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7th Edition

UNACCOUNTABLE AND UNAFFORDABLE

UNFUNDED PUBLIC PENSION LIABILITIES EXCEED **$6.96 TRILLION**

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UNACCOUNTABLE AND UNAFFORDABLE

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Unaccountable and Unaffordable, 7th Edition
Unfunded Public Pension Liabilities Reach $6.96 Trillion

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Unaccountable and Unaffordable, 7th Edition was published by the American Legislative Exchange Council (ALEC) as part of its mission to discuss, develop, and disseminate model policies that expand free markets, promote economic growth, limit the size of government, and preserve individual liberty. ALEC is the nation's largest nonpartisan, voluntary membership organization of state legislators, with more than 2,000 members across the nation. ALEC is governed by a Board of Directors of state legislators. ALEC is classified by the Internal Revenue Service as a 501(c)(3) nonprofit, public policy, and educational organization. Individuals, philanthropic foundations, businesses, and associations are eligible to support the work of ALEC through tax-deductible gifts.

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The ALEC Center for State Fiscal Reform strives to educate policymakers and the general public on the principles of sound fiscal policy and the evidence that supports those principles. The Center also strives to educate policymakers by outlining the policies that provide the best results for the hardworking taxpayers of America. This is done by personalized research, policy briefings in the states, and by releasing nonpartisan policy publications for distribution such as *Rich States, Poor States: ALEC-Laffer State Economic Competitiveness Index*.

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We dedicate this report to our friend Bob Williams who passed away in March 2022. Among his many contributions to responsible fiscal policy, Bob was one of the first co-authors of this report. His insights and experiences in government accounting shined a light on the true cost of unfunded liabilities and helped shape Unaccountable and Unaffordable *into the impactful report it is today.*

We are grateful for all of Bob's contributions to ALEC and hope this report continues to introduce his ideas to future generations of state policymakers.

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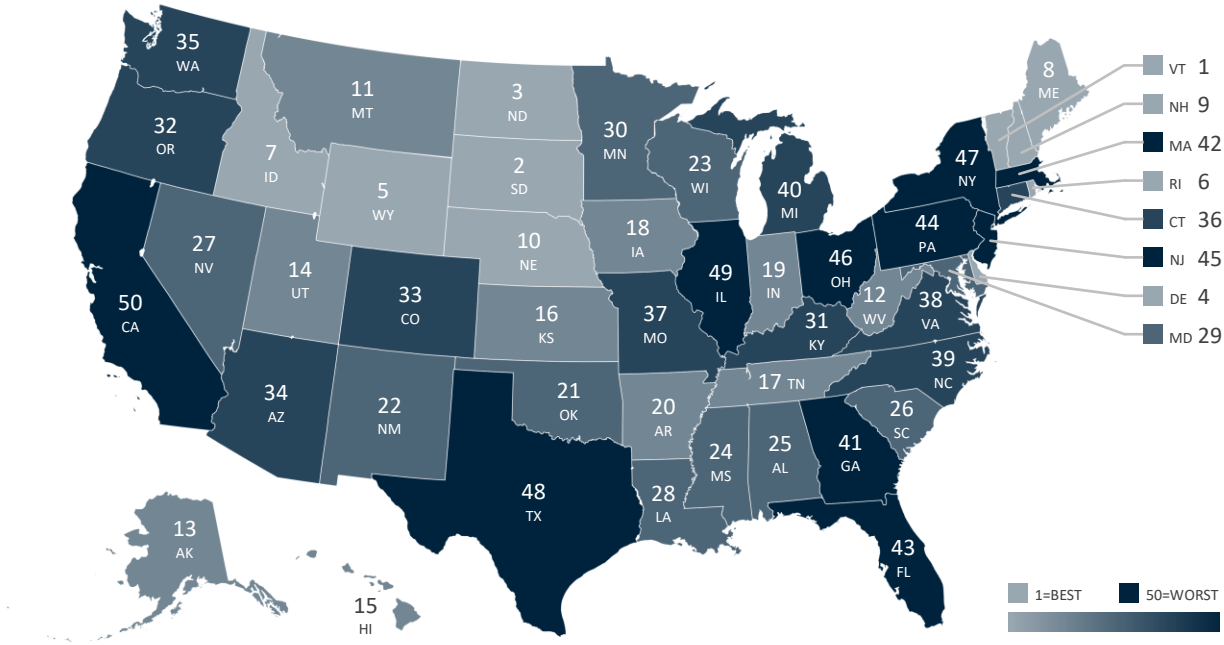
Unfunded state pension liabilities total $6.96 trillion or just under $21,000 for every man, woman, and child in the United States. As noted in this report last year, the total number of unfunded liabilities is heavily determined by U.S. Treasury note yields, which have fluctuated since 2020. State governments are obligated, often by contract and state constitutional law, to make these pension payments regardless of economic conditions. As pension payments continue to grow, revenue that could have gone towards tax relief or essential services – like public safety and education – is spent paying off liabilities instead. Since the 6th edition of this report, unfunded liabilities decreased by $1.32 trillion due to several factors.

