

State of New Mexico

Pension Funding Considerations

December 10, 2020



Capital
Markets

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Introduction to Pension Funding Bonds

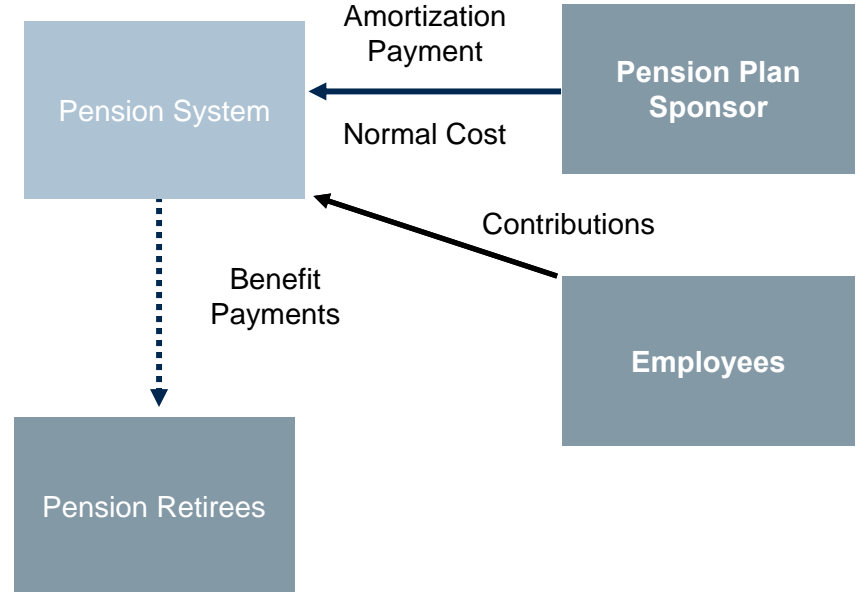
Section 1



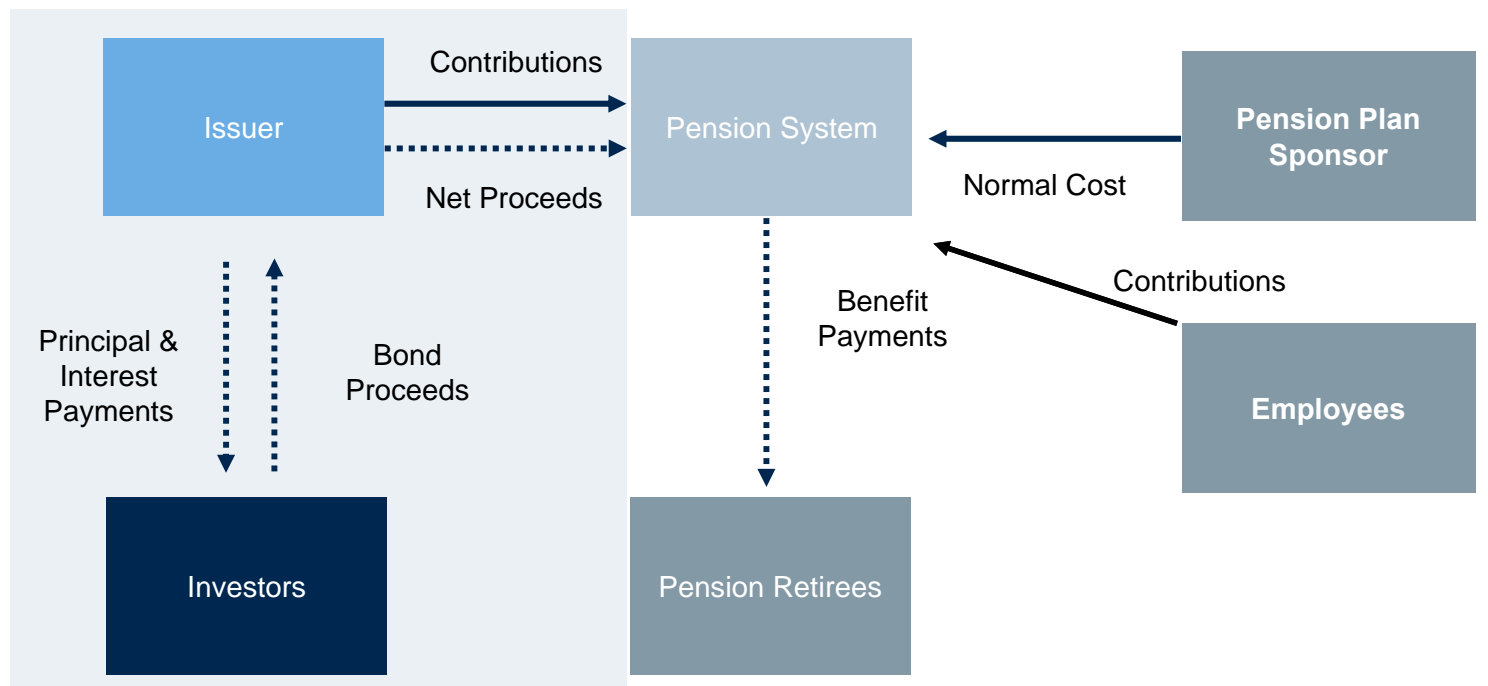
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Pension Funding Bonds – How Does It Work?

- Pension bond financing provides cash infusion into pension system which reduces unfunded liability
- Bond proceeds are invested and generate additional investment income which helps to reduce required contributions in the future
- Since unfunded pension liabilities accrued at assumed actuarial rate, replacing portion of UAAL borrowing (7.25%) with lower cost bonds (2.50% to 3.00% in the current market) creates lower blended cost of capital
 - Lower “cost” saves government significant cash flow or eliminates unfunded liability sooner
- Debt service on bonds typically matches projected amortization payments



Cash flows after Pension Bonds



2020 has been an active year for POB issuance to achieve a number of outcomes

Issuer	Sale Date	Size of Issuance (in thousands)	% of UAAL Funded	All-in TIC	Purpose
City of Arlington, TX	07/23/20	174,665	100%	1.687%	Fund Outstanding UAAL with TMRS, use of Escrow Fund to address short term budget issues
City of Carson, CA	06/10/20	108,020	100%	3.173%	Restructure CalPERS UAAL payments
City of El Monte, CA	06/10/20	118,725	90%	3.665%	Restructure CalPERS UAAL payments
City of Inglewood, CA	06/03/20	101,620	34%	3.801%	Restructure CalPERS UAAL payments
City of Pomona, CA	08/13/20	219,890	100%	3.460%	Restructure CalPERS UAAL payments
City of Riverside, CA	06/04/20	432,165	67%	3.643%	Fund a portion of the City's PERS UAAL
City of Montebello, CA	05/27/20	153,425	100%	3.607%	Restructure CalPERS UAAL payments
City of Ontario, CA	05/13/20	236,585	100%	3.672%	Restructure CalPERS UAAL payments
Penn State University	05/05/20	1,067,165	75%	2.689%	Prepay PA SERS UAAL
Riverside County, California	04/22/20	719,995	25%	3.441%	Fund Specific UAAL Amortization Bases with CalPERS
West Covina, CA	07/23/20	204,095	100%	3.678%	Restructure CalPERS UAAL payments through a pledge of leases on city streets
State of Illinois	10/20/20	125,000	n/a	2.845%	Fund Pension Buyout payments
City of Port Huron, MI	03/04/20	52,000	75%	2.900%	Fund a portion of UAAL with MERS to allow for an extension of amortization period

- Low interest rates have provided an opportunity for a number of local governments to restructure their pension amortization payments to more affordable levels
- For example, with CalPERS shortening their amortization periods and lowering their discount rate, many local California governments were faced with rapidly increasing amortization payments and limited budget flexibility
- Pennsylvania created a program that would allow certain participating entities of the State Employees Retirement System to prepay their UAAL and receive credits against future payments
 - Penn State University took advantage of this alternative and two other state-level entities are in the planning process for pension bonding
- The City of Arlington (Texas) used a unique escrow structure to create near term savings as well as funding its long-term UAAL
- The City of Port Huron, MI funded a portion of its UAAL to take advantage of an opportunity offered by the Municipal Employees Retirement System of Michigan for a one-time extension of the amortization period to 2049 in order to reduce its annual ARC payments

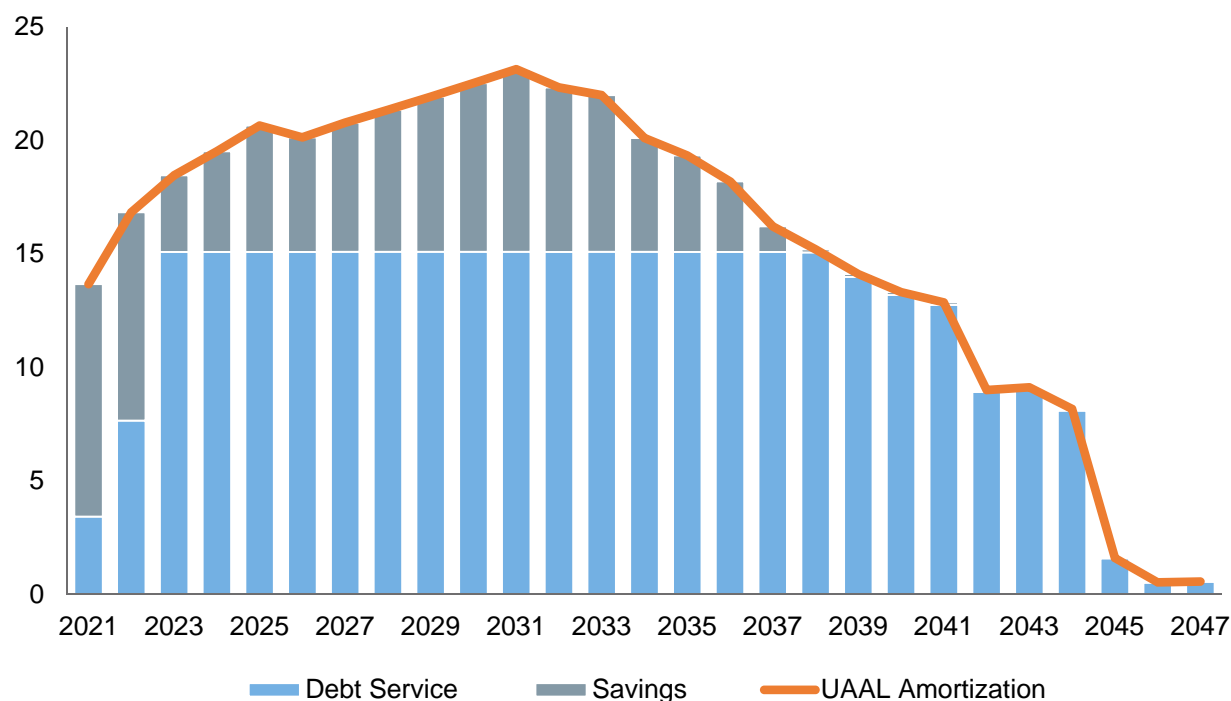
Source: Official Statements; RBC calculations

