



Capital Markets Special Report

The **NAIC's Capital Markets Bureau** monitors developments in the capital markets globally and analyzes their potential impact on the investment portfolios of US insurance companies. A list of archived Capital Markets Bureau Special Reports is available via the [index](#)

Municipal Bonds in U.S. Insurer Portfolios, Year-End 2015

Municipal bonds are an integral part of the U.S. insurance industry's investments, and with historically low default rates, they can provide portfolio diversification through high-quality investments. U.S. insurer holdings of municipal bonds have increased annually at least since 2011, to a book/adjusted carrying value (BACV) of \$556 billion at year-end 2015 from \$467 billion at year-end 2011. This translates into a combined increase of \$89 billion or an aggregate change of 19%.

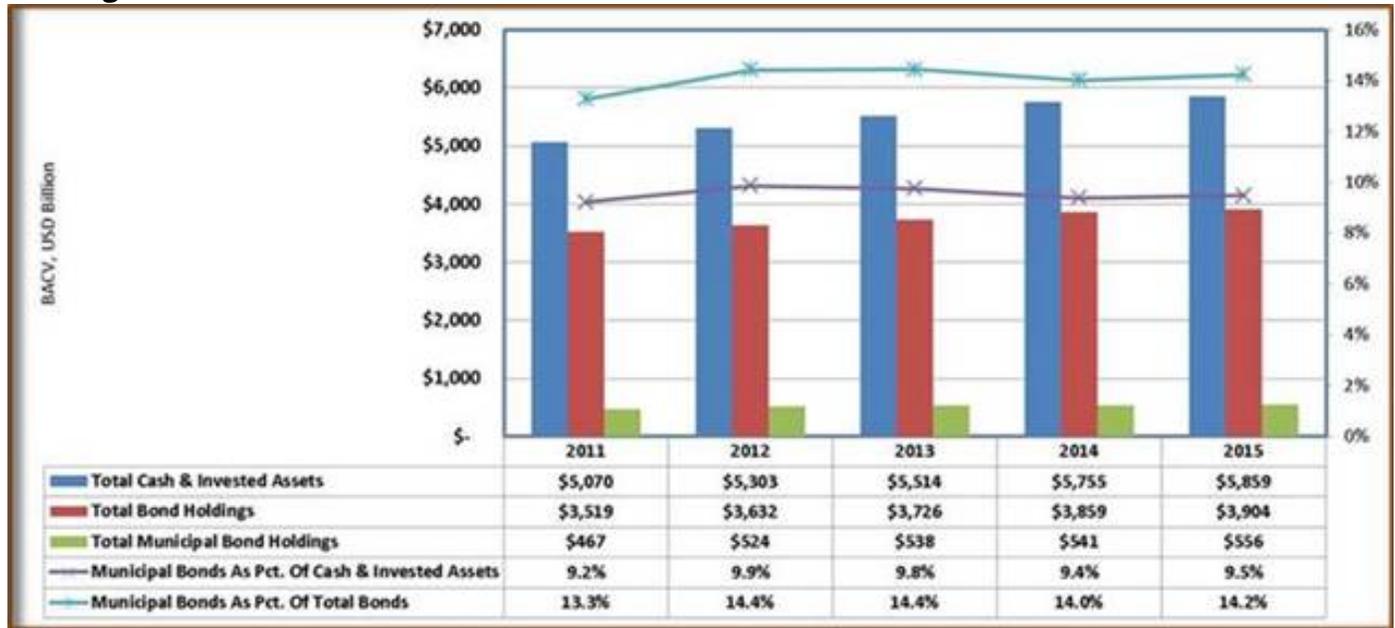
The distribution of municipal bond holdings among the five major insurer types is shown in Table 1. Since 2011, property/casualty (P/C) companies have remained the largest holders of this asset class, followed by life companies, health, fraternal and title. P/C companies have tended to be more active in the municipal bond market due to the tax-exempt status of most municipal bonds. While life insurers are not excluded from the tax benefits of municipal bonds, they generally have lower taxable income (that is, their taxable income is reduced by the amount credited to policyholders). As such, P/C companies are more attracted to the tax benefits of municipal bonds than life companies; the after tax-yield of tax-exempt municipal bonds is generally not high enough for life companies to find them competitive with taxable investments. P/C companies' municipal holdings, as a percentage of total U.S. insurer municipal bond exposure, have declined year-over-year (YOY), retreating to 62% in 2015 from 71% in 2011. Life companies' exposure, meanwhile, increased to 32% in 2015 from 24% in 2011. The largest YOY increase for life companies, to 29% in 2012 from 24% in 2011, was, in part, due to increased purchases of taxable municipal bonds offered under the Build America Bonds program. Changes amongst the other insurer types were relatively minor.