Most state pension plans are structured as defined benefit plans, where an employee receives a fixed monthly payout at retirement based on the employee's final average salary, the number of years worked, and a benefit multiplier. Pension plans pay these benefits to millions of public workers across the country. These plans accrue assets through employee contributions, employer contributions (funded by tax revenue), and by taking on debt to pay pension promises. Paying pension obligations by issuing bonds only kicks the can down the road to future taxpayers, as they will ultimately be responsible for solving the pension funding crisis.

There are important reforms that can prevent unfunded liabilities from growing in the future. By offering new employees sustainable plans, such as hybrid and defined contribution plans, states can prevent the rapid growth of unfunded liabilities and give public workers greater flexibility with their retirement contributions, plus the ability to take their retirement savings with them to new jobs. Several states have defined contribution options such as a 401(k) or other individual retirement account options.

Because of the significant impact unfunded pension liabilities have on state budgets and individual taxpayers, the American Legislative Exchange Council (ALEC) produces this publication to educate policymakers and the public about the dangers unfunded pension liabilities pose to core government services, the economy, and, ultimately, the taxpayer. *Unaccountable and Unaffordable* surveys more than 290 state-administered public pension plans, detailing assets and liabilities from FY 2012-2021.

Figure 1, Table 1 **Total Unfunded Pension Liabilities, 2022**



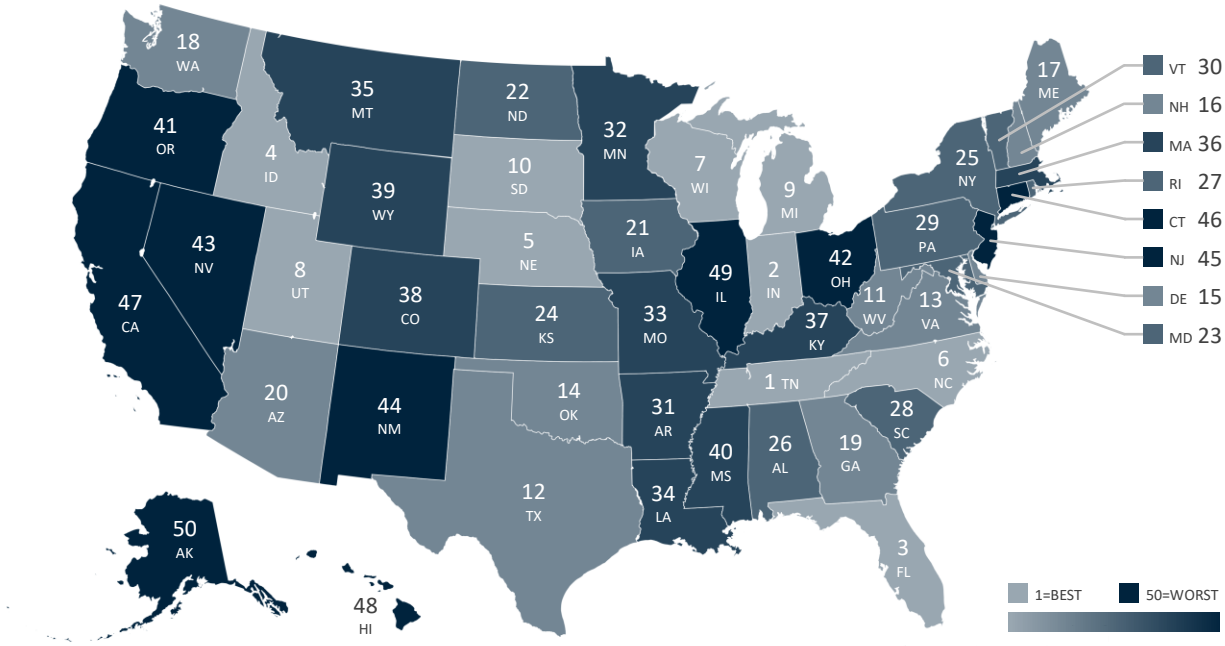
UNFUNDED LIABILITIES

This measure displays the total amount of unfunded pension liabilities in each state. An unfunded pension liability is the dollar amount of pension promises a state owes that is not covered by a pension system's assets. These amounts differ from numbers posted in state actuarial funds because these estimates are measured using the ALEC risk-free discount rate.