Case Study: City of Pomona Pension Obligation Bonds

\$219,890,000 City of Pomona, 2020 Taxable Pension Obligation Bonds, Series BJ

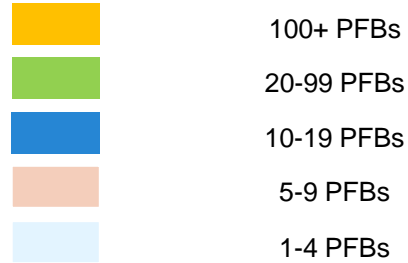
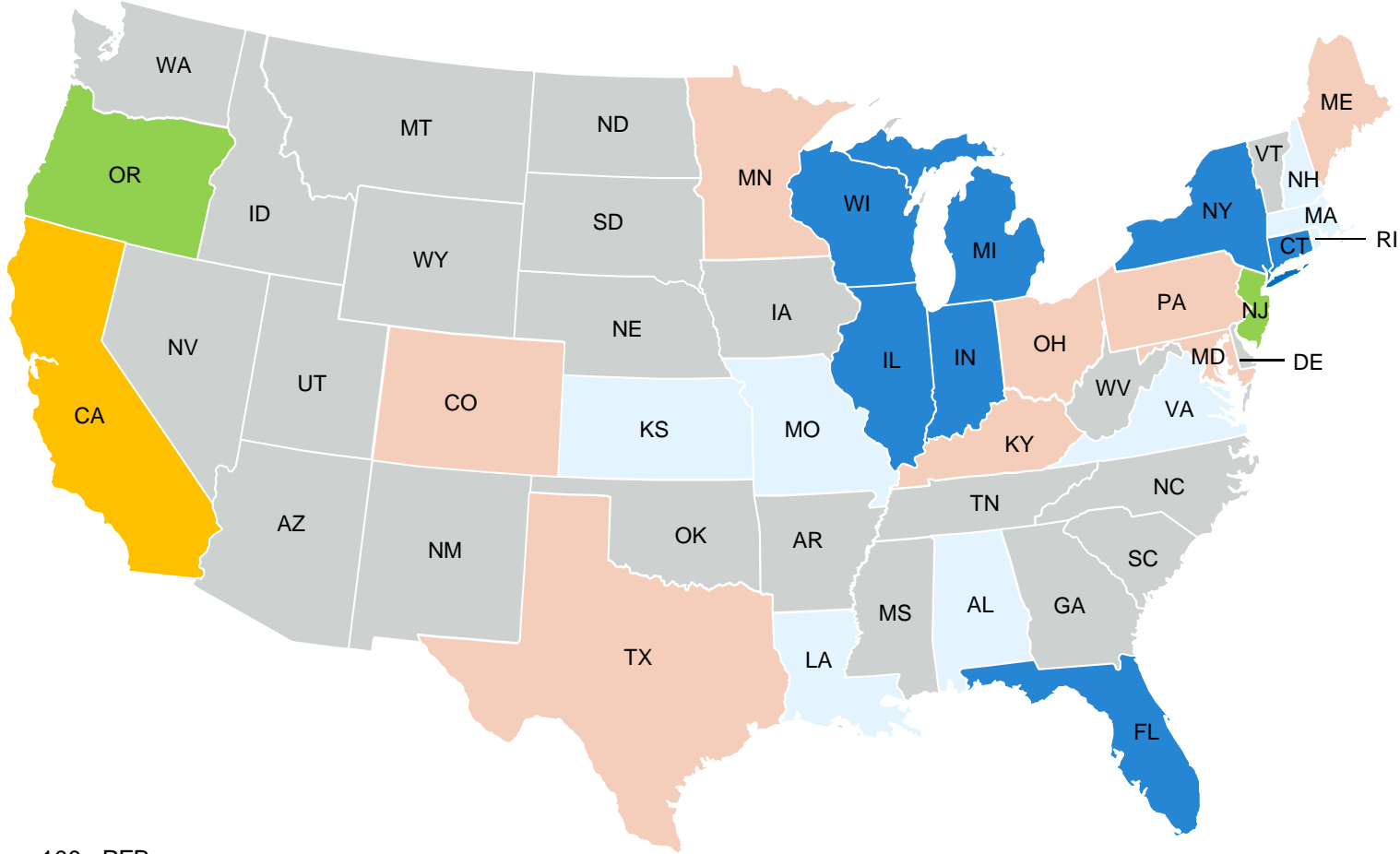
Bond Ratings: -/AA-/A+
RBCCM Role: Bookrunning Senior Manager
Sale Date: August 13, 2020

- The proceeds of the bonds are primarily being issued to refinance substantially all of the City's UAAL; prior to the bond sale, the City's pension programs were 69.2% funded
- In California, pension obligation bonds do not require voter approval due to a judicially created exception to the State Constitutional debt limitation but in order to obtain authorization to issue POBs, the City was required to file a validation action
- The Bonds are secured by the absolute and unconditional obligation of the City's general fund, and were structured to mature from 2022 to 2046 with a 10-year par call
- The financing received strong interest from investors, with 52 individual accounts placing orders, and achieved a True Interest Cost of approximately 3.46%
- Ultimately, the transaction generated more than \$100 million in cash flow savings when compared to the amortization of the City's unfunded accrued pension liability prior to the issuance of the bonds, approximately \$19.3 million of which was structured into the first two Fiscal Years



Source: CalPERS Actuarial Valuations Reports, Official Statement

Pension Funding Bonds (PFBs) Issued By States Over the Last 20 Years



Source: Thomson Financial/SDC.

Example of Pension Funding Bond Considerations

Soft vs. Hard liability	<ul style="list-style-type: none">▪ Annual PFB debt service obligations are fixed and negative consequences of non-payment is far greater than deferring pension contribution (default risk)
Impact of increased debt on borrowing capacity	<ul style="list-style-type: none">▪ Potential for crowding out debt capacity (from both balance sheet and annual budget perspective) for infrastructure investment
Ability to generate sufficiently high level of return	<ul style="list-style-type: none">▪ Dependent on future investment performance▪ At time of borrowing, it is unknown whether investment returns rate will exceed cost of PFBs
Investment Expectations Based on Overall Pension Fund	<ul style="list-style-type: none">▪ Investment expectations should be consistent with overall Retirement Fund▪ Planning should be undertaken regarding investment of bond proceeds given potential size of investment▪ Poor performance of Fund's investment may lead to negative perception of issuer
PFB Proceeds Have Net Positive Impact on ARC and Funded Ratio	<ul style="list-style-type: none">▪ Actual investment results for entire fund over time are important, but impact of introducing PFB proceeds to reduce Unfunded Liability has net positive impact on funded ratios even if investment returns are below bond rate going forward
PFB Now Has Greater Impact on Unfunded Liabilities	<ul style="list-style-type: none">▪ Rating agencies now combine UAAL with debt (plus OPEB obligation) in determining credit strength of issuer▪ Issuing PFB will reduce amount of unfunded pension liability required to be disclosed on sponsor's balance sheet by improving plan's funded ratio▪ This is offset by addition of pension bond principal

RBCCM Pension Bond Study of Hypothetical Investment Return Relative to Borrowing Cost

Analysis Assumptions

- Analysis looks at 57 of largest pension bond financings since 1994
- Investments made according to “60-35-5” investment allocation in stocks, bonds, and cash equivalents
- Benchmarks used for each category are S&P 500, Barclays Aggregate Bond Index and 3-month T-Bill
- Hypothetical investment returns calculated starting from first quarter after issuance of each financing to either final bond maturity (if it has matured) or September 2020
- For non-fixed rate financings, borrowing cost is calculated either from swap agreements related to financing or forecasted variable cost initially projected in official statement