Table 1: U.S. Insurer Municipal Bond Holdings 2011 - 2015, BACV \$ Mil.

	2011		2012		2013		2014		2015	
	BACV	As Pct.								
P/C	\$ 330,097	71%	\$ 346,049	66%	\$ 346,345	64%	\$ 339,849	63%	\$ 345,241	62%
Life	\$ 114,266	24%	\$ 149,431	29%	\$ 162,424	30%	\$ 167,888	31%	\$ 177,629	32%
Health	\$ 15,709	3%	\$ 20,042	4%	\$ 21,347	4%	\$ 22,675	4%	\$ 22,773	4%
Fraternal	\$ 5,581	1%	\$ 6,644	1%	\$ 6,422	1%	\$ 8,765	2%	\$ 8,564	2%
Title	\$ 1,560	0%	\$ 1,532	0%	\$ 1,563	0%	\$ 1,413	0%	\$ 1,335	0%
Total	\$ 467,215	100%	\$ 523,699	100%	\$ 538,102	100%	\$ 540,590	100%	\$ 555,543	100%

U.S. insurers' investments in municipal debt has accounted for less than 10% of their total cash and invested assets in each of the past five years to 2011. As Chart 1 below shows, municipal debt as a percentage of invested assets has fluctuated between a low of 9.2% (2011) and a high of 9.9% (2012) for the time period analyzed. For 2015, that ratio was 9.5% and closer to the five-year mid-point.

Chart 1: Municipal Bond Holdings as a Percentage of Cash & Invested Assets and Total Bond Holdings 2011-2015



The percentage of municipal bond holdings to each insurer statement total cash and invested assets, for the past five years, is represented in Table 2 below. For P/C companies, municipal bond investments have been significant, accounting for at least 20% of their total cash and invested assets. In 2015, for example, municipal debt for P/C companies reached \$345 billion relative to total cash and invested assets of \$1.7 trillion (20.3%). While municipal debt has been at or below 5% of total cash and invested assets for life companies, it was still substantial in dollar terms. In 2015, municipal bonds for life companies amounted to \$178 billion relative to total cash and invested assets of \$ 3.8 trillion (4.6%). Alternatively, although title companies had about 15% of their total cash and invested assets in municipal bonds at year-end 2015, it amounted to about \$1 billion relative to nearly \$9 billion of total assets.

Table 2: Municipal Bond Holdings as a % of Total Cash & Invested Assets, by Insurer Type

	2011	2012	2013	2014	2015
P/C	22%	22%	21%	20%	20%
Title	20%	18%	19%	17%	15%
Health	10%	12%	12%	13%	12%
Fraternal	5%	6%	6%	7%	7%
Life	3%	4%	5%	5%	5%

U.S. Insurer Exposure as of Year-End 2015

The industry's predominant municipal bond exposure, or \$355 billion (or about 64%), was in revenue and special assessment bonds. Revenue bonds are backed by income from a specific project or resource such as bridge tolls, highway tolls or property lease fees. They are "non-recourse," meaning that if income from the project or resource fails to meet the debt obligations, bondholders cannot seek repayment from the general or taxing resources of the municipality or state.