RANK	STATE	UNFUNDED LIABILITIES	RANK	STATE	UNFUNDED LIABILITIES
1	Vermont	$12,296,912,844	26	South Carolina	$97,881,391,539
2	South Dakota	$13,043,332,845	27	Nevada	$99,000,289,435
3	North Dakota	$13,208,902,462	28	Louisiana	$100,957,421,778
4	Delaware	$15,362,912,395	29	Maryland	$107,070,794,677
5	Wyoming	$15,790,394,765	30	Minnesota	$112,677,522,555
6	Rhode Island	$20,618,571,957	31	Kentucky	$117,015,117,800
7	Idaho	$20,664,561,618	32	Oregon	$118,823,523,128
8	Maine	$21,522,074,169	33	Colorado	$120,687,445,209
9	New Hampshire	$21,580,482,680	34	Arizona	$122,890,410,344
10	Nebraska	$22,893,750,750	35	Washington	$124,617,252,602
11	Montana	$24,085,524,981	36	Connecticut	$125,178,721,352
12	West Virginia	$25,974,219,321	37	Missouri	$125,991,714,089
13	Alaska	$33,761,865,724	38	Virginia	$132,185,774,597
14	Utah	$44,620,043,795	39	North Carolina	$132,283,080,396
15	Hawaii	$53,129,262,556	40	Michigan	$146,142,302,033
16	Kansas	$53,274,210,132	41	Georgia	$173,561,366,521
17	Tennessee	$53,416,128,169	42	Massachusetts	$175,167,312,917
18	Iowa	$53,942,069,863	43	Florida	$234,011,651,429
19	Indiana	$54,732,139,147	44	Pennsylvania	$244,578,935,743
20	Arkansas	$57,763,001,927	45	New Jersey	$321,059,516,097
21	Oklahoma	$61,068,329,112	46	Ohio	$353,999,562,111
22	New Mexico	$67,502,035,646	47	New York	$368,166,261,391
23	Wisconsin	$77,657,268,870	48	Texas	$437,466,526,363
24	Mississippi	$81,719,421,445	49	Illinois	$467,902,338,216
25	Alabama	$93,824,726,335	50	California	$1,405,052,021,581

Source: Data are based on ALEC Center for State Fiscal Reform calculations.

Figure 2, Table 2 **Total Unfunded Pension Liabilities Per Capita, 2022**



LIABILITIES PER CAPITA

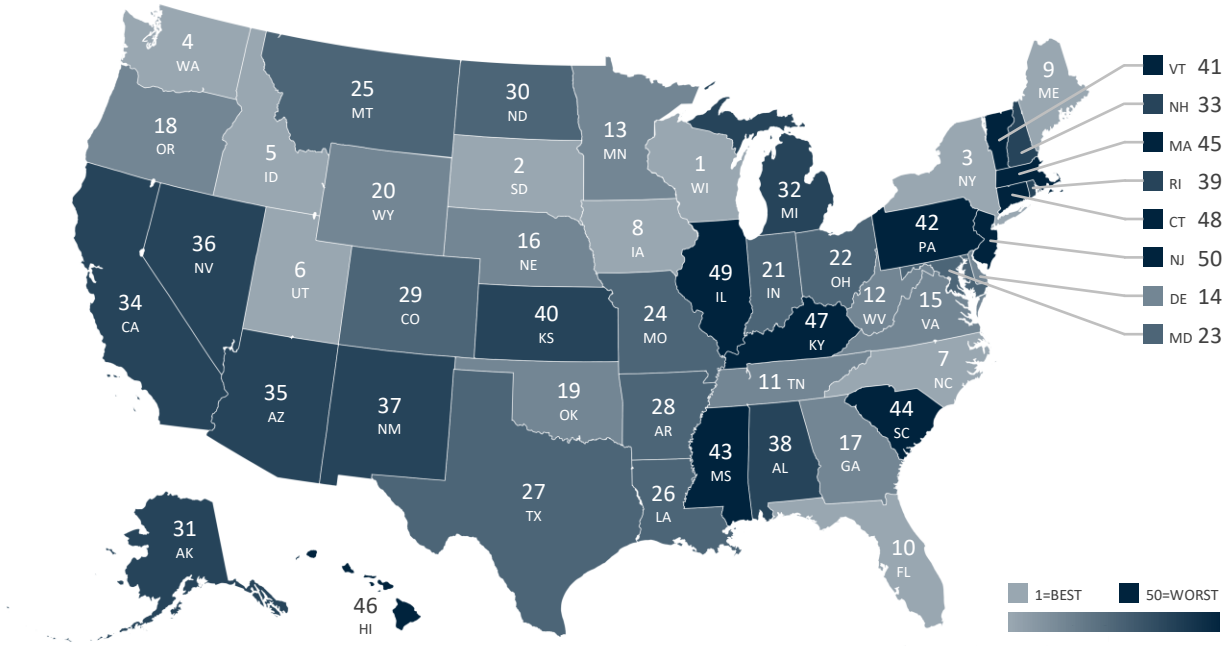
This measure examines the burden of unfunded liabilities on every man, woman, and child living in the state. The total unfunded liability amount from Figure 1, Table 1 is divided by the state's population. Notice that this ranking is affