	824	6,141	-
Separate account assets	51,649	51,649	34,539	15,199	1,911
Financial liabilities:					
GICs	18,069	17,668	-	-	17,668
Group annuity contracts and other deposits	1,817	1,712	-	-	1,712
Individual annuity contracts	29,385	30,410	-	-	30,410
Supplementary contracts	859	860	-	-	860
Repurchase agreements	3,670	3,670	-	3,670	-
Debt	499	499	-	499	-
Derivatives:					
Interest rate swaps	11,438	11,704	-	11,704	-
Options	41	41	41	-	-
Currency swaps	1,679	1,358	-	1,358	-
Forward contracts	314	316	-	316	-
Credit default swaps	176	176	-	176	-
Financial futures	12	12	12	-	-

Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of $25,463 million.

	December 31, 2023				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(In Millions)				
Financial assets:					
Bonds:					
U. S. government and agencies	$ 5,060	$ 4,744	$ -	$ 4,744	$ -
All other governments	1,242	1,092	-	1,062	30
States, territories and possessions	231	229	-	229	-
Political subdivisions	363	353	-	353	-
Special revenue	4,986	4,975	-	4,938	37
Industrial and miscellaneous	122,721	114,598	66	50,893	63,639
Parent, subsidiaries and affiliates	9,830	9,410	-	1,406	8,004
Preferred stocks	446	470	96	-	374
Common stocks - subsidiaries and affiliates	430	430	253	-	177
Common stocks - unaffiliated	1,623	1,623	666	-	957
Mortgage loans - commercial	19,299	17,885	-	-	17,885
Mortgage loans - residential	4,722	4,449	-	-	4,449
Derivatives:					
Interest rate swaps	17,292	12,277	-	12,277	-
Options	547	547	68	479	-
Currency swaps	2,831	2,831	-	2,831	-
Forward contracts	13	13	-	13	-
Credit default swaps	1	1	-	1	-
Financial futures	56	56	56	-	-
Cash, cash equivalents and short-term investments	11,134	11,134	782	10,352	-
Separate account assets	52,593	52,593	35,002	15,677	1,914
Financial liabilities:					
GICs	16,207	15,550	-	-	15,550
Group annuity contracts and other deposits	2,053	1,841	-	-	1,841
Individual annuity contracts	25,861	24,495	-	-	24,495
Supplementary contracts	942	943	-	-	943
Repurchase agreements	3,219	3,219	-	3,219	-
Debt	50	50	-	50	-
Derivatives:					
Interest rate swaps	11,922	12,289	-	12,289	-
Options	35	35	35	-	-
Currency swaps	1,294	1,309	-	1,309	-
Forward contracts	301	303	-	303	-
Credit default swaps	153	152	-	152	-
Financial futures	29	29	29	-	-

Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of $25,066 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, 2024			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
Special revenue	$ -	$ 1	$ -	$ 1
Industrial and miscellaneous	726	97	279	1,102
Parent, subsidiaries and affiliates	-	65	-	65
Preferred stocks	39	-	53	92
Common stocks - subsidiaries and affiliates	361	-	278	639
Common stocks - unaffiliated	850	-	1,349	2,199
Derivatives:				
Interest rate swaps	-	16,769	-	16,769
Options	73	486	-	559
Currency swaps	-	2,734	-	2,734
Forward contracts	-	24	-	24
Separate account assets	34,539	15,199	1,911	51,649
Total financial assets carried at fair value	$ 36,588	$ 35,375	$ 3,870	$ 75,833
Financial liabilities:				
Derivatives:				
Interest rate swaps	$ -	$ 11,438	$ -	$ 11,438
Options	41	-	-	41
Currency swaps	-	278	-	278
Forward contracts	-	314	-	314
Credit default swaps	-	176	-	176
Financial futures	12	-	-	12
Total financial liabilities carried at fair value	$ 53	$ 12,206	$ -	$ 12,259

The Company does not have any financial instruments that were carried at net asset value as a practical expedient.

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

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
	(In Millions)			
Financial assets:				
Bonds:				
Special revenue	$ -	$ 2	$ -	$ 2
Industrial and miscellaneous	66	107	172	345
Preferred stocks	24	-	63	87
Common stocks - subsidiaries and affiliates	253	-	177	430
Common stocks - unaffiliated	666	-	957	1,623
Derivatives:				
Interest rate swaps	-	17,287	-	17,287
Options	68	479	-	547
Currency swaps	-	2,831	-	2,831
Forward contracts	-	13	-	13
Financial futures	56	-	-	56
Separate account assets	35,002	15,677	1,914	52,593
Total financial assets carried at fair value	$ 36,135	$ 36,396	$ 3,283	$ 75,814
Financial liabilities:				
Derivatives:				
Interest rate swaps	$ -	$ 11,922	$ -	$ 11,922
Options	35	-	-	35
Currency swaps	-	192	-	192
Forward contracts	-	301	-	301
Credit default swaps	-	153	-	153
Financial futures	29	-	-	29
Total financial liabilities carried at fair value	$ 64	$ 12,568	$ -	$ 12,632

The Company reviews the fair value hierarchy classifications each reporting period. Changes in the observability of the valuation attributes and the level of market activity may result in a reclassification of certain financial assets or liabilities between fair value hierarchy classifications. Such reclassifications are reported as transfers between levels in the beginning fair value for the reporting period in which the changes occur.

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

	Balance as of 1/1/24	Gains (Losses) in Net Income	Losses (Gains) in Surplus	Purchases	Issuances	Sales	Settlements	Transfers In	Transfers Out	Other	Balance as of 09/30/24
	(In Millions)										
Financial assets:											
Bonds:											
Industrial and miscellaneous	$ 172	$ (48)	$ (18)	$ 3	$ 3	$ -	$ (4)	$ -	$ -	$ 171	$ 279
Preferred stocks	63	-	6	-	-	-	-	-	-	(16)	53
Common Stocks:											
Subsidiaries and affiliates	177	-	13	-	33	-	(66)	-	(156)	277	278
Unaffiliated	957	10	108	257	28	(12)	(16)	25	-	(8)	1,349
Separate account assets	1,914	102	-	22	-	(124)	(3)	-	-	-	1,911
Total financial assets	$ 3,283	$ 64	$ 109	$ 282	$ 64	$ (136)	$ (89)	$ 25	$ (156)	$ 424	$ 3,870

	Balance as of 1/1/23	Gains (Losses) in Net Income	Losses (Gains) in Surplus	Purchases	Issuances	Sales	Settlements	Transfers In	Transfers Out	Other	Balance as of 12/31/23
	(In Millions)										
Financial assets:											
Bonds:											
Industrial and miscellaneous	$ 220	$ (4)	$ (10)	$ 36	$ 1	$ (2)	$ (13)	$ -	$ -	$ (56)	$ 172
Preferred stocks	47	-	11	3	-	-	-	-	-	2	63
Common Stocks:											
Subsidiaries and affiliates	350	7	(216)	21	20	(47)	-	48	-	(6)	177
Unaffiliated	970	24	(53)	60	26	(29)	(38)	-	-	(3)	957
Separate account assets	1,693	271	-	134	-	(182)	(2)	-	-	-	1,914
Total financial assets	$ 3,280	$ 298	$ (268)	$ 254	$ 47	$ (260)	$ (53)	$ 48	$ -	$ (63)	$ 3,283

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 contain assets that are now carried at fair value due to ratings changes and assets are no longer carried at fair value where the fair value is now higher than the book value.