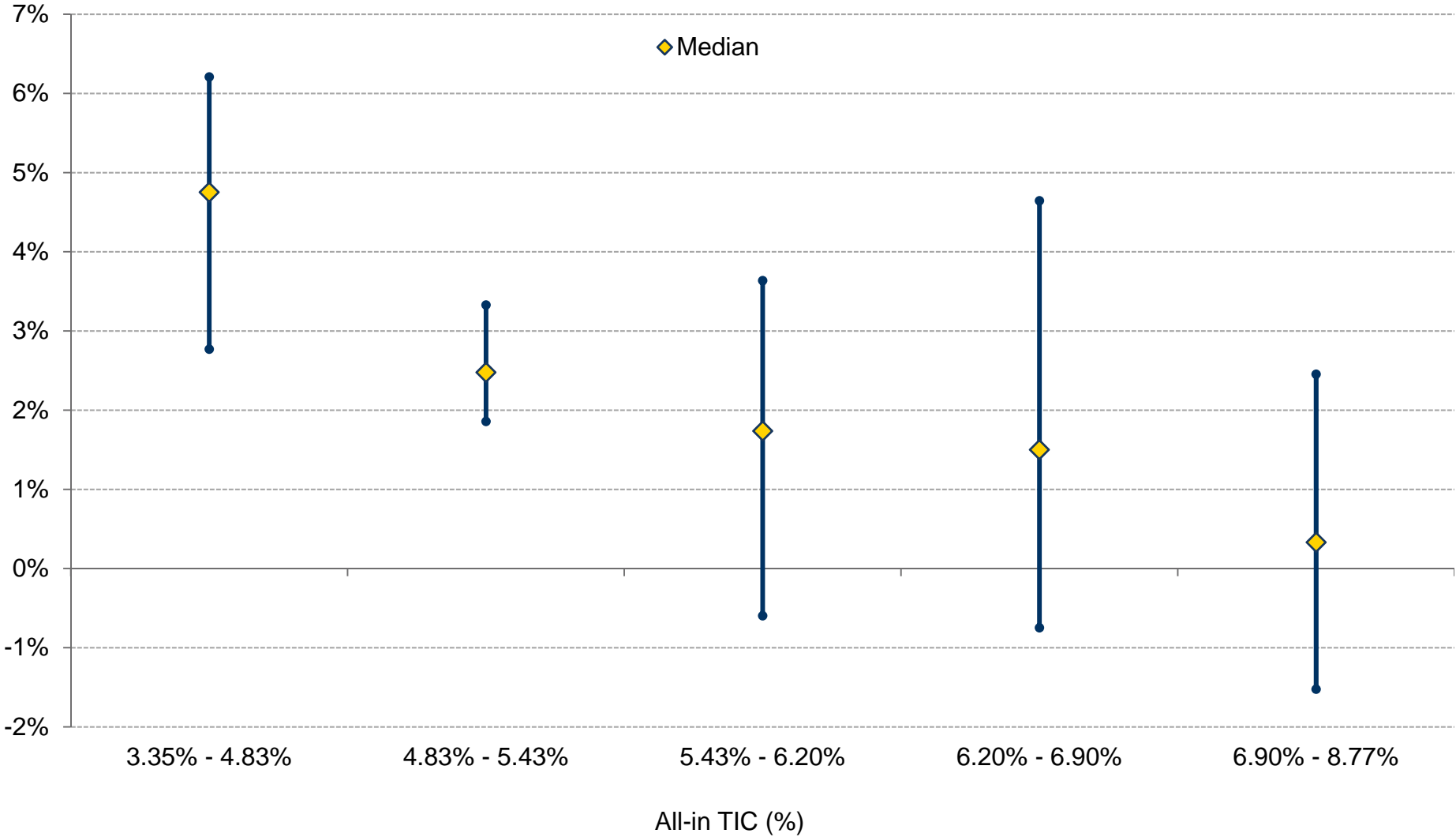
09/30/2020 Valuation of Hypothetical Investment Return Relative to Borrowing Cost of Pension Bond Issuances

Sale Date	Amount (\$ mils)	State	Issuer	Issue Description	Series	Elapsed Time	Years to Mat.	Final Maturity	CAGR	All-in-TIC	Differential
02/03/94	430	CA	San Diego Co-California	Pension Obligation Rev Bonds	1994 Series A	13.54	13.54	08/15/07	9.63%	6.42%	3.21%
02/15/94	337	CA	Contra Costa Co-California	Pension Obligation Bonds	1994 Series A	17.30	17.30	06/01/11	8.02%	6.90%	1.12%
03/17/94	246	CA	Fresno City-California	Pension Obligation Bonds	Series 1994	20.22	20.22	06/01/14	8.35%	7.65%	0.70%
09/23/94	320	CA	Orange Co-California	Taxable Pension Oblig Bonds	Series 1994 B	13.95	13.95	09/01/08	8.58%	8.32%	0.26%
10/13/94	1,965	CA	Los Angeles Co-California	Pension Obligation Bonds	Series 1994 A	11.72	11.72	06/30/06	9.57%	8.77%	0.80%
04/12/95	310	CA	Alameda Co-California	Pension Obligation Bonds	Series A	9.65	9.65	12/01/04	8.95%	7.97%	0.99%
06/22/95	538	CA	Sacramento Co-California	Taxable Pension Funding Bonds	Series 1995B&C	25.29	27.04	07/01/22	8.04%	7.72%	0.32%
11/22/95	421	CA	San Bernardino Co Fin Auth	Pension Obligation Rev Bonds	Series 1995	24.87	25.71	08/01/21	7.75%	7.41%	0.34%
11/01/96	773	NY	NYS Dorm Authority	Pension Obligation Bonds	Series 1996	6.42	6.42	04/01/03	5.68%	6.93%	-1.26%
12/12/96	307	CA	Alameda Co-California	Taxable Pension Obligation Bonds	Series B	21.98	21.98	12/01/18	7.33%	7.52%	-0.19%
02/14/97	436	CA	Oakland City-California (1)	Taxable Pension Oblig Bonds	Series 1997	13.84	13.84	12/15/10	5.94%	6.50%	-0.56%
06/26/97	2,803	NJ	New Jersey Economic Dev Auth	State Pension Funding Bonds	Series 1997A-H	23.28	31.66	02/15/29	7.04%	7.68%	-0.64%
07/09/97	384	CO	Denver City and Co SD #1	Taxable Pension Certs of Partic	Series 1997	21.45	21.45	12/15/18	6.67%	6.40%	0.27%
12/08/98	221	MA	Worcester City-Massachusetts	General Obligation Bonds	Loan of 1998	21.83	29.08	01/01/28	6.23%	6.32%	-0.08%
01/21/99	1,292	PA	Philadelphia Auth for Indus Dev	Pension Funding Bonds	Series 1999 A-C	21.71	29.75	10/15/28	6.17%	6.70%	-0.53%
10/27/99	301	OR	Portland City-Oregon	Ltd Tax Pension Oblig Rev Bonds	1999 Series D&E	19.61	19.61	06/01/19	5.51%	6.10%	-0.60%
08/22/00	350	CT	Bridgeport City-Connecticut (1)	Pension Obligation Bonds	Series 2000 B	20.12	29.42	01/15/30	6.08%	7.60%	-1.52%
03/28/02	229	OR	Oregon Local Governments	Limited Tax Pension Obligation Bonds	Series 2002	18.52	27.82	01/15/30	6.08%	6.82%	-0.75%
09/17/02	737	CA	San Diego Co-California	Taxable Pension Obligation Bonds	Series 2002C	18.05	29.93	08/15/32	8.06%	4.65%	3.42%
10/10/02	775	OR	Oregon School Boards Association	Limited Tax Pension Obligations	Series 2002A&B	17.99	25.74	06/30/28	7.89%	5.60%	2.30%
04/04/03	927	OR	Oregon School Boards Association	Ltd Tax Pension Oblig Bonds	Series 2003	17.50	25.26	06/30/28	7.63%	5.72%	1.91%
04/23/03	323	CA	Contra Costa Co-California	Taxable Pension Obligation Bonds	Series 2003A	17.45	19.12	06/01/22	7.63%	5.44%	2.18%
05/13/03	231	CA	County of Sonoma	Taxable Pension Obligation Bonds	Series 2003AB	17.40	19.57	12/01/22	7.63%	4.84%	2.78%
05/15/03	238	CA	Kern Co-California	Taxable Pension Oblig Ref Bonds	Series 2003A	17.39	23.27	08/15/26	7.63%	4.96%	2.67%
06/05/03	10,000	IL	Illinois	General Obligation Bonds	Series of 6/03	17.33	30.01	06/01/33	7.63%	4.97%	2.66%
10/28/03	2,084	OR	Oregon	GO Pension Bonds	Series 2003	16.94	23.61	06/01/27	7.30%	5.56%	1.74%
12/10/03	1,792	WI	State of Wisconsin	General Fund Annual Approp. Bonds	2003 Series AB	16.82	20.11	01/15/24	7.30%	5.80%	1.49%
02/06/04	468	OR	Oregon School Boards Association	LTD Tax Pension Obligations	Series 2004	16.66	24.41	06/30/28	7.29%	5.21%	2.07%
02/26/04	500	KS	Kansas Development Fin Auth	Revenue Bonds	Series 2004C	16.61	30.20	05/01/34	7.29%	5.27%	2.02%
03/10/04	328	CA	Fresno Co-California	Taxable Pension Obligation Bonds	2004 Series A	16.57	28.45	08/15/32	7.29%	5.43%	1.86%
06/09/04	464	CA	San Bernardino Co-California	Pension Obligation Bonds	Series 2004A	14.15	14.15	08/01/18	6.95%	5.62%	1.34%
06/22/04	454	CA	San Diego Co-California	Pension Obligation Bonds	Series 2004A & C	16.28	18.16	08/15/22	7.39%	5.69%	1.70%
06/24/04	426	CA	County of Sacramento	Taxable Pension Funding Bonds	Series 2004C-1,2,3	16.28	18.15	08/15/22	7.39%	4.62%	2.77%
01/19/05	399	TX	Dallas City-Texas	GO Pension Bonds	Series 2005 ABC	15.71	30.09	02/15/35	7.47%	5.26%	2.21%
02/10/05	400	CA	Riverside Co-California	Pension Obligation Bonds	Series 2005A	15.65	30.03	02/15/35	7.47%	4.99%	2.48%
05/25/05	1,440	MI	Detroit Retirement Sys Fund Tr	Taxable Certs of Participation	Series 2005A & B	15.36	20.07	06/15/25	7.46%	5.23%	2.23%
06/08/05	458	OR	Oregon Community College Dt	Limited Tax Pension Oblig	Series 2005A	15.32	23.00	06/01/28	7.46%	4.85%	2.62%
06/25/07	389	CA	Santa Clara Co-California	Pension Funding Bonds	Series 2007	13.28	29.12	08/01/36	7.15%	6.09%	1.06%
01/29/08	1,589	PR	Puerto Rico Employees Retire Sys	Senior Pension Funding Bonds	Series A	12.68	50.45	07/01/58	7.91%	6.41%	1.50%
04/16/08	2,277	CT	Connecticut	General Obligation Bonds	2008 Series A & B	12.47	23.93	03/15/32	8.25%	5.97%	2.27%
04/23/08	750	CO	Denver City and Co SD #1	Certificates of Participation	Series 2008 A	12.45	29.67	12/15/37	8.25%	4.92%	3.33%
06/26/08	1,359	PR	Puerto Rico Employees Retire Sys	Senior Pension Funding Bonds	Series B and C	12.27	50.05	07/01/58	8.25%	6.60%	1.64%
07/30/08	1,937	IL	Chicago Transit Authority	Sales&Transfer Tax Receipts Bonds	Series 2008 A & B	12.18	32.36	12/01/40	8.88%	6.84%	2.04%
12/04/08	403	TX	Houston City-Texas	Pension & Refunding Oblig Bonds	Series 2008 A & B	11.83	23.25	03/01/32	10.06%	6.48%	3.58%
03/19/09	400	WI	Milwaukee Co-Wisconsin	GO Pension Promissory Notes	Series 2009 A&B	11.54	19.72	12/01/28	10.93%	6.28%	4.65%
09/01/09	313	CT	Waterbury City-Connecticut	General Obligation Pension Bonds	Series 2009	11.09	29.27	12/01/38	9.52%	7.07%	2.45%
08/18/10	468	KY	Kentucky Asset/Liability Comm	General Fund Funding Notes	2010 First Series	9.63	9.63	04/01/20	8.00%	3.35%	4.64%
08/24/10	289	CA	Sonoma Co-California	Pension Obligation Bonds	Series 2010 A	10.11	19.28	12/01/29	9.57%	5.93%	3.64%
02/23/11	270	KY	Kentucky Asset/Liability Comm	Funding Notes	Gen Fd 1st Ser 2011	9.61	11.11	04/01/22	9.03%	4.83%	4.20%
07/30/12	213	CA	City of Oakland	Taxable Pension Obligation Bonds	Series 2012	8.18	13.39	12/15/25	9.33%	4.46%	4.86%
09/20/12	338	FL	Fort Lauderdale City-Florida	Special Obligation Bonds	Series 2012	8.03	19.29	01/01/32	9.33%	4.21%	5.12%
11/28/12	256	MD	Baltimore Co-Maryland	General Obligation Bonds	2012 Series	7.84	29.69	08/01/42	9.67%	3.46%	6.21%
06/27/13	209	VA	Portsmouth	General Obligation Bonds	Series 2013B	7.27	23.62	02/01/37	9.29%	3.81%	5.48%
03/11/15	264	MI	Macomb Co-Michigan	Retirees Health Care Bonds	Series 2015	5.56	20.66	11/01/35	8.28%	3.88%	4.40%
08/12/15	1,005	KS	Kansas Development Fin Auth	Revenue Bonds	Series 2015 H	5.14	29.70	04/15/45	10.00%	4.68%	5.32%
12/22/17	1,005	TX	Houston City-Texas	Pension Obligation Bonds	Series 2017	2.78	29.21	03/01/47	8.70%	3.49%	5.20%
06/25/18	251	CA	Tulare County	Pension Obligation Bonds	Series 2018	2.27	18.95	06/01/37	10.13%	4.19%	5.93%
Medians	421					15.36	23.27		7.75%	5.72%	2.07%
Investment Return 1994 to 9/30/2020										8.26%	