The remaining balance of the industry's municipal bond exposure of \$200 billion was invested in various types of direct and general obligations (GO) of states or political subdivisions of states. GO bonds are backed by the "full faith and credit" of the issuer, which typically has the power to raise income, usually in the form of taxes, to repay bondholders. Table 3 provides a BACV breakdown of municipal holdings by bond category, by insurer statement type and as a percentage of total reported municipal bonds as of year-end 2015.

Table 3: Municipal Bond Types, Year-End 2015, \$ Mil.

Description	Insurer Type					Total	Pct. of total
	P/C	Life	Health	Fraternal	Title		
Municipal Bond Type							
U.S. special revenue & special assessment	\$ 202,930	\$ 131,407	\$ 16,016	\$ 4,041	\$ 899	\$ 355,293	64%
U.S. political subdivisions, states, territories & possessio	\$ 95,124	\$ 26,438	\$ 3,122	\$ 3,675	\$ 331	\$ 128,690	23%
U.S. states, territories & possessions	\$ 46,617	\$ 19,553	\$ 3,633	\$ 834	\$ 105	\$ 70,742	13%
Other	\$ 569	\$ 231	\$ 3	\$ 14	\$ -	\$ 817	0%
Total	\$ 345,241	\$ 177,629	\$ 22,773	\$ 8,564	\$ 1,335	\$ 555,543	100%
Pct. Of total	62%	32%	4%	2%	0%	100%	

Credit Quality Comparison

The vast majority of U.S. insurer's municipal bond exposure at year-end 2015, or 99.6% of total holdings, were investment grade credit quality, evidenced by either NAIC 1 or NAIC 2 designations as shown in Table 4. This was unchanged from year-end 2014. In 2015, 97.1% of municipal bond investments were designated NAIC 1, down slightly from 97.9% in the prior year, while those designated NAIC 2 increased to 2.4% from 1.7%.

Table 4: U.S. Insurer Municipal Bond Holdings by NAIC Designation, 2014–2015, BACV, \$ Mil.

NAIC Designation	2014		2015	
	BACV	Pct. of Total	BACV	Pct. of Total
1	\$ 529,475	97.9%	\$ 539,643	97.1%
2	9,090	1.7%	13,419	2.4%
3	1,084	0.2%	1,361	0.2%
4	433	0.1%	244	0.0%
5	247	0.0%	210	0.0%
6	258	0.0%	666	0.1%
Total	\$ 540,587	100%	\$ 555,543	100%

U.S. Insurers' Municipal Bond Maturity Profile

U.S. insurers' municipal bond maturity profile at year-end 2015, segregated by insurer type, is presented below in Table 5. Note the differences in maturity distributions among the different insurer types. P/C companies' municipal bond maturities, for example, were mostly clustered within the more than five years to 10-year maturity range. Life companies' municipal bonds, alternatively, were spread between the more than five years to 20-year maturities. The difference in maturity distributions, in

large part, was due to insurers' need to appropriately match the duration of assets and liabilities. P/C companies, for example, have shorter-term liabilities than life companies—hence, the shorter duration of assets.

Table 5: Municipal Bond Maturities at Year-End 2015, BACV, \$ Mil.

Maturity Distribution	P/C		Life		Health		Fraternal		Title		Total	Pct. Of Total
0 - 1 Year	\$ 4,308	1%	\$ 1,561	1%	\$ 872	4%	\$ 63	1%	\$ 46	3%	6,850	1%
>1 - 5 Years	\$ 66,913	19%	\$ 17,655	10%	\$ 7,434	33%	\$ 930	11%	\$ 784	59%	93,717	17%
>5 - 10 Years	\$ 182,375	53%	\$ 64,637	36%	\$ 10,571	46%	\$ 4,295	50%	\$ 410	31%	262,290	47%
>10 - 20 Years	\$ 77,013	22%	\$ 61,227	34%	\$ 3,013	13%	\$ 2,617	31%	\$ 80	6%	143,950	26%
>20 Years	\$ 14,632	4%	\$ 32,550	18%	\$ 884	4%	\$ 658	8%	\$ 15	1%	48,739	9%
Total	\$ 345,241	100%	\$ 177,629	100%	\$ 22,773	100%	\$ 8,564	100%	\$ 1,335	100%	555,547	100%