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

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

	September 30, 2024			
	Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(In Millions)			
U.S. government and agencies	$ 5,342	$ 71	$ 381	$ 5,032
All other governments	997	14	140	871
States, territories and possessions	164	1	5	160
Political subdivisions	318	12	10	320
Special revenue	3,849	140	88	3,901
Industrial and miscellaneous	140,092	1,528	7,528	134,092
Parent, subsidiaries and affiliates	12,682	59	253	12,488
Total	$ 163,444	$ 1,825	$ 8,405	$ 156,864

The September 30, 2024 gross unrealized losses exclude $193 million of losses included in the carrying value. These losses include $190 million from NAIC Class 6 bonds and $3 million from RMBS and CMBS whose ratings were obtained from third-party modelers. These losses were primarily included in industrial and miscellaneous or parent, subsidiaries and affiliates.

	December 31, 2023			
	Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(In Millions)			
U.S. government and agencies	$ 5,060	$ 70	$ 385	$ 4,744
All other governments	1,242	13	163	1,092
States, territories and possessions	231	4	6	229
Political subdivisions	363	7	17	353
Special revenue	4,986	113	125	4,975
Industrial and miscellaneous	122,721	841	8,964	114,598
Parent, subsidiaries and affiliates	9,830	20	439	9,410
Total	$ 144,433	$ 1,068	$ 10,099	$ 135,401

The December 31, 2023 gross unrealized losses exclude $127 million of losses included in the carrying value. These losses include $126 million from NAIC Class 6 bonds and $1 million from RMBS and CMBS whose ratings were obtained from third-party modelers. These losses were primarily included in industrial and miscellaneous or parent, subsidiaries and affiliates.

As of September 30, 2024, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of $71,771 million. Securities in an unrealized loss position for less than 12 months had a fair value of $5,293 million and unrealized losses of $78 million. Securities in an unrealized loss position for greater than 12 months had a fair value of $66,478 million and unrealized losses of $8,521 million. These securities were primarily categorized as industrial and miscellaneous or parent, subsidiaries and affiliates.

As of December 31, 2023, investments in structured and loan-backed securities that had unrealized losses, which were not recognized in earnings, had a fair value of $17,178 million. Securities in an unrealized loss position for less than 12 months had a fair value of $2,151 million and unrealized losses of $48 million. Securities in an unrealized loss position for greater than 12 months had a fair value of $15,027 million and unrealized losses of $1,261 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, 2024 or 2023 that were reacquired within 30 days of the sale date.

On April 24, 2024, the Company announced it became a minority equity owner in ATLAS SP Partners (ATLAS) and a capital partner to the ATLAS platform. As part of the multi-billion-dollar commitment, the Company also agreed to invest $500 million in Apollo's Asset Backed Finance, which was finalized in May 2024.

Residential mortgage-backed exposure

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

As of September 30, 2024, RMBS had a total carrying value of $3,957 million and a fair value of $4,023 million of which approximately 2%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of $2,200 million of which approximately $2,250 million. As of December 31, 2023, RMBS had a total carrying value of $3,775 million and a fair value of $3,756 million of which approximately 4%, based on carrying value, was classified as Alt-A. Alt-A and subprime RMBS had a total carrying value of $1,326 million and a fair value of $1,312 million.

b. Preferred stocks

No significant changes.

c. Common stocks – subsidiaries and affiliates

MMHLLC paid $785 million in dividends to MassMutual for the nine months ended September 30, 2024, $630 million of which were declared in 2023, and paid $730 million in dividends to MassMutual for the nine months ended September 30, 2023, $450 million of which were declared in 2022.

MassMutual contributed capital of $9 million to MMHLLC for the nine months ended September 30, 2024, and $104 million for the nine months ended September 30, 2023.

Subsidiaries of MMHLLC are involved in litigation and investigations arising in the ordinary course of their business, which seek compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably 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 Interim Consolidated Statutory Statements of Changes in Surplus for a particular period depending upon, among other factors, the size of the loss and the level of the Company's changes in surplus for the period.

d. Common stocks – unaffiliated

No significant changes.

e. Mortgage loans

Mortgage loans are comprised of commercial mortgage loans and residential mortgage loans. The Company's commercial mortgage loans primarily finance various types of real estate properties throughout the U.S., the United Kingdom and Canada. The Company holds commercial mortgage loans for which it is 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, 2024		December 31, 2023	
	Carrying Value	Fair Value	Carrying Value	Fair Value
	(In Millions)			
Commercial mortgage loans:				
Primary lender	$ 17,892	$ 16,701	$ 19,162	$ 17,766
Mezzanine loans	116	98	137	119
Total commercial mortgage loans	18,008	16,799	19,299	17,885
Residential mortgage loans:				
FHA insured and VA guaranteed	1,675	1,590	1,833	1,699
Other residential loans	4,426	4,428	2,889	2,750
Total residential mortgage loans	6,101	6,018	4,722	4,449
Total mortgage loans	$ 24,109	$ 22,817	$ 24,021	$ 22,334

As of September 30, 2024, the Company had impaired mortgage loans with or without a valuation allowance or mortgage loans derecognized as a result of foreclosure, including mortgage loans subject to a participant or co-lender mortgage loan agreement with a unilateral mortgage loan foreclosure restriction or mortgage loan derecognized as a result of a foreclosure.

The following presents a summary of the Company's impaired mortgage loans as of September 30, 2024 and December 31, 2023:

	September 30, 2024				
	Carrying Value	Average Carrying Value	Unpaid Principal Balance	Valuation Allowance	Interest Income
	(In Millions)				
With allowance recorded:					
Commercial mortgage loans:					
Primary lender	$ 53	$ 57	$ 69	$ (16)	$ 2
Total	53	57	69	(16)	2
With no allowance recorded:					
Commercial mortgage loans:					
Primary lender	$ 477	$ 505	$ 703	$ -	$ 8
Total	477	505	703	-	8
Total impaired commercial mortgage loans	$ 530	$ 562	$ 772	$ (16)	$ 10

	December 31, 2023				
	Carrying Value	Average Carrying Value	Unpaid Principal Balance	Valuation Allowance	Interest Income
	(In Millions)				
With allowance recorded:					
Commercial mortgage loans:					
Primary lender	$ 465	$ 537	$ 624	$ (157)	$ 24
Total impaired commercial mortgage loans	$ 465	$ 537	$ 624	$ (157)	$ 24

f. *Real estate*

No significant changes.

g. *Partnerships and limited liability companies*

No significant changes.

h. *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 replicated synthetic investments. These replicated synthetic investments are created when they are economically more attractive than the actual instrument or when similar instruments are unavailable. Replicated synthetic investments are created either to hedge and reduce the Company's credit exposure or to create an investment in a particular asset. The Company held replicated synthetic investments with a notional amount of $31,762 million as of September 30, 2024 and $31,687 million as of December 31, 2023, 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 to the counterparties was $141 million as of September 30, 2024, and net collateral pledged by the counterparties was $421 million as of December 31, 2023. In the event of default, the full market value exposure at risk, net of offsets and collateral, was $42 million as of September 30, 2024, and $269 million as of December 31, 2023. The statutory net amount at risk, defined as net collateral pledged and statement values excluding accrued interest, was $4,840 million as of September 30, 2024, and $5,003 million as of December 31, 2023.

As of September 30, 2024, the company had the right to rehypothecate or repledge securities totaling $1,752 million, pledged by the counterparties, of the $141 million of the net collateral pledged to counterparties. As of December 31, 2023, the company had the right to rehypothecate or repledge securities totaling $1,444 million, pledged by the counterparties, of the $421 million of the net collateral pledged to counterparties. There were no securities rehypothecated to other counterparties as of September 30, 2024 or December 31, 2023.

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

	September 30, 2024			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	$ 16,774	$ 205,467	$ 11,438	$ 125,730
Options	559	11,001	41	241
Currency swaps	2,736	29,704	1,679	17,077
Forward contracts	24	1,936	314	11,359
Credit default swaps	1	160	176	7,903
Financial futures	-	280	12	813
Total	$ 20,094	$ 248,548	$ 13,660	$ 163,123

	December 31, 2023			
	Assets		Liabilities	
	Carrying Value	Notional Amount	Carrying Value	Notional Amount
	(In Millions)			
Interest rate swaps	$ 17,292	$ 177,596	$ 11,922	$ 128,949
Options	547	11,727	35	248
Currency swaps	2,831	28,593	1,294	14,672
Forward contracts	13	993	301	9,162
Credit default swaps	1	81	153	7,902
Financial futures	56	674	29	257
Total	$ 20,740	$ 219,664	$ 13,734	$ 161,190

The average fair value of outstanding derivative assets was $22,527 million for the nine months ended September 30, 2024 and $21,425 million for the nine months ended September 30, 2023. The average fair value of outstanding derivative liabilities was $15,574 million for the nine months ended September 30, 2024 and $10,360 million for the nine months ended September 30, 2023.

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

	September 30, 2024	December 31, 2023
	(In Millions)	
Due after one year through five years	$ 173	$ 7,983
Due after five years through ten years	7,890	-
Total	$ 8,063	$ 7,983

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

	Nine Months Ended September 30,			
	2024		2023	
	Net Realized (Losses) Gains on Closed Contracts	Change In Net Unrealized (Losses) Gains on Open Contracts	Net Realized (Losses) Gains on Closed Contracts	Change In Net Unrealized Gains (Losses) on Open Contracts
	(In Millions)			
Interest rate swaps	$ (124)	$ (33)	$ (120)	$ 226
Currency swaps	64	(180)	79	(223)
Options	(2)	24	(7)	(107)
Credit default swaps	(68)	40	(40)	24
Forward contracts	(175)	(2)	(198)	429
Financial futures	(13)	(39)	(68)	(30)
Total	$ (318)	$ (190)	$ (354)	$ 319

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

	September 30, 2024			December 31, 2023		
	Derivative Assets	Derivative Liabilities	Net	Derivative Assets	Derivative Liabilities	Net
	(In Millions)					
Gross	$ 20,094	$ 13,660	$ 6,434	$ 20,740	$ 13,734	$ 7,006
Due and accrued	1,350	3,046	(1,696)	1,371	2,387	(1,016)
Gross amounts offset	(18,851)	(18,851)	-	(19,063)	(19,063)	-
Net asset	2,593	(2,145)	4,738	3,048	(2,943)	5,990
Collateral posted	(3,259)	(3,400)	141	(3,438)	(3,017)	(421)
Net	$ (666)	$ (5,545)	$ 4,879	$ (390)	$ (5,959)	$ 5,569

i. Repurchase agreements

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

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

The carrying value, which is at cost, reported in the Company's liabilities as repurchase agreements approximates the fair value.

The following table provides contractual maturity, maximum balance during the year, and ending balance for bilateral repurchase agreements:

	September 30,			
	2024		2023	
	Maximum Balance	Ending Balance	Maximum Balance	Ending Balance
	(In Millions)			
From 1 Week to 1 Month	$ 2,096	$ 1,359	$ -	$ -
Greater than 1 Month to 3 Months	$ 3,562	$ 2,311	$ 3,563	$ 3,563
Greater than 3 Months to 1 Year	$ 722	$ -	$ -	$ -
Greater than 1 Year	$ 359	$ -	$ -	$ -

The company did not have any repurchase agreements where securities sold and/or acquired resulted in default as of September 30, 2024 and December 31, 2023.

The following table presents the fair value and amortized cost of securities sold under bilateral repurchase agreement transactions, which were all NAIC rating of 1, for the periods ending September 30, 2024 and 2023:

	Maximum Balance	Ending Balance
	(In Millions)	
March 31, 2024		
Fair Value	$ 4,473	$ 3,466
BACV	$ -	$ 3,466
June 30, 2024		
Fair Value	$ 3,532	$ 3,449
BACV	$ -	$ 3,799
September 30, 2024		
Fair Value	$ 3,710	$ 3,671
BACV	$ -	$ 3,816
March 31, 2023		
Fair Value	$ 3,054	$ 3,019
BACV	$ -	$ 3,019
June 30, 2023		
Fair Value	$ 3,615	$ 2,910
BACV	$ -	$ 2,910
September 30, 2023		
Fair Value	$ 3,563	$ 3,563
BACV	$ -	$ 2,910

The following table presents the cash collateral and the fair value of security collateral, which were all NAIC rating of 1, received in the bilateral repurchase agreement transactions for the periods ending September 30, 2024 and 2023:

	Maximum Balance		Ending Balance	
	Cash	Securities	Cash	Securities
	(In Millions)			
March 31, 2024	$ 96	$ 3,530	$ 16	$ 3,487
June 30, 2024	$ 3,741	$ 14	$ 3,431	$ -
September 30, 2024	$ 5,658	$ 13	$ 3,622	$ -
March 31, 2023	$ 130	$ 3,066	$ 19	$ 3,022
June 30, 2023	$ 89	$ 3,031	$ 4	$ 2,918
September 30, 2023	$ 110	$ 3,247	$ 110	$ 2,717