(1) Source: RBCCM calculations. Projected All-in-TIC based on information derived from official statements and does not include any refinancings of original bond issue.

Historical Analysis of Performance by Large Pension Bond Issues

No Pension bond in the study with an interest rate below 6% has seen a shortfall relative to their compound annual growth rate



Number of Observations	12	11	11	11	12
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Source: Official Statements; RBC calculations

Pensions and COVID

Section 2



Capital
Markets

Pension Funding and COVID

Weak State and Local Government Revenues

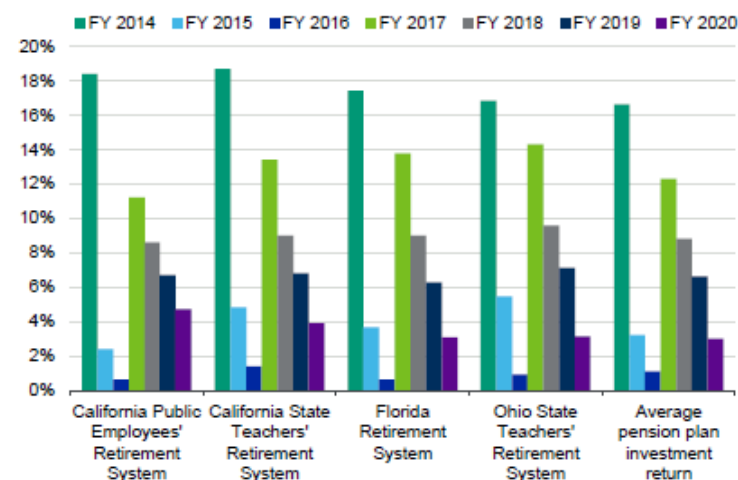
- Revenue losses caused by COVID are constraining government budgets as pressure for governments to make stronger pension fund contributions is rising
- Coronavirus caused widespread declines in economically sensitive tax revenues, producing large budget gaps that will be especially challenging for those with high fixed costs for pensions and other debt
- With revenue lower, fixed costs will consume greater portion of budget capacity, forcing expenditure adjustments in other areas or use of reserves
- Without tax increases, which may be politically unpalatable in wake of elevated unemployment, Moody's believes that state revenues unlikely to return to FY19 levels even by FY24
- States with higher dependency on volatile taxes like sales taxes are likely to suffer more severe revenue challenges
- Though property tax revenues will likely remain more stable than other tax sources, higher payment delinquencies resulting from the sudden economic shutdown will delay timing of receipts

Lower Investment Performance Returns

- Pension investment returns for FYE 2020 have likely fallen short of targets, creating new unfunded liabilities and higher actuarially determined contribution requirements (ADCs)
- Markets have recovered significantly since March, but Moody's estimates FY20 returns for most US public pension systems likely in 0-1% range, considerably below annual targets of around 7%
- Moody's projects that returns of around 0% in FY20 would cause cost to "tread water" to rise by around 15% in FY21 and that reported unfunded liabilities and adjusted net pension liabilities will rise by more than 20%
- Many governments don't contribute enough to tread water on pension obligations, and ADCs will likely rise due to weak FY20 investment performance

Pension plan investment returns

Investment returns fell for the third year in a row
Investment returns by June 30 fiscal year-end for select pension plans



The average pension plan investment return is based on a 56-plan representative sample for fiscal years 2014 to 2019. The fiscal 2020 average is estimated.
Sources: Retirement systems and Moody's Investors Service

Sources: Moody's Sector in-Depth – US State and Local Government – Tension rises between pension funding and budgets strained by coronavirus shock, July 10, 2020,

https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBM_1231482 ;

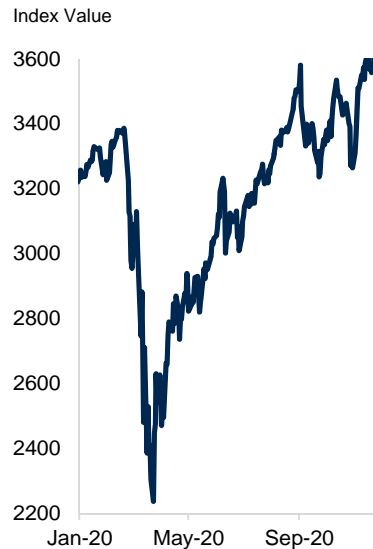
Moody's Sector Profile – Medians – Pension and OPEB liabilities fell in fiscal 19 ahead of jump in 2020, September 8, 2020 , https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBM_1239084

Recent Performance of Major Asset Classes

Commentary

- After the third consecutive Monday of positive Covid-19 vaccine news, equity prices moved into record territory before the Thanksgiving holiday
 - Equities rallied during Thanksgiving week, with the DJIA, S&P, and Nasdaq climbing 1.5%, 1.6%, and 2.5%, respectively
 - Progress toward a COVID vaccine has propelled the major US indexes higher by 11-13% in November as of last Friday's close
- Treasury yields were unchanged on the front end despite supply of 2s, 5s, and 7s; 30-year bond yields rose 5bp last week
- US investment-grade issuance totaled \$300mm last week, while municipal issuers sold \$1.8bn
 - Corporate/IG issuance has topped \$84bn for the month of November and \$1.7tn for the year
- Economic reports were mixed again last week, but market participants looked past these releases and focused principally on the vaccine news
- November employment data comes out on Friday; consensus calls for non-farm payrolls gains of 500k
 - Additional highlights include pending home sales, Dallas Fed, ISM, ADP, jobless claims, and durable goods

S&P 500 Index



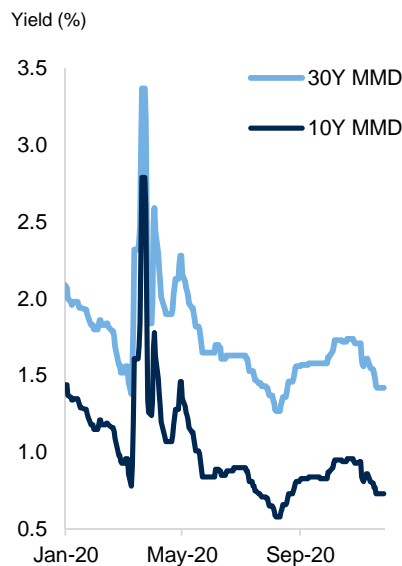
Oil (WTI)



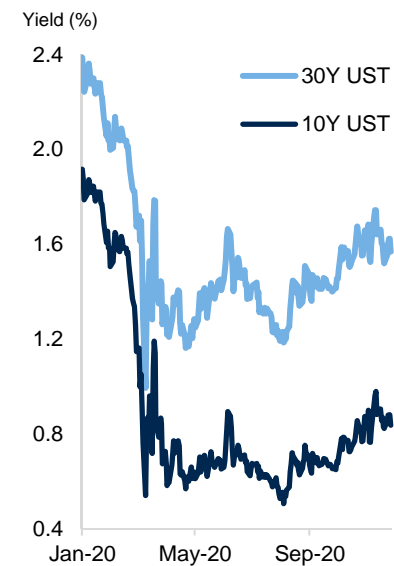
Gold



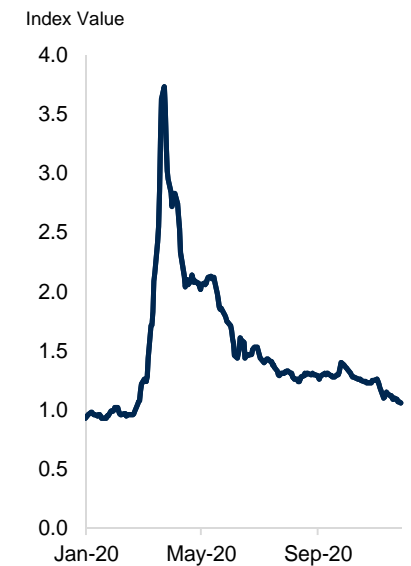
MMD Yields



U.S. Treasury Yields



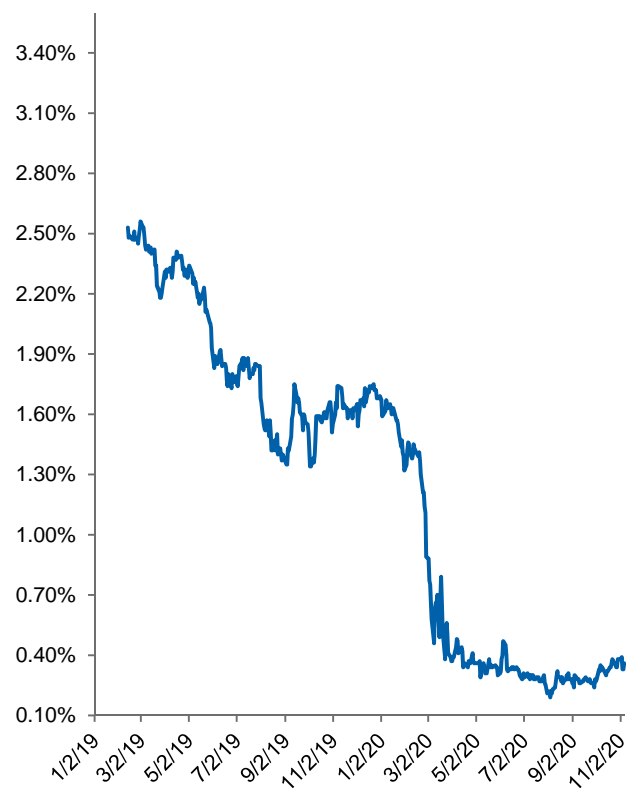
IG Corporate Bond Spreads



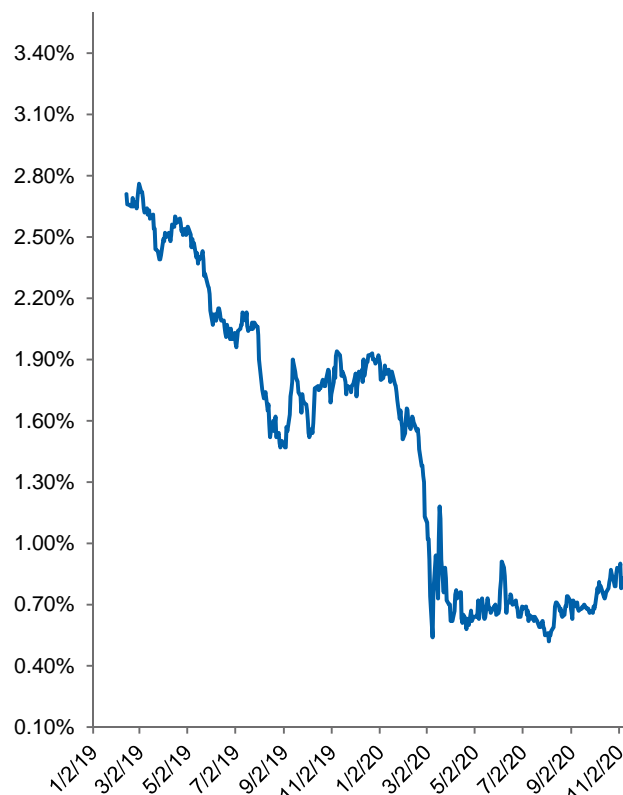
Interest Rate Movements

Performance of Treasury Yields

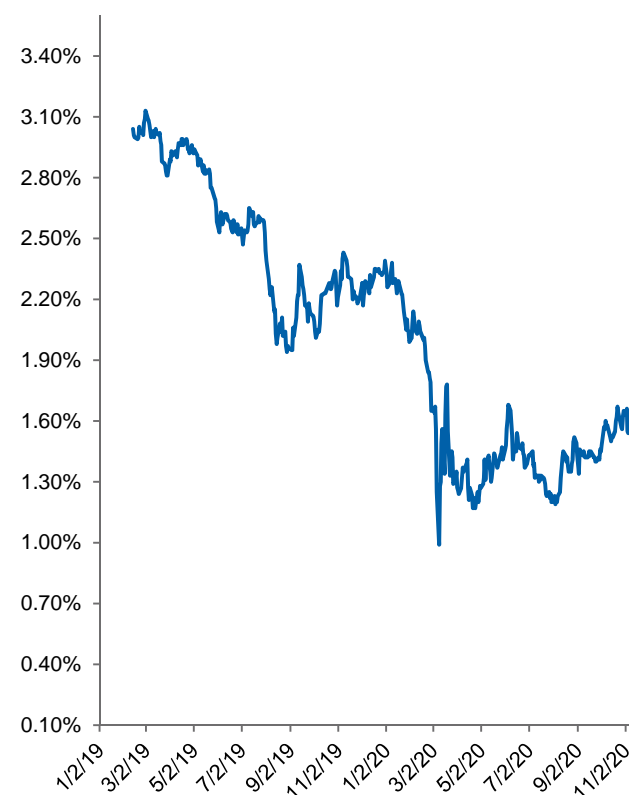
5 Year UST



10 Year UST



30 Year UST



Change in Treasuries

	01/02/2019	11/06/2020	Δ (bps)
3yr UST	2.470	0.210	-226
5yr UST	2.490	0.360	-213
7yr UST	2.560	0.590	-197
10yr UST	2.660	0.830	-183
30yr UST	2.970	1.600	-137

Change in MMD/UST Ratio

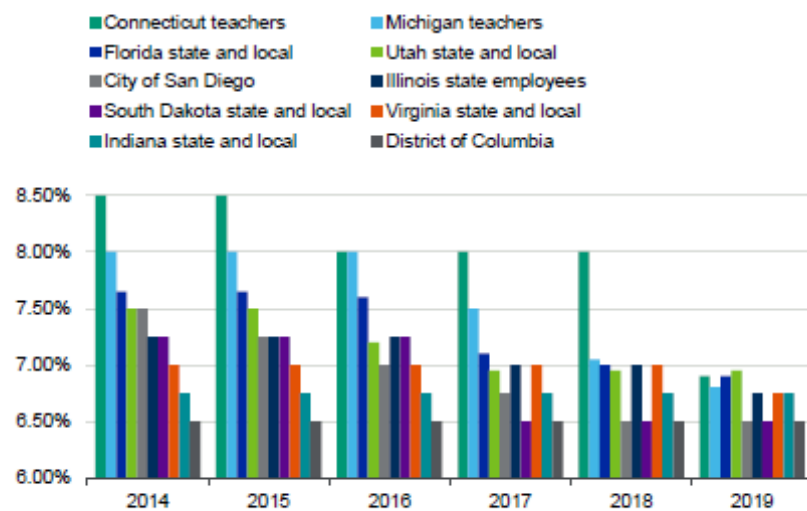
	01/02/2019	11/06/2020	Δ (%)
3yr Ratio	72%	95%	23%
5yr Ratio	77%	75%	-2%
7yr Ratio	80%	83%	3%
10yr Ratio	85%	98%	12%
30yr Ratio	101%	98%	-3%

Pension Funding and COVID

Pressure to Increase Contributions

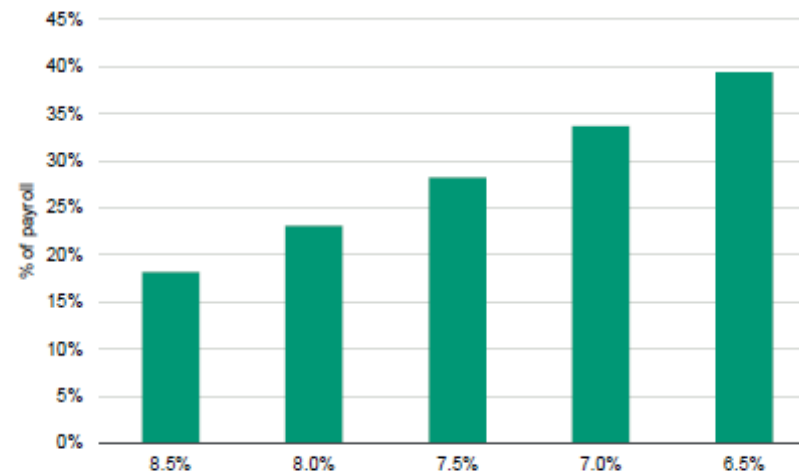
- Underfunded US public retirement systems pushing for greater government contributions, including by lowering return targets
 - Rising number of US public pension systems are lowering return targets below 7%, in addition to other actuarial changes that increase ADCs
 - Sector-wide transition away from reach for high returns from volatile investments remains unlikely, as evidenced by California Public Employees' Retirement System's recent decision to increase private equity and portfolio leverage to bolster investment performance
- Negative pension cash flow and limited ability to reduce benefits leave few alternatives to higher government contributions
 - For US public pension systems with significantly negative non-investment cash flow (NICF), relief from growing government contributions is not possible without reducing benefits
 - Even where governments have legal flexibility to alter benefits, there is limited ability to materially reduce near-term benefit outflows
 - Portfolio de-risking can lower near-term risk of asset depletion, but on its own is unlikely to improve a trajectory of declining assets
- Government's decisions about contributions over next few years will increasingly differentiate exposure to pension funding risk, which impacts debt affordability given that pensions are "must-pay" obligations

A rising number of US public pension systems are reducing their return targets below 7.0%...



Source: Pension system financial statements

...which pushes up actuarially determined contributions
City of Milwaukee's ADC as a percent of payroll, under several investment return assumptions



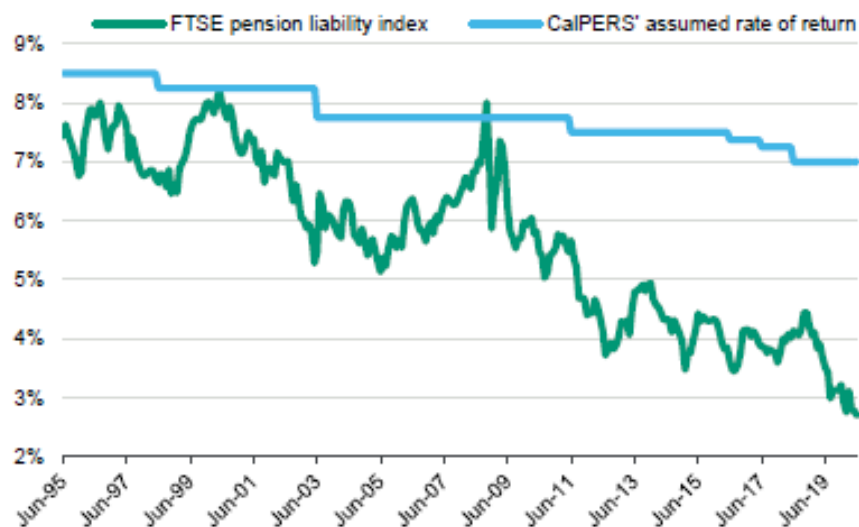
Source: Employees' Retirement System of the City of Milwaukee actuarial valuation

Sources: Moody's Sector in-Depth – US State and Local Government – Tension rises between pension funding and budgets strained by coronavirus shock, July 10, 2020, https://www.moody.com/researchdocumentcontentpage.aspx?docid=PBM_1231482

Gap Between Assumed and Actual Rate of Return

CalPERS Example

As with all US public pension systems, declines in CalPERS' assumed rate of return have trailed falling market interest rates



Source: CalPERS, Society of Actuaries

The gap between CalPERS' target return and market interest rates is now at historically high levels
Spread between CalPERS return target and the FTSE PLI



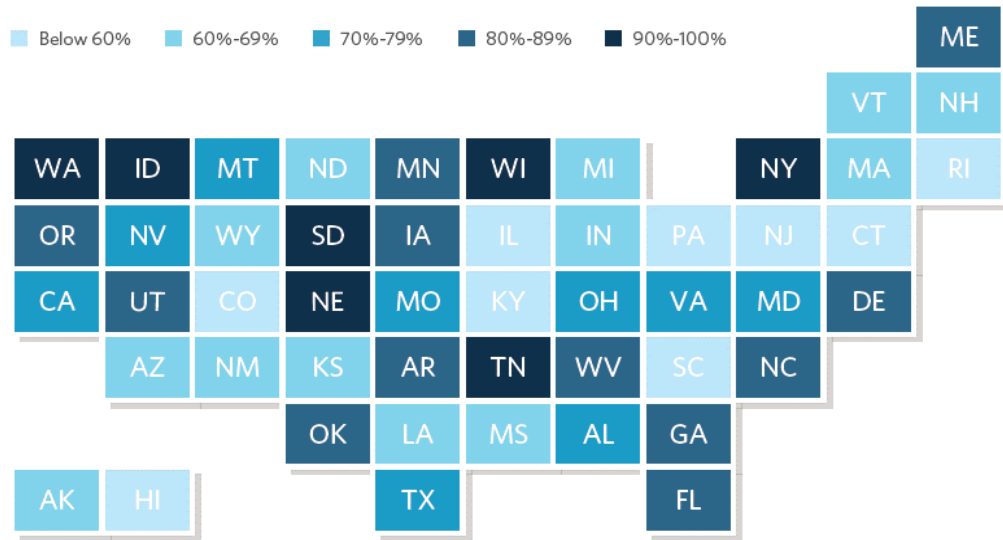
Sources: CalPERS, Society of Actuaries

Sources: Moody's Sector in-Depth – US State and Local Government – Tension rises between pension funding and budgets strained by coronavirus shock, July 10, 2020, https://www.moody.com/researchdocumentcontentpage.aspx?docid=PBM_1231482

Funded Ratios of State Pension Plans

State Pension Funding in 2018

Just seven states were 90% funded, while nine states were less than 60% funded



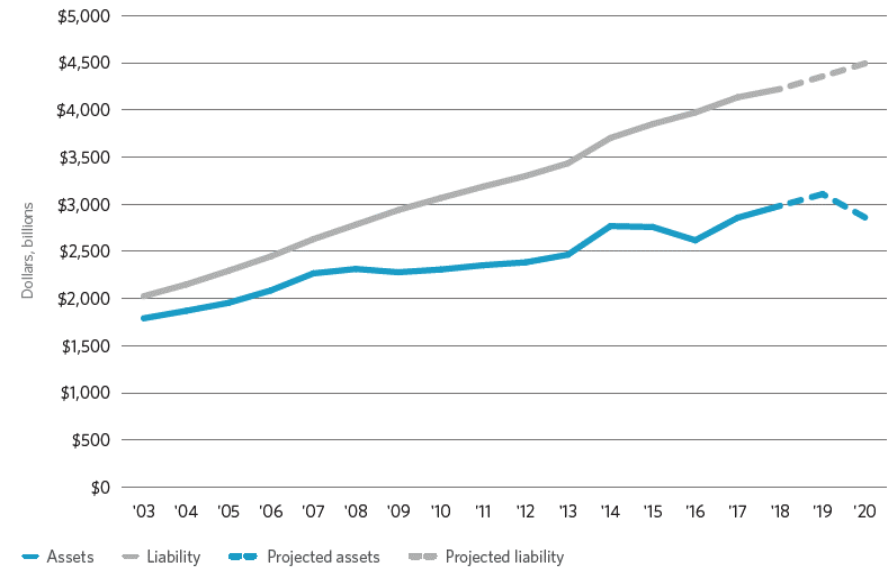
Note: Numbers reflect the Governmental Accounting Standards Board reporting standards as of 2018.

Sources: Comprehensive annual financial reports, actuarial reports and valuations, other public documents, or as provided by plan officials

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A Growing Gap Between Assets and Liabilities

In 2018, states had just 71% of the assets needed to fund promised benefits



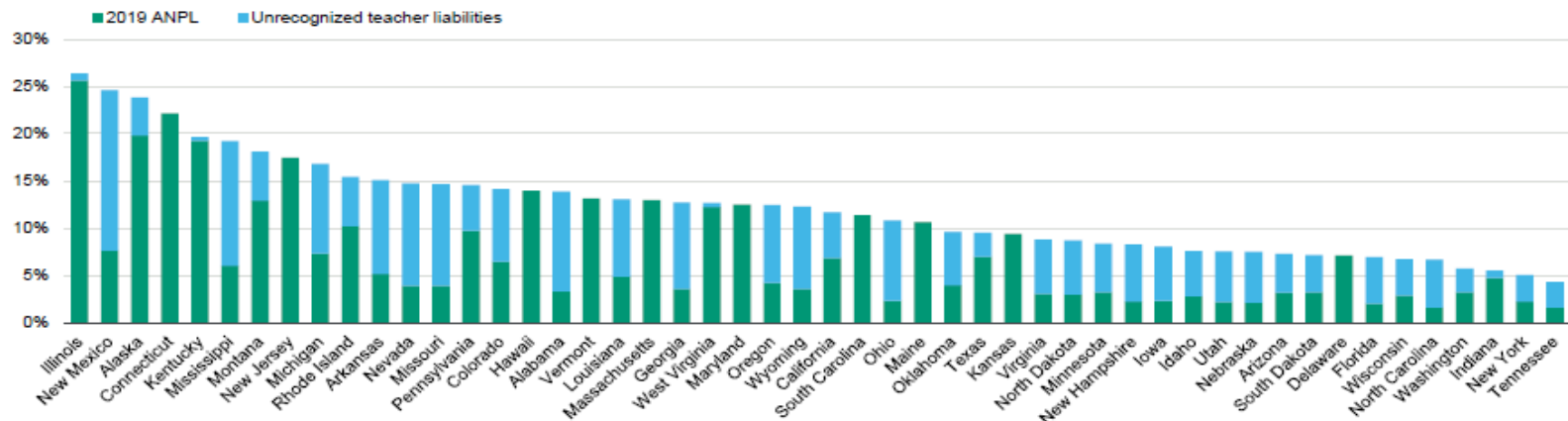
Notes: Projections for 2019 and 2020 are based on past growth of service cost, benefit payments, and contributions as well as actual returns for FY 2019 and estimated returns for FY 2020.

Sources: Comprehensive annual financial reports, actuarial reports and valuations, other public documents, or as provided by plan officials.

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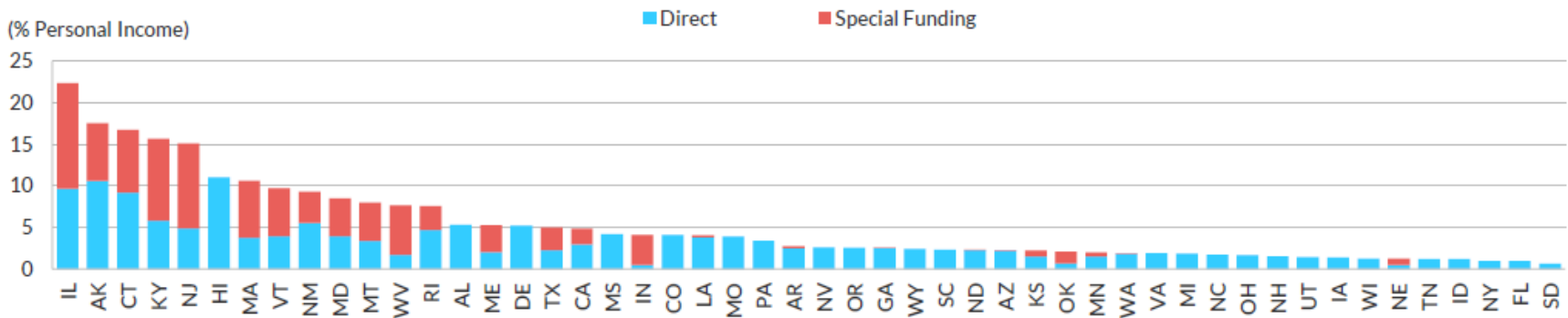
Teacher Liabilities Increasing Pension Burdens in States such as New Mexico