Largest State Exposures

For year-end 2015, municipal bonds issued by Texas and its subdivisions comprised the largest single-state holding for insurers, or 10% of all reported municipal bonds, with BACV of nearly \$58 billion. Municipal bonds issued by California and New York also accounted for a large portion of the total, at 9% and 7% each, respectively. Table 6 identifies the top 10 states' exposures by statement type and as a percentage of total municipal bond exposure for the overall U.S. insurance industry. As the table shows, the top 10 states accounted for half of the industry's overall municipal bond exposure at year-end 2015. The same 10 states also comprised the bulk, or 48%, of U.S. insurer municipal bond exposure at year-end 2014.

Table 6: Ten Largest State Exposures as of Year-End 2015, BACV, \$ Mil.

State of Issuance	P/C	Life	Health	Fraternal	Title	State Total	As Pct. of Total Municipal Bonds
Texas	\$ 40,168	\$ 14,589	\$ 2,033	\$ 692	\$ 164	\$ 57,646	10%
California	24,929	22,436	1,397	471	21	49,255	9%
New York	23,421	14,651	1,980	288	43	40,382	7%
Washington	17,409	5,223	923	355	57	23,966	4%
Illinois	13,228	8,007	1,002	451	72	22,760	4%
Florida	14,425	5,925	1,193	224	99	21,865	4%
Virginia	10,521	7,547	597	245	35	18,945	3%
Ohio	9,565	5,828	401	177	35	16,007	3%
Massachusetts	9,718	4,806	696	247	18	15,485	3%
Pennsylvania	9,454	4,119	710	309	14	14,607	3%
	\$ 172,840	\$ 93,131	\$ 10,930	\$ 3,458	\$ 558	\$ 280,917	51%

Credit Ratings of U.S. States

Since the end of 2015, nine of the top 10 states (excluding Illinois) have maintained their respective GO ratings by Moody's Investors Service (Moody's), Standard & Poor's (S&P) and Fitch Ratings (Fitch). Two of the states, Massachusetts and Pennsylvania, however, currently have negative outlooks by S&P.

Massachusetts' GO ratings (Aa1/AA+/AA+) were assigned a negative outlook in 2015 due to what S&P stated was a "... projected decline in financial reserves, despite a prolonged period of economic

expansion and generally positive revenue trends." S&P maintained its negative outlook in November 2016 on the view that Massachusetts "... continues to face midyear downward revenue revisions and spending pressures that have resulted in small budgetary gaps and reduced fund balances, even if the budget stabilization reserves have remained fairly stable."

S&P, in July 2016, removed Pennsylvania's GO ratings (Aa3/AA-/AA-) from negative watch and affirmed the ratings with a negative outlook after the state passed a revenue package to balance the budget. The negative outlook reflects S&P's view that the state's fiscal 2017 budget is "structurally imbalanced," and revenue assumptions are potentially "optimistic".

In June 2016, Illinois' GO ratings, while still in investment grade range, were downgraded by Moody's to "Baa2" from "Baa1" (which translates to NAIC 2) and by S&P to "BBB" from "BBB+" (NAIC 2); they continue to have negative outlooks. The downgrades by Moody's and S&P reflect the rating agencies' view regarding Illinois' "chronic structural" budget deficit and declining pension funded levels. In addition, on Feb. 1, 2017, Fitch lowered its rating on nearly \$26 billion of Illinois GO bonds to BBB from BBB+.

The GO ratings for most of the remaining U.S. states, as well as for the District of Columbia and Guam, continued to equate to investment grade credit quality (i.e., reflected by NAIC 1 and NAIC 2 designations).

Puerto Rico's current ratings (Caa3/D/D), however, represent an in-or-near-default status (NAIC 5/NAIC 6 designation equivalents) due to the commonwealth's payment default on certain GO bonds in July 2016. Moody's currently has a developing outlook, which it assigned in July 2016 after the U.S. Senate passed a measure (the Puerto Rico Oversight, Management, and Economic Stability Act, or PROMESA) to create an Oversight Board to oversee Puerto Rico's fiscal reforms and debt restructuring. Moody's believes that the measure "may improve aggregate investor recoveries by providing for an efficient resolution of Puerto Rico's crisis and taking steps to halt the decline of its economic base." U.S. insurers had a relatively small exposure (\$1 billion in BACV and approximately \$4 billion par value) at year-end 2015; Puerto Rico's current outstanding debt, most of which is in municipal bonds, is about \$72 billion.

Cities with Rating Changes

Dallas, in which insurers had an exposure of about \$7 billion (BACV), had its GO limited-tax debt downgraded by Moody's in October 2016 (to Aa3 from Aa2) on concerns regarding its growing unfunded pension liability. Moody's further downgraded the rating (to A1 from Aa3) in December 2016 due to the "... city's ongoing challenges surrounding its poorly funded public safety pension plan and a sizable potential liability associated with a back-pay referendum lawsuit." As of January 2017, Moody's has the debt under review for possible downgrade. Fitch also lowered its rating of the debt obligations by one notch (to AA from AA+) in October 2016, and S&P revised its GO rating (to AA- from AA) on Jan. 11, 2017. Both credit rating agencies maintain a negative outlook on the city's ratings. Dallas' current ratings, however, remain equivalent to an NAIC 1 designation.

Although there were no rating changes in 2016 for Detroit (which filed the largest ever Chapter 9 municipal bankruptcy in October 2013 and subsequently emerged from bankruptcy in December 2014), in July 2016, Moody's revised its outlook on Detroit's issuer rating (B2) to stable from positive (with the positive outlook having been assigned in July 2015), signaling that a rating improvement was now less likely. Moody's stated that the change reflected its expectations that the city would not be able to fully meet its increasing projected pension cost. Also in July 2016, S&P affirmed Detroit's unlimited tax GO rating (B, assigned July 2015) and stable outlook on the view that Detroit had "stabilized its operations post-bankruptcy, but is still challenged to demonstrate and maintain structural balance." U.S. insurers had approximately \$1 billion in BACV (and par) exposure to Detroit's municipal debt at year-end 2015.

2017 Outlook for Municipal Debt Ratings

According to Moody's research, its 2017 outlook for the U.S. states sector is stable based on expectation of "modest" economic and revenue growth that will, "...keep most states in a stable credit position, but will not be strong enough to foster broad credit improvement." In their view, some states may experience additional credit deterioration as they continue to face major challenges, including pension underfunding, rising health care costs, and weak oil and gas extraction revenues. S&P research, meanwhile, stated that it expects continued "fiscal strain" for many states due to slow tax revenue growth and added pressures from growing pension contribution requirements and Medicaid expenses. S&P also expects revenue growth, for certain states, to remain below the levels of growth in key expenditures in the coming year. Fitch research indicated that it also anticipates continued slow economic growth for states in 2017 along with many uncertainties related to a new federal administration.

For the U.S. local government sector, Moody's outlook is listed as stable, supported by its expectations of strong projected property tax revenue growth of 3% to 5% in 2017. It states, however, about 5% to 10% of issuers will be exposed to "compounding pressures and credit challenges." S&P also has a stable outlook for the U.S. local government sector, but it expects some municipalities to face budgetary challenges. Key risks for the sector, per S&P, include possible reductions in state-shared revenues, state-funding cutbacks, pressures from underfunded pension plans and tax reform that could reduce the attractiveness of municipal bonds. S&P, alternatively, lists several opportunities for the sector in its research, including continued economic recovery, potential of a federal infrastructure program and ongoing demand for capital projects.

Conclusion

U.S. insurers' municipal bond portfolio for year-end 2015, in terms of general allocations and credit quality, was little changed from the prior year. P/C companies remained the largest holders of insurers' municipal debt, seconded by life companies. Municipal bonds continued to represent less than 10% of the U.S. insurance industry's total cash and invested assets, similar to the previous four years. At year-end 2015, the majority of insurers' U.S. municipal bond holdings were considered to be investment grade credit quality based on their NAIC designations, which was unchanged from year-end 2014.

The outlook for both the U.S. state and local governments for 2017 is expected to be stable by the three major nationally recognized statistical ratings organizations (NRSROs). But there are concerns, however, about slower than anticipated growth and the looming uncertainties related to a new federal administration, which could potentially challenge certain states or municipalities. Notwithstanding, the small proportion of U.S. insurer holdings of municipal bonds (compared to total bonds and total cash and invested assets) and relatively high credit quality of their holdings, mitigates any concerns.

The Capital Markets Bureau will continue to monitor developments within the U.S. municipal debt markets and report as deemed appropriate.

February 3, 2017 Major Insurer Share Prices		Close	Change %			Prior		
			Week	QTD	YTD	Week	Quarter	Year
Life	Aflac	\$68.61	(2.4)	(1.4)	(1.4)	\$70.27	\$69.60	\$69.60
	Ameriprise	121.26	6.9	9.3	9.3	113.40	110.94	110.94
	Genworth	3.60	5.0	(5.5)	(5.5)	3.43	3.81	3.81
	Lincoln	69.50	0.3	4.9	4.9	69.30	66.27	66.27
	MetLife	51.77	(6.9)	(3.9)	(3.9)	55.61	53.89	53.89
	Principal	59.42	2.4	2.7	2.7	58.00	57.86	57.86
	Prudential	106.33	(0.2)	2.2	2.2	106.59	104.06	104.06
	UNUM	46.86	2.0	6.7	6.7	45.95	43.93	43.93
PC	Axis Capital	66.66	3.3	2.1	2.1	64.54	65.27	65.27
	Allstate	77.48	2.5	4.5	4.5	75.59	74.12	74.12
	Arch Capital	90.64	1.9	5.0	5.0	88.97	86.29	86.29
	Cincinnati	71.43	1.1	(5.7)	(5.7)	70.62	75.75	75.75
	Chubb	131.28	(1.5)	(0.6)	(0.6)	133.30	132.12	132.12
	Everest Re	221.61	0.2	2.4	2.4	221.12	216.40	216.40
	Progressive	37.13	(2.3)	4.6	4.6	38.00	35.50	35.50
	Travelers	117.78	(0.3)	(3.8)	(3.8)	118.10	122.42	122.42
	WR Berkley	67.87	0.1	2.0	2.0	67.80	66.51	66.51
	XL	38.65	2.2	3.7	3.7	37.81	37.26	37.26
Other	AON	\$114.06	0.6	2.3	2.3	\$113.39	\$111.53	\$111.53
	AIG	64.94	(0.4)	(0.6)	(0.6)	65.21	65.31	65.31
	Assurant	98.01	0.1	5.5	5.5	97.88	92.86	92.86
	Fidelity National	36.56	5.2	7.7	7.7	34.74	33.96	33.96
	Hartford	47.33	(3.3)	(0.7)	(0.7)	48.93	47.65	47.65
	Marsh	70.52	2.4	4.3	4.3	68.85	67.59	67.59
Health	Aetna	\$122.56	4.4	(1.2)	(1.2)	\$117.45	\$124.01	\$124.01
	Cigna	149.30	1.7	11.9	11.9	146.81	133.39	133.39
	Humana	198.24	(1.7)	(2.8)	(2.8)	201.66	204.03	204.03
	United	161.87	(0.7)	1.1	1.1	162.99	160.04	160.04
Monoline	Assured	\$40.01	0.4	5.9	5.9	\$39.86	\$37.77	\$37.77
	MBIA	10.43	(1.8)	(2.5)	(2.5)	10.62	10.70	10.70
	MGIC	11.09	8.0	8.8	8.8	10.27	10.19	10.19
	Radian	19.11	5.3	6.3	6.3	18.14	17.98	17.98
	XL Capital	38.65	2.2	3.7	3.7	37.81	37.26	37.26