The following table presents collateral received, aggregate allocation of the collateral by the remaining contractual maturity of the repurchase agreements for the periods ending September 30, 2024 and 2023:

	Overnight and Continuous	30 Days or Less	31 to 90 Days	>90days
	(In Millions)			
Maximum Balance				
March 31, 2024	$ -	$ -	$ 1,626	$ 1,880
June 30, 2024	$ -	$ 14	$ 1,551	$ 1,927
September 30, 2024	$ -	$ 789	$ 2,164	$ 213
March 31, 2023	$ -	$ 259	$ 2,787	$ -
June 30, 2023	$ -	$ 92	$ 2,925	$ -
September 30, 2023	$ -	$ -	$ 3,086	$ -
Ending Balance				
March 31, 2024	$ -	$ -	$ 1,626	$ 1,880
June 30, 2024	$ -	$ 14	$ 1,551	$ 1,927
September 30, 2024	$ -	$ 789	$ 2,164	$ 213
March 31, 2023	$ -	$ 259	$ 2,787	$ -
June 30, 2023	$ -	$ 92	$ 2,925	$ -
September 30, 2023	$ -	$ -	$ 3,086	$ -

The following table presents cash collateral received that has been reinvested, the total reinvested cash and the aggregate amortized cost and fair value of the invest asset acquired with the cash collateral for the periods ending September 30, 2024 and 2023:

	1 to 2 Years		2 to 3 Years		> 3 Years	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Maximum Balance						
March 31, 2024	$ -	$ -	$ -	$ -	$ -	$ -
June 30, 2024	$ -	$ -	$ 1,125	$ 1,139	$ 2,674	$ 2,310
September 30, 2024	$ -	$ -	$ 1,142	$ 1,183	$ 2,674	$ 2,467
March 31, 2023	$ -	$ -	$ -	$ -	$ -	$ -
June 30, 2023	$ -	$ -	$ -	$ -	$ -	$ -
September 30, 2023	$ -	$ -	$ -	$ -	$ -	$ -
Ending Balance						
March 31, 2024	$ -	$ -	$ -	$ -	$ -	$ -
June 30, 2024	$ -	$ -	$ 1,125	$ 1,139	$ 2,674	$ 2,310
September 30, 2024	$ -	$ -	$ 1,142	$ 1,183	$ 2,674	$ 2,467
March 31, 2023	$ -	$ -	$ -	$ -	$ -	$ -
June 30, 2023	$ -	$ -	$ -	$ -	$ -	$ -
September 30, 2023	$ -	$ -	$ -	$ -	$ -	$ -

To help manage the mismatch of maturity dates between the security lending transactions and the related reinvestment of the collateral received, the Company invests in highly liquid assets.

The company did not have any repurchase agreements where cash collateral received was reinvested as of September 30, 2024 and December 31, 2023.

The following table presents liability recognized to return cash collateral, and the liability recognized to return securities received as collateral as required pursuant to the terms of the secured borrowing transactions for the periods ending September 30, 2024 and 2023:

	Maximum Balance		Ending Balance	
	Cash	Securities	Cash	Securities
	(In Millions)			
March 31, 2024	$ 96	$ 3,530	$ 16	$ 3,487
June 30, 2024	$ 3,741	$ 14	$ 3,431	$ -
September 30, 2024	$ 5,658	$ 13	$ 3,622	$ -
March 31, 2023	$ 130	$ 3,066	$ 19	$ 3,022
June 30, 2023	$ 89	$ 3,031	$ 4	$ 2,918
September 30, 2023	$ 110	$ 3,247	$ 110	$ 2,717

The company did not have any reverse repurchase transactions accounted for as secured borrowings as of September 30, 2024 and December 31, 2023.

The Company did not have any repurchase agreements transactions accounted for as a sale as of September 30, 2024 and December 31, 2023.

The Company did not have any reverse repurchase agreements transactions accounted for as a sale as of September 30, 2024 and December 31, 2023.

j. Net investment income

Net investment income, including IMR amortization, comprised the following:

	Nine Months Ended September 30, 2024	Nine Months Ended September 30, 2023
	(In Millions)	
Bonds	$ 6,131	$ 5,308
Preferred stocks	18	22
Common stocks - subsidiaries and affiliates	160	283
Common stocks - unaffiliated	92	84
Mortgage loans	866	815
Policy loans	774	812
Real estate	59	51
Partnerships and limited liability companies	620	697
Derivatives	(372)	(4)
Cash, cash equivalents and short-term investments	275	243
Other	202	180
Subtotal investment income	8,825	8,491
Amortization of the IMR	(87)	(36)
Net gains from separate accounts	2	-
Investment expenses	(761)	(744)
Net investment income	$ 7,979	$ 7,711

k. Net realized capital losses

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, 2024	Nine Months Ended September 30, 2023
	(In Millions)	
Bonds	$ (374)	$ (599)
Preferred stocks	(8)	-
Common stocks - subsidiaries and affiliates	21	-
Common stocks - unaffiliated	11	13
Mortgage loans	(262)	(37)
Real estate	-	3
Partnerships and limited liability companies	(112)	(165)
Derivatives	(318)	(354)
Other	27	17
Net realized capital losses before federal and state taxes and deferral to the IMR	(1,015)	(1,122)
Net federal and state tax benefit	147	289
Net realized capital losses before deferral to the IMR	(868)	(833)
Net after tax capital losses deferred to the IMR	232	446

Net realized capital losses	$	(636)	$	(387)

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

	Nine Months Ended September 30,			
	2024		2023	
	(In Millions)			
Bonds	$	(174)	$	(162)
Common stocks - unaffiliated		(11)		(1)
Mortgage loans		(216)		(14)
Partnerships and limited liability companies		(107)		(174)
Total OTTI	$	(508)	$	(351)

The Company recognized OTTI of $10 million for the nine months ended September 30, 2024 and $14 million for the nine months ended September 30, 2023 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

No significant changes.

7. Other than invested assets

As of September 30, 2024, the Company had $1,267 million of disallowed IMR in aggregate and in the general account.

As of September 30, 2024, the Company had $1,267 million of disallowed IMR admitted in the general account.

As of September 30, 2024, the calculated adjusted general capital and surplus was $24,595 million.

As of September 30, 2024, the percentage of adjusted general capital and surplus for which the admitted disallowed IMR represents was 5%.

The following represents allocated gains (losses) to IMR from derivatives:

	September 30, 2024	
	(In Millions)	
Unamortized fair value derivative gain	$	2,848
Unamortized fair value derivative losses		(3,867)
Total allocated net losses to IMR from derivatives	$	(1,019)

When the Company sells bonds and recognizes losses due to interest-rate related factors, and the realized losses are transferred to the IMR, the sales proceeds are generally used for reinvestment as governed by prudent asset liability management (ALM) policies and procedures. Such sales of bonds are intermittently used to meet liquidity needs and managed within the ALM framework.

IMR losses for fixed income related derivatives were in accordance with documented risk management procedures, as well as the Company's derivative use plans, and reflect the same historical treatment of derivative gains reversed to IMR and amortized rather than immediately recognized as realized gain upon termination.

As of the period ended September 30, 2024, the IMR asset admitted under the currently adopted statutory accounting interpretation includes approximately $134 million, net of tax, related to various Funds Withheld (FWH) reinsurance treaties. Included in the FWH assets are reimbursements of capital losses on the invested assets to back the ceded reinsurance liabilities and are recorded as an adjustment to the income statement. Both the IMR and FWH assets are admitted under statutory accounting guidance.

8. *Policyholders' liabilities*

a. Liabilities for deposit-type contracts

On January 17, 2024, MassMutual issued a $650 million funding agreement with a 4.85% fixed rate and a 5-year maturity.

On January 29, 2024, MassMutual issued a $300 million funding agreement with a floating rate based on the Secured Overnight Financing Rate (SOFR) and a 3-year maturity.

On April 9, 2024, MassMutual issued a $1.2 billion funding agreement of which $850 million has a 5.10% fixed rate and a 3-year maturity and $350 million has a floating rate based on the SOFR plus the spread and a 3-year maturity.

On May 30, 2024, MassMutual issued a $500 million funding agreement with a 5.15% fixed rate and a 5-year maturity.

On September 5, 2024, MassMutual issued a £400 million funding agreement with a 4.625% fixed rate and a 5-year maturity.

On September 17, 2024, MassMutual issued a $500 million funding agreement with a 4.35% fixed rate and a 7-year maturity.

b. Additional liability for annuity contracts

Certain variable annuity contracts include additional death or other insurance benefit features, such as guaranteed minimum death benefits (GMDB), guaranteed minimum income benefits (GMIB), guaranteed minimum accumulation benefits (GMAB) and guaranteed lifetime withdrawal benefits (GLWB). 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 GMDB, GMIB, GMAB and GLWB (in millions):

Liability as of January 1, 2023	$	55
Incurred guarantee benefits		2
Paid guarantee benefits		(8)
Liability as of December 31, 2023		49
Incurred guarantee benefits		(25)
Paid guarantee benefits		(5)
Liability as of September 30, 2024	$	19

The following summarizes the account values, net amount at risk and weighted average attained age for variable annuity contracts with GMDB, GMIB, GMAB and GLWB 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, 2024			December 31, 2023		
	Account Value	Net Amount at Risk	Weighted Average Attained Age	Account Value	Net Amount at Risk	Weighted Average Attained Age
	($ In Millions)					
GMDB	$ 8,515	$ 71	66	$ 8,572	$ 25	66
GMIB Basic	434	3	73	449	7	73
GMIB Plus	1,271	367	69	1,240	448	69
GMAB	1,218	1	64	1,400	20	63
GLWB	87	11	75	94	15	75

As of September 30, 2024, the GMDB account value above consists of $3,892 million of modified coinsurance (Modco) assumed within the separate accounts. As of December 31, 2023, the GMDB account value above consists of $3,712 million of modified coinsurance (Modco) assumed within the separate accounts.

9. Reinsurance

No significant changes.

10. Withdrawal characteristics

No significant changes.

11. Debt

MassMutual issues commercial paper in the form of Notes in minimum denominations of $250 thousand up to a total aggregation of $1,000 million with maturity dates up to a maximum of 270 days from the date of issuance. Noninterest bearing Notes are sold at par less a discount representing an interest factor. Interest bearing Notes are sold at par. The Notes are not redeemable or subject to voluntary prepayments by MassMutual. The Notes have a carrying value and face amount of $499 million as of September 30, 2024 and $50 million as of December 31, 2023. Notes issued in 2024 had interest rates ranging from 4.85% to 5.41% with maturity dates ranging from 1 to 62 days. Interest expense for commercial paper was $14 million for the nine months ended September 30, 2024 and $6 million for the nine months ended September 30, 2023.

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.

a. Pension plans

The Company sponsors funded and unfunded noncontributory defined benefit pension plans for its eligible employees, agents and retirees.

The funded qualified defined benefit plan generally provides benefits under a cash balance formula based on age, service and salary during the participants' careers. Certain eligible participants may be entitled to benefits under a legacy defined benefit formula. The Company's policy is to fund the qualified pension plan in accordance with the Employee Retirement Income Security Act of 1974. There were no contributions in 2024 and 2023.

The Company has announced there will be no new benefit accruals under the plan after December 31, 2024.

b-f. No significant changes.

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

	Nine Months Ended September 30,			
	2024	2023	2024	2023
	Pension Benefits		Other Postretirement Benefits	
	(In Millions)			
Service cost	$ 74	$ 64	$ 6	$ 6
Interest cost	92	94	11	12
Expected return on plan assets	(128)	(126)	-	-
Amortization of unrecognized losses and (gains)	14	20	(6)	(7)
Amortization of unrecognized prior service benefit	-	-	(4)	(4)
Total net periodic expense	$ 52	$ 52	$ 7	$ 7

13. Employee compensation plans

No significant changes.

14. Surplus notes

No significant changes.

15. Presentation of the Interim 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, 2024 and 2023. Accordingly, the Company has excluded these non-cash activities from the Statutory Statements of Cash Flows for the nine months ended September 30, 2024 and 2023.

	Nine Months Ended September 30,	
	2024	2023
	(In Millions)	
Stock conversions	$ 4,082	$ 182
Bond conversions and refinancing	1,354	472
Change in market value of corporate owned life insurance asset	180	124
Transfer of mortgage loans to partnerships and limited liability companies	135	-
Transfer of affiliated common stocks to partnerships and limited liability companies	77	-
Transfer of mortgage loans to bonds	63	3
Net investment income payment-in-kind bonds	28	12
Transfer of mortgage loans to mortgage loans	17	-
Transfer of bonds to partnerships and limited liability companies	-	122
Transfer of partnerships and limited liability companies to partnerships and limited liability companies	-	81
Transfer of partnerships to stock	-	1

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. The interim risks and uncertainties disclosure should be read in conjunction with the statutory disclosure in the Company’s 2023 audited year-end financial statements.

Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, morbidity, longevity, persistency, interest rates and other factors. If actual policy experience emerges that is significantly and adversely different from assumptions used in product pricing, the effect could be material to the profitability of the Company. For participating whole life products, the Company’s dividends to policyholders primarily reflect the difference between actual investment, mortality, expense and persistency experience and the experience embedded in the whole life premiums and guaranteed elements. The Company also reinsures certain life insurance and other LTC 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 denominated 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 risks related to product offerings, profitability, or any of the risk factors described above. Whether those underlying risk factors are driven by geopolitics or not, the Company's dynamic approach to managing risks enables management to identify risks, internally and externally, develop mitigation plans, and respond to risks in an attempt to proactively reduce the potential impact of each underlying risk factor on the Company.

b. Litigation and regulatory matters

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

The Company evaluates the need for accruals of loss contingencies for each matter. When a liability for a matter is probable and can be estimated, the Company accrues an estimate of the loss offset by related insurance recoveries or other contributions, if any. An accrual may be subject to subsequent adjustment as a result of additional information and other developments. The resolution of matters is 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.