Exhibit 5
Teacher liabilities significantly increase pension burdens for some states
 Fiscal 2019 ANPL including currently unrecognized teacher liabilities as a percent of state GDP



ANPL stands for adjusted net pension liability.
 Sources: Moody's Investors Service, state and pension plan financial statements and US Bureau of Economic Analysis

State Fitch-Adjusted Net Pension Liabilities (Direct State Pensions and Special Funding Situations, FY 2019)

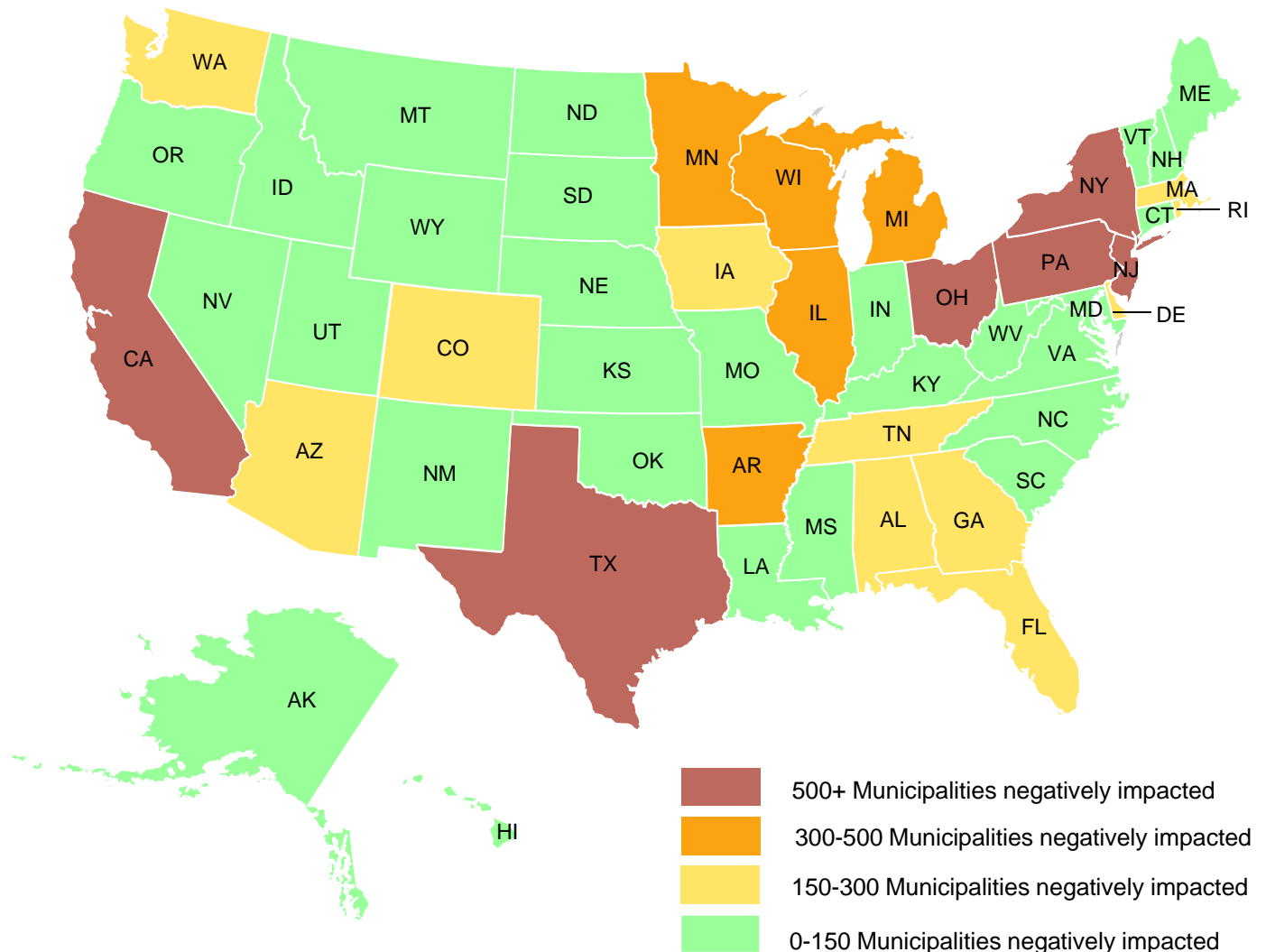


Source: Fitch Ratings, Fitch Solutions.

Source: Moody's Pension and OPEB report: September 8, 2020, https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBM_1239084

Local Issuers Nationally Experience Negative Rating Impacts Due to High Pension Liabilities

- In review of all cities, counties and school districts in Moody's rating database, RBCCM looked at Adjusted Net Pension Liabilities ("ANPL")
- Total ANPL of all municipalities was \$1.76 trillion
 - Range from 7 issuers with positive values to New York City with an ANPL of \$131 billion
- Of 9,262 entries in Moody's MFRA database, 8,848 have ratings negatively stressed as result of pension situation, either because liabilities are large relative to "Full Value" or because liability is large relative to Operating Revenues
- 46 of the 50 states had multiple municipalities identified with varying degrees of impact
- Moody's GO ratings are impacted when 3-year average of ANPL/Full Value is greater than 0.29% and 3-year average of ANPL/Operating Revenues is greater than 0.4x
- Higher pension burdens are associated with lower ratings and therefore higher borrowing costs which impact issuers throughout the state, including such ERB employers as UNM, APS, NMSU



Source: Moody's Municipal Financial Ratio Analysis.

ERB Overview

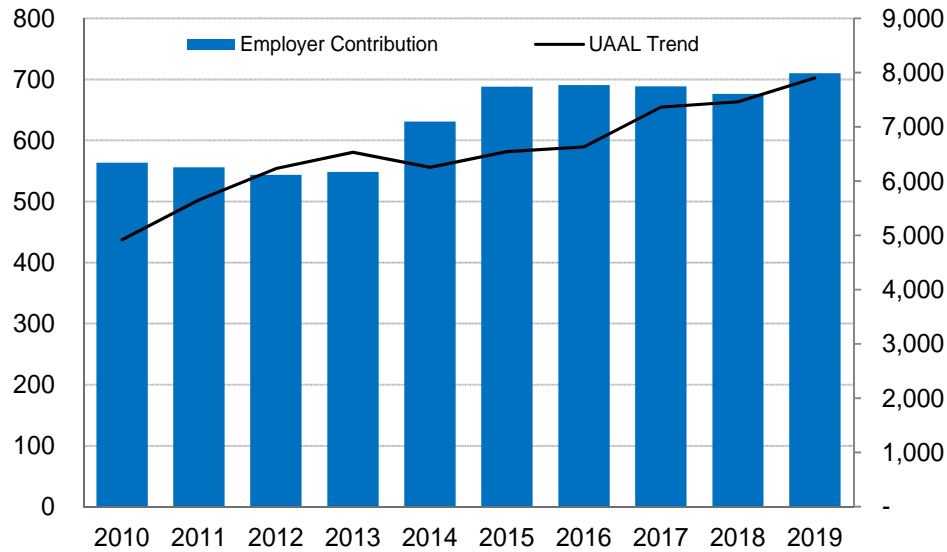
Section 3



Capital
Markets

Overview of ERB Retirement Fund

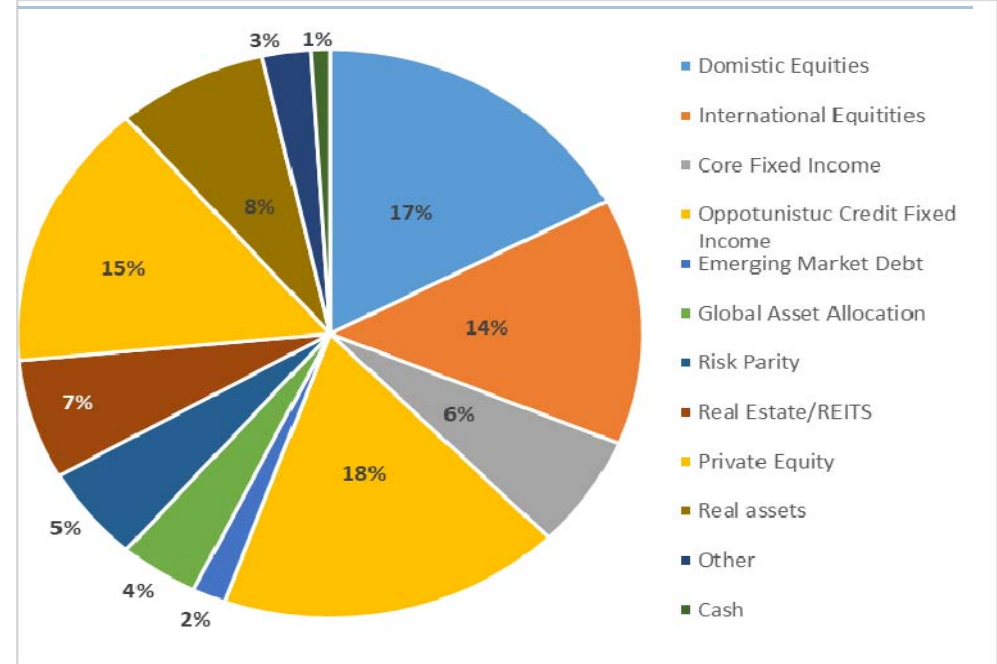
Employer Contributions vs. UAAL (\$ millions)