February 3, 2017							
Major Market Variables		Change %			Prior		
		Close	Week	QTD	YTD	Week	Quarter
Dow Jones Ind	20,071.46	(0.1)	1.6	1.6	20,093.78	19,762.60	19,762.60
S&P 500	2,297.42	0.1	2.6	2.6	2,294.69	2,238.83	2,238.83
S&P Financial	393.13	0.2	1.7	1.7	392.44	386.53	386.53
S&P Insurance	355.24	(0.9)	0.6	0.6	358.54	353.26	353.26
US Dollar \$		Change %			Prior		
/ Euro	\$1.08	0.8	2.5	2.5	\$1.07	\$1.05	\$1.05
/ Crude Oil bbl	53.83	1.2	0.0	0.0	53.17	53.81	53.81
/ Gold oz	1,218.60	2.4	5.9	5.9	1,190.50	1,150.90	1,150.90
Treasury Ylds %		Change bp			%		
		%					
1 Year	0.81	0.02	(0.00)	(0.00)	0.79	0.82	0.82
10 Year	2.47	(0.02)	0.02	0.02	2.49	2.45	2.45
30 Year	3.10	0.04	0.03	0.03	3.06	3.07	3.07
Corp Credit Spreads -bp		Change %			Prior		
CDX.IG	63.61	(0.9)	(5.9)	(5.9)	64.16	67.59	67.59

February 3, 2017										
Major Insurer Bond Yields					Weekly Change					YTD
					Price			Spread over UST		Spread
Company	Coupon	Maturity	Current	Change	Yield	B.P.	Change	Change		
Life	Ameriprise	AMP	3.700%	10/15/2024	\$102.38	\$0.12	3.35%	100	0	(4)
	Lincoln National	LNC	3.350%	3/9/2025	\$98.50	(\$0.04)	3.57%	119	4	7
	MassMutual	MASSMU	3.600%	4/9/2024	\$102.37	\$0.38	3.23%	94	(0)	1
	MetLife	MET	4.050%	3/1/2045	\$94.91	(\$0.76)	4.37%	131	3	4
	New York Life	NYL	2.350%	7/14/2026	\$93.07	\$0.06	3.21%	74	2	(0)
	Pacific Life	PACLIF	5.125%	1/30/2043	\$105.01	(\$0.60)	4.79%	174	3	(16)
	Principal	PFG	6.050%	10/15/2036	\$120.42	(\$0.48)	4.48%	165	1	(4)
	Prudential	PRU	4.600%	5/15/2044	\$103.68	(\$0.39)	4.37%	133	(0)	(0)
	Allstate	ALL	4.500%	6/15/2043	\$105.05	(\$1.11)	4.18%	116	4	(3)
	Berkshire Hathaway	BRK	4.300%	5/15/2043	\$102.45	(\$0.89)	4.15%	113	1	3
	Travelers	TRV	4.600%	8/1/2043	\$107.45	(\$0.39)	4.13%	112	1	8
	XL Group	XL	6.250%	5/15/2027	\$116.71	(\$0.15)	4.23%	171	4	2
Other	AON	AON	4.250%	12/12/2042	\$92.40	(\$1.01)	4.76%	176	5	2
	AIG	AIG	6.820%	11/15/2037	\$124.80	\$0.01	4.90%	204	1	(7)
	Hartford	HIG	4.300%	4/15/2043	\$92.14	(\$0.52)	4.83%	181	(0)	(3)
	Nationwide	NATMUT	5.300%	11/18/2044	\$105.83	(\$0.65)	4.91%	182	(2)	(17)
Health	Aetna	AET	6.750%	12/15/2037	\$130.96	\$0.23	4.45%	161	(0)	(2)
	CIGNA	CI	6.150%	11/15/2036	\$117.84	(\$0.11)	4.75%	192	1	(16)
	United Healthcare	UNH	4.750%	7/15/2045	\$109.12	(\$1.01)	4.20%	112	1	(1)

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