17. Related party transactions

In September 2024, MassMutual made capital contributions of $10 million to ITPS Holdings LLC and $55 million to DPI Acres Capital LLC. MMIH paid MassMutual $50 million return of capital and MMLIA paid MassMutual $12 million in dividends.

In August 2024, MassMutual made capital contributions of $31 million to DPI Acres Capital LLC.

In June 2024, MM/Barings Multifamily paid MassMutual $22 million in dividends and $10 million return of capital, Insurance Road LLC paid MassMutual $99 million in dividends, and MMIA paid MassMutual $11 million in dividends.

In May 2024, MassMutual made capital contributions of $20 million to ITPS Holdings LLC.

18. Subsequent events

Management of the Company has evaluated subsequent events through November 13, 2024, the date the financial statements were available to be issued to state regulators and subsequently on the Company's website. No events have occurred subsequent to the date of the financial statements, except for:

On October 24, 2024, MassMutual issued a $500 million funding agreement with a 4.3% fixed rate and a 3-year maturity.

On October 25, 2024, the Company executed a certain coinsurance treaty amendment to increase quota share reinsurance of certain long-term care business from 50% to 75%. The Company transferred approximately $357 million of premium to the reinsurer in exchange for ceding $337 million in statutory reserves.

19. 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, 2024	$ 9,854,964	$ -	$ 9,854,964	$ 8,633,308	$ (1,221,655)	$ 8,633,308	$ 8,589,373
June 30, 2024	54,957,279	-	54,957,279	49,033,522	(5,923,757)	49,033,522	36,231,196
March 31, 2024	36,924,401	-	36,924,401	33,979,195	(2,945,206)	33,979,195	33,244,880
December 31, 2023	53,672,524	-	53,672,524	51,118,891	(2,553,633)	51,118,891	42,903,097
September 30, 2023	24,928,010	-	24,928,010	24,065,666	(862,344)	24,065,666	21,743,474
June 30, 2023	16,432,523	-	16,432,523	15,955,963	(476,560)	15,955,963	15,431,923
March 31, 2023	56,797,193	-	56,797,193	45,999,577	(10,797,616)	45,999,577	39,477,567
December 31, 2022	47,152,655	-	47,152,655	42,630,344	(4,522,311)	42,630,344	35,962,545
September 30, 2022	23,315,048	-	23,315,048	22,016,070	(1,298,978)	22,016,070	19,284,696
June 30, 2022	17,306,639	-	17,306,639	15,826,391	(1,480,248)	15,826,391	13,534,918
March 31, 2022	30,135,997	-	30,135,997	23,857,778	(6,278,218)	23,857,778	23,674,371
December 31, 2021	6,658,614	-	6,658,615	6,490,508	(168,107)	6,490,508	6,369,198
September 30, 2021	4,061,382	-	4,061,382	3,955,723	(105,659)	3,955,723	3,595,213
June 30, 2021	11,352,643	-	11,352,642	10,386,581	(966,063)	10,386,581	11,323,900
March 31, 2021	11,247,256	-	11,247,257	5,074,493	(6,172,764)	5,074,493	5,237,174
December 31, 2020	16,071,907	-	16,071,907	14,674,300	(1,397,607)	14,674,300	15,473,517
September 30, 2020	21,375,383	-	21,375,383	19,160,250	(2,215,134)	19,160,250	18,862,027
June 30, 2020	10,180,123	-	10,180,123	8,992,610	(1,187,513)	8,992,610	9,249,851
March 31, 2020	24,799,788	-	24,799,788	20,197,344	(4,602,443)	20,197,344	24,683,947
December 31, 2019	3,992,400	-	3,992,400	3,539,281	(453,119)	3,539,281	3,439,138
September 30, 2019	16,909,029	-	16,909,029	15,191,932	(1,717,097)	15,191,932	14,639,756
June 30, 2019	6,980,030	-	6,980,030	6,187,029	(793,001)	6,187,029	7,133,620
March 31, 2019	7,791,000	-	7,791,000	7,634,637	(156,363)	7,634,637	7,683,021
December 31, 2018	4,550,173	-	4,550,173	3,815,559	(734,614)	3,815,559	4,014,514
September 30, 2018	4,320,826	-	4,320,826	3,663,181	(657,645)	3,663,181	3,687,297
June 30, 2018	634,235	-	634,235	279,221	(355,014)	279,221	386,752
March 31, 2018	645,690	-	645,690	488,181	(157,509)	488,181	448,494
December 31, 2017	3,949,513	-	3,949,513	1,958,759	(1,990,754)	1,958,759	2,023,952
September 30, 2017	4,436,542	-	4,436,542	876,942	(3,559,600)	876,942	4,647,683
June 30, 2017	40,538,551	-	40,538,551	39,808,956	(729,595)	39,808,956	60,990,732
March 31, 2017	41,788,380	-	41,788,380	41,391,889	(396,491)	41,391,889	56,156,936
December 31, 2016	42,175,938	-	42,175,938	42,045,721	(130,217)	42,045,721	54,619,477
September 30, 2016	44,266,478	-	44,266,478	41,890,535	(2,375,942)	41,890,535	61,300,066
June 30, 2016	49,097,217	-	49,097,217	48,202,703	(894,514)	48,202,703	63,207,410
March 31, 2016	57,985,071	-	57,985,071	55,783,979	(2,201,092)	55,783,979	70,578,397
December 31, 2015	4,881,394	-	4,881,394	4,783,194	(98,200)	4,783,194	4,728,736
September 30, 2015	50,531,382	-	50,531,382	45,665,859	(4,865,524)	45,665,859	58,523,652
June 30, 2015	66,924,927	-	66,924,927	65,240,585	(1,684,341)	65,240,585	72,953,475
March 31, 2015	17,856,447	-	17,856,447	17,681,510	(174,937)	17,681,510	17,553,999
December 31, 2014	69,225,743	-	69,225,743	68,301,291	(924,452)	68,301,291	79,410,553
September 30, 2014	645,721	-	645,721	604,437	(41,284)	604,437	627,381
June 30, 2014	57,012,606	-	57,012,606	55,422,168	(1,590,438)	55,422,168	75,253,388
March 31, 2014	91,702,041	-	91,702,041	80,744,074	(10,957,967)	80,744,074	97,672,071
December 31, 2013	113,707,951	-	113,707,951	108,815,640	(4,892,311)	108,815,640	111,783,052
September 30, 2013	81,945,730	-	81,945,730	80,589,482	(1,356,248)	80,589,482	77,049,314
June 30, 2013	147,215,936	-	147,215,936	142,140,572	(5,075,365)	142,140,572	130,973,023
March 31, 2013	194,772,025	-	194,772,025	188,372,089	(6,399,936)	188,372,089	176,678,910
December 31, 2012	378,096,660	-	378,096,660	366,323,110	(11,773,550)	366,323,110	333,086,073
September 30, 2012	816,573,456	-	816,573,456	788,350,823	(28,222,633)	788,350,823	697,683,289
June 30, 2012	912,025,937	-	912,025,937	890,494,221	(21,531,716)	890,494,221	708,872,106