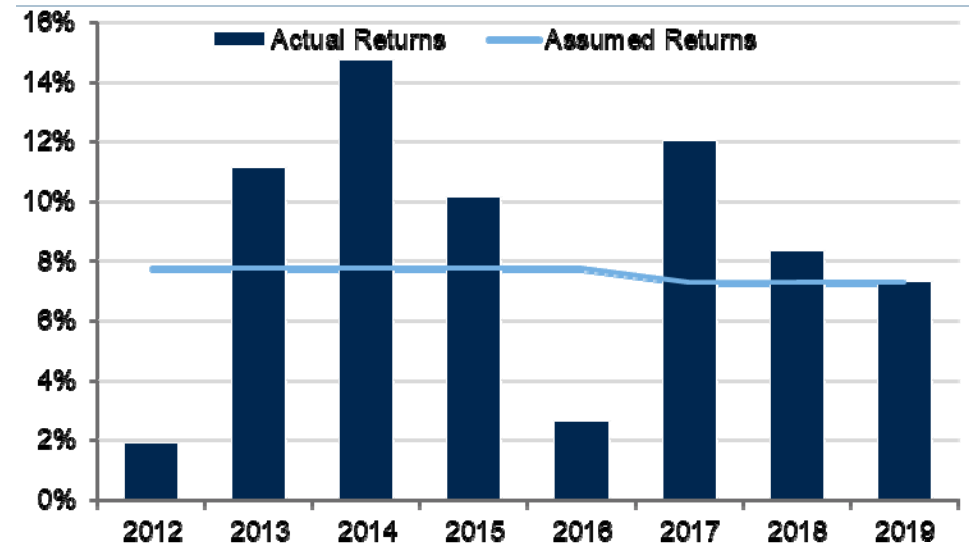
From Moody's:

- “The state is, however, indirectly responsible for funding the large liability in its teachers’ retirement plan, the Educational Employees Retirement System, since it provides K-12 school districts with essentially 100% of their operational funding.
- If the districts’ liabilities were allocated to the state, its ANPL would roughly double and all of its pension ratios would increase by a similar amount, placing the state well above the medians.
- The need to assist districts in addressing their pension liabilities represents a substantial financial pressure facing the state”

Asset Allocation



Investment Return (2012 – 2019)



Source: Moody's Pension and OPEB report: September 8, 2020; Educational Retirement Board of New Mexico Actuarial Valuation as of June 30, 2019

Funding the UAAL of ERB Retirement Fund

Observations

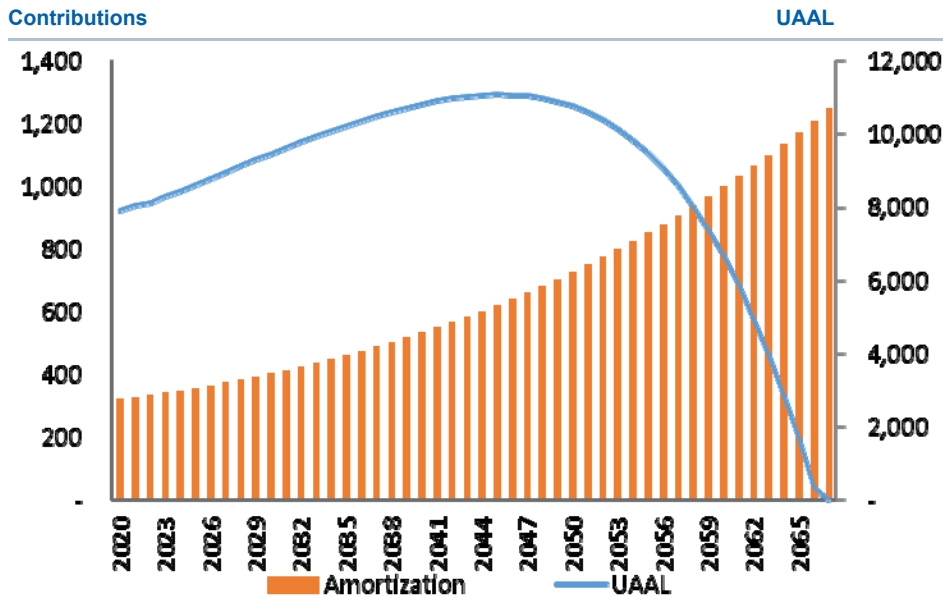
- Under the ERB's revised Funding Policy, the ERB Retirement Fund is expected to be fully funded in 30 years
- Statutory contributions levels are lower than those established by the ERB's actuaries, leading to an infinite funding period (i.e. the Fund will never reach full funding)
- With recent pension reforms lowering the share of the normal cost that the State is paying, projections indicate that the Fund might reach full funding in 47 years
- While the statutory funding levels reduce near term contributions requirements, over time they will cost the State over \$10 billion
- The numbers to the right and the tables below are RBCCM projections based on our understanding of ERB's actuarial assumptions

Overview of Contribution Projections

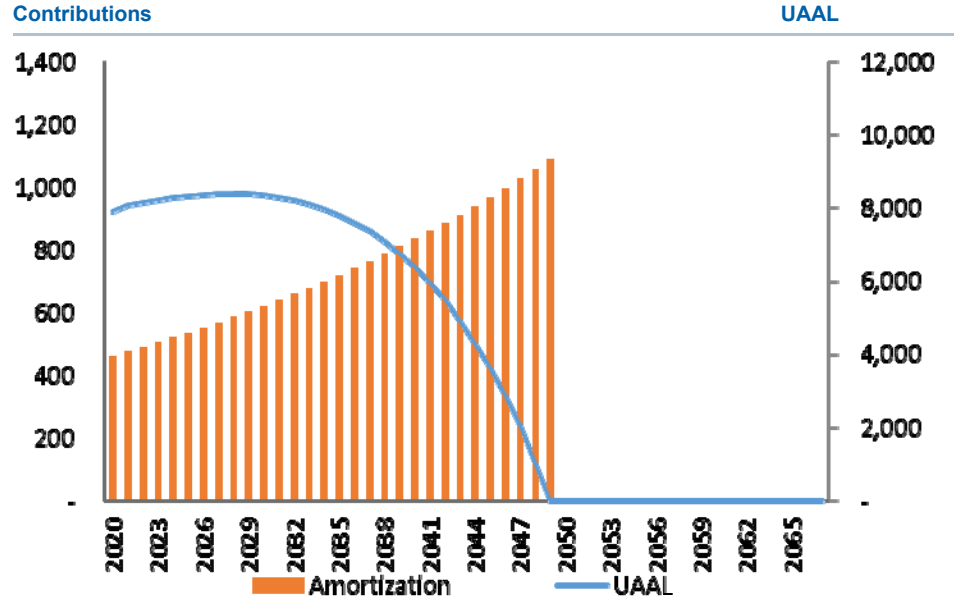
	Statutory Contribution Levels	Funding Policy Contribution Levels
Total Contributions	31,283,470	21,489,432
Year UAAL Begins to Decline	2046	2029
Year UAAL is Lower than 2020	2059	2035
Full Funding Achieved	2067	2049

Cash Flow		
Fiscal Year	Statutory Contribution Levels	Funding Policy Contribution Levels
2021	327,330	475,232
2022	333,920	489,489
2023	340,890	504,173
2024	348,340	519,299
2025	356,340	534,877
2026	364,820	550,924
2027	373,710	567,452
2028	382,880	584,475
2029	392,630	602,009
2030	402,760	620,070
2031 - 2049	10,297,930	16,041,433
2050-2067	17,361,920	0

Amortization of UAAL Per Statutory Contributions Levels (\$ millions)



Amortization of UAAL per ERB Funding Policy (\$ millions)



Source: RBCCM Calculations based on Educational Retirement Board of New Mexico Actuarial Valuation as of June 30, 2019

Pension Bond Pro Forma

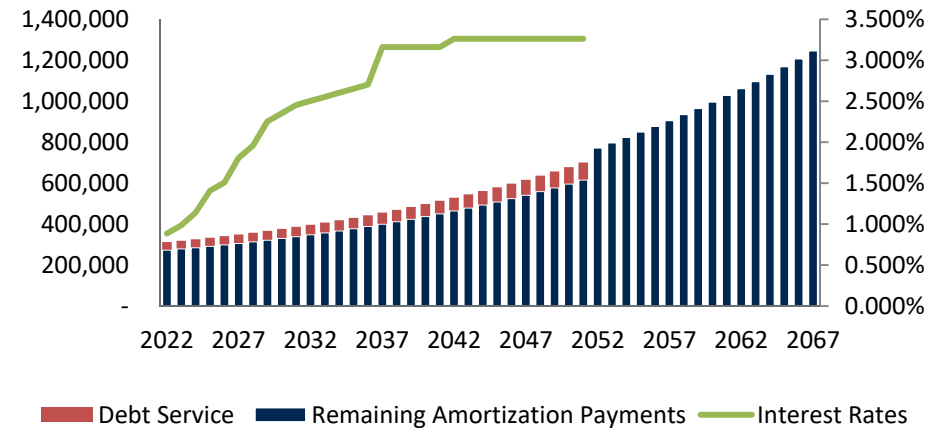
- For our analysis, RBCCM has targeted a funding of \$1 billion
- Our pension model enables the State to analyze impact of different bond sizes, return environments and structuring alternatives
- Assumes pension funding bonds issued with principal and interest beginning in FY2022
- The structure assumes a 30 year financing with the projected savings being used to reduce the contribution rate by 0.65% of payroll each year
 - Alternative structures can be develop whereby the savings are reinvested in the Fund

Pro Forma Pension Bond Financing

	Statutory Contribution Levels	Pension Bond
Total Contributions (incl Debt Service)	31,283,470	12,934,595
Gross Savings	N/A	731,177
Average Annual Savings	N/A	24,373
All-In TIC	N/A	3.14%

Cash Flow			
Fiscal Year		Aggregate Costs	Savings
2022	333,920	317,717	16,203
2023	340,890	324,349	16,541
2024	348,340	331,438	16,902
2025	356,340	339,050	17,290
2026	364,820	347,118	17,702
2027	373,710	355,577	18,133
2028	382,880	364,302	18,578
2029	392,630	373,579	19,051
2030	402,760	383,217	19,543
2031	413,300	393,246	20,054
2032 - 2049	9,884,630	9,405,003	479,627
2050-2067	17,361,920	17,290,368	71,552

Projected UAAL Amortization Payments (\$ millions)¹



Source: RBCCM Calculations based on Educational Retirement Board of New Mexico Actuarial Valuation as of June 30, 2019

(1) Expected savings portrayed above represent the difference between City's forecasted UAAL amortization and debt service. Achieving these payment reductions are contingent on the Fund meeting its actuarial assumptions, in particular, but not exclusively, those related to investment earnings. Fund investment performance and meeting other actuarial assumptions will impact what results are ultimately achieved over the life of the bonds.

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