March 31, 2012	1,095,018,529	-	1,095,018,529	1,058,132,041	(36,886,488)	1,058,132,041	841,095,013
December 31, 2011	1,090,904,993	-	1,090,904,993	1,056,761,288	(34,143,705)	1,056,761,288	754,310,838
September 30, 2011	762,320,632	-	762,320,632	738,510,048	(23,810,584)	738,510,048	546,494,232
June 30, 2011	1,130,732,656	-	1,130,732,656	1,078,535,670	(52,196,986)	1,078,535,670	839,143,290
March 31, 2011	1,097,705,351	-	1,097,705,351	1,068,852,204	(28,853,147)	1,068,852,204	816,688,348
December 31, 2010	968,742,508	-	968,742,508	950,111,417	(18,631,091)	950,111,417	708,895,637
September 30, 2010	915,728,030	-	915,728,030	889,896,058	(25,831,972)	889,896,058	673,462,493
June 30, 2010	1,362,887,892	-	1,362,887,892	1,335,628,212	(27,259,681)	1,335,628,212	975,241,506
March 31, 2010	1,471,905,696	-	1,471,905,696	1,391,337,543	(80,568,153)	1,391,337,543	1,015,645,802
December 31, 2009	1,349,124,214	-	1,349,124,214	1,290,817,168	(58,307,047)	1,290,817,168	852,088,739
September 30, 2009	2,953,442,689	(106,853,708)	2,846,588,981	2,700,948,264	(145,640,717)	2,700,948,264	1,692,409,640
Totals		$ (106,853,708)			$ (704,196,856)		

The following is the impairment listing for loan-backed and structured securities for the three months ended September 30, 2024:

CUSIP	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
12624SAE9	$ 283,581	$ -	$ 283,581	$ 107,645	$ (175,936)	$ 107,645	$ 124,189
040104RV5	1,316,794	-	1,316,794	1,183,932	(132,863)	1,183,932	1,356,076
040104TF8	38,801	-	38,801	34,441	(4,360)	34,441	32,572
040104TG6	427,234	-	427,234	339,199	(88,035)	339,199	421,680
04012XAC9	122,612	-	122,612	118,150	(4,461)	118,150	113,225
05535DCF9	1,602,815	-	1,602,815	1,326,621	(276,194)	1,326,621	1,789,110
17311YAC7	1,083,765	-	1,083,765	1,024,522	(59,243)	1,024,522	1,075,634
30247DAD3	485,685	-	485,685	469,281	(16,404)	469,281	463,552
61750FAE0	350,661	-	350,661	324,286	(26,375)	324,286	337,048
86359DXD4	137,432	-	137,432	130,525	(6,907)	130,525	143,263
86363HAB8	31,160	-	31,160	30,449	(711)	30,449	26,908
22540VG71	30,645	-	30,645	29,526	(1,119)	29,526	31,168
22541NUB3	113,852	-	113,852	80,381	(33,471)	80,381	68,940
22943HAD8	2,950,342	-	2,950,342	2,566,001	(384,340)	2,566,001	1,826,541
32053LAA0	16,437	-	16,437	15,758	(679)	15,758	15,626
45660LW96	648,429	-	648,429	648,386	(44)	648,386	562,907
761118RJ9	65,906	-	65,906	59,640	(6,266)	59,640	57,523
85554NAG5	47,438	-	47,438	44,025	(3,413)	44,025	41,374
466247UG6	101,373	-	101,373	100,540	(833)	100,540	102,039
Totals	$ 9,854,964	$ 0	$ 9,854,964	$ 8,633,308	$ (1,221,655)	$ 8,633,308	$ 8,589,373

The following is the impairment listing for loan-backed and structured securities for the three months ended June 30, 2024:

CUSIP	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
00256DAB8	$ 2,293,480	$ -	$ 2,293,480	$ 1,123,558	$ (1,169,923)	$ 1,123,558	$ 1,133,931
62878HAA9	22,229,665	-	22,229,665	19,330,143	(2,899,522)	19,330,143	10,631,579
46639YAX5	4,840,606	-	4,840,606	4,356,606	(484,000)	4,356,606	2,182,538
040104RV5	1,374,485	-	1,374,485	1,317,092	(57,393)	1,317,092	1,289,098
040104TF8	40,063	-	40,063	38,577	(1,486)	38,577	31,948
04012XAC9	125,717	-	125,717	121,053	(4,664)	121,053	109,385
12479DAC2	1,568,478	-	1,568,478	1,507,516	(60,962)	1,507,516	1,260,108
1248MGAJ3	39,339	-	39,339	36,493	(2,846)	36,493	31,938
17311YAC7	1,130,510	-	1,130,510	1,068,361	(62,149)	1,068,361	1,058,184
24763LFY1	79,137	-	79,137	56,898	(22,239)	56,898	80,148
30247DAD3	503,737	-	503,737	488,694	(15,043)	488,694	456,193
40431KAE0	1,951,281	-	1,951,281	1,905,908	(45,373)	1,905,908	1,943,159
46629NAC7	31,407	-	31,407	30,431	(976)	30,431	25,499

46630KAA4	143,450	-	143,450	141,586	(1,864)	141,586	140,735
617463AA2	7,597	-	7,597	7,322	(275)	7,322	6,323
61750FAE0	369,653	-	369,653	350,312	(19,340)	350,312	329,593
61750MAB1	2,958	-	2,958	2,835	(123)	2,835	2,781
61755AAB2	2,454	-	2,454	2,359	(94)	2,359	2,428
86359DXD4	142,667	-	142,667	137,350	(5,317)	137,350	145,141
86363HAB8	32,111	-	32,111	31,169	(942)	31,169	26,424
92926SAB2	392	-	392	351	(41)	351	364
93934XAB9	115,953	-	115,953	101,026	(14,926)	101,026	112,047
05535DAN4	445,322	-	445,322	440,021	(5,302)	440,021	485,938
18974BAA7	118,366	-	118,366	118,173	(192)	118,173	118,788
22540VG71	32,306	-	32,306	32,221	(85)	32,221	32,311
22541NUB3	121,803	-	121,803	119,790	(2,012)	119,790	55,976
22943HAD8	3,037,380	-	3,037,380	2,969,818	(67,562)	2,969,818	1,824,526
251510FB4	991,980	-	991,980	977,715	(14,265)	977,715	949,619
251513AQ0	38,093	-	38,093	37,966	(127)	37,966	35,832
32053LAA0	16,926	-	16,926	16,894	(32)	16,894	15,685
45254TRX4	52,515	-	52,515	52,231	(284)	52,231	50,916
45660LW96	660,160	-	660,160	653,133	(7,027)	653,133	545,339
45660LYW3	681,953	-	681,953	671,659	(10,294)	671,659	610,731
75115DAH8	3,134	-	3,134	2,919	(215)	2,919	2,655
761118FM5	1,360,921	-	1,360,921	1,317,414	(43,507)	1,317,414	1,331,404
761118RJ9	68,124	-	68,124	66,151	(1,974)	66,151	57,214
86358HHX0	135,467	-	135,467	88,953	(46,513)	88,953	71,879
86359BLQ2	646,438	-	646,438	619,933	(26,504)	619,933	466,829
92925VAM2	129,124	-	129,124	81,086	(48,038)	81,086	122,377
45660N5H4	1,036,870	-	1,036,870	974,290	(62,580)	974,290	1,002,198
61915RBB1	1,435,288	-	1,435,288	1,426,877	(8,411)	1,426,877	1,296,802
92922FWU8	335,190	-	335,190	333,499	(1,691)	333,499	328,225
17309FAE8	60,256	-	60,256	53,623	(6,633)	53,623	69,177
32051DCJ9	24,293	-	24,293	24,274	(19)	24,274	23,660
362334CN2	7,052	-	7,052	7,052	(0)	7,052	6,748
362341VU0	1,258,267	-	1,258,267	1,249,922	(8,345)	1,249,922	1,118,645
36298XAB8	4,703,619	-	4,703,619	4,033,800	(669,819)	4,033,800	4,079,741
466247UG6	103,056	-	103,056	101,640	(1,415)	101,640	101,176
59024WAB3	106,858		106,858	90,598	(16,259)	90,598	112,505
86359DME4	321,381	-	321,381	316,230	(5,151)	316,230	314,754
Totals	$ 54,957,279	$ 0	$ 54,957,279	$ 49,033,522	$ (5,923,757)	$ 49,033,522	$ 36,231,196

The following is the impairment listing for loan-backed and structured securities for the three months ended March 31, 2024:

CUSIP	Amortized Cost before Cumulative Adjustment	Cumulative Adjustment	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value
12624SAE9	$ 2,480,393	$ -	$ 2,480,393	$ 56,686	$ (2,423,708)	$ 56,686	$ 241,500
040104RV5	1,372,644	-	1,372,644	1,353,068	(19,576)	1,353,068	1,287,522
040104TF8	40,362	-	40,362	39,469	(893)	39,469	32,106
040104TG6	408,732	-	408,732	408,732	(0)	408,732	415,551
04012XAC9	124,521	-	124,521	124,515	(6)	124,515	106,576
12479DAC2	1,571,594	-	1,571,594	1,571,482	(112)	1,571,482	1,282,896
1248MGAJ3	39,783	-	39,783	39,439	(344)	39,439	33,515
17311YAC7	1,170,871	-	1,170,871	1,116,200	(54,671)	1,116,200	1,101,339
30247DAD3	510,622	-	510,622	505,931	(4,691)	505,931	473,455
35729RAE6	3,439,174	-	3,439,174	3,413,826	(25,349)	3,413,826	3,125,685
46629NAC7	31,443	-	31,443	31,252	(191)	31,252	25,667
46630KAA4	144,821	-	144,821	144,182	(639)	144,182	141,222
617463AA2	8,108	-	8,108	7,554	(554)	7,554	6,470

61749BAB9	58,393	-	58,393	58,386	(7)	58,386	62,224
61750FAE0	377,655	-	377,655	367,352	(10,303)	367,352	338,847
61750MAB1	3,228	-	3,228	2,932	(296)	2,932	2,831
617526AE8	161,089	-	161,089	160,981	(108)	160,981	184,441
61757MAB4	2,216,577	-	2,216,577	2,159,573	(57,003)	2,159,573	1,598,436
86359DXD4	149,656	-	149,656	142,761	(6,896)	142,761	149,311
93934XAB9	117,534	-	117,534	116,301	(1,233)	116,301	115,601
05535DAN4	508,829	-	508,829	467,091	(41,737)	467,091	482,546
07387AFX8	46,064	-	46,064	46,059	(5)	46,059	48,686
12667GKG7	41,516	-	41,516	40,855	(661)	40,855	41,704
12669E6K7	203,472	-	203,472	170,046	(33,427)	170,046	211,716
17025RAA3	216,726	-	216,726	186,092	(30,634)	186,092	236,121
18974BAA7	125,342	-	125,342	120,261	(5,081)	120,261	120,791
18974BAN9	63,192	-	63,192	59,615	(3,577)	59,615	63,277
22540VG71	33,573	-	33,573	33,122	(450)	33,122	33,174
22943HAD8	3,148,442	-	3,148,442	3,060,640	(87,802)	3,060,640	1,848,458
23321P6A1	1,123,431	-	1,123,431	1,114,640	(8,791)	1,114,640	1,207,067
251513AQ0	38,189	-	38,189	38,155	(35)	38,155	36,248
32053LAA0	17,947	-	17,947	17,219	(728)	17,219	15,858
45254TRX4	54,912	-	54,912	53,392	(1,520)	53,392	52,178
466247XE8	516,447	-	516,447	508,389	(8,059)	508,389	461,123
589929X29	311,818	-	311,818	309,770	(2,049)	309,770	315,074
61915RBZ8	160,029	-	160,029	160,028	(1)	160,028	139,745
65535VRK6	438,977	-	438,977	425,951	(13,026)	425,951	439,052
761118RJ9	72,483	-	72,483	70,209	(2,274)	70,209	59,726
86358HHX0	148,713	-	148,713	94,224	(54,489)	94,224	73,108
92978EAA2	73,009	-	73,009	73,005	(5)	73,005	69,366
23332UCM4	18,388	-	18,388	18,314	(74)	18,314	17,838
86360UAF3	894,861	-	894,861	894,830	(31)	894,830	697,974
92922FWU8	342,798	-	342,798	338,495	(4,303)	338,495	331,458
05949CCB0	27,131	-	27,131	27,127	(5)	27,127	28,180
12669GTE1	4,186	-	4,186	3,956	(230)	3,956	3,825
32051DCJ9	26,983	-	26,983	26,968	(15)	26,968	26,248
362341VU0	1,271,263	-	1,271,263	1,269,383	(1,881)	1,269,383	1,176,122
576433NH5	286,355	-	286,355	253,071	(33,284)	253,071	199,571
57645LAA2	9,040,600		9,040,600	9,037,867	(2,733)	9,037,867	10,546,925
86359DMC8	3,241,522	-	3,241,522	3,239,802	(1,720)	3,239,802	3,536,527
Totals	$ 36,924,401	$ 0	$ 36,924,401	$ 33,979,195	$ (2,945,206)	$ 33,979,195	$ 33,244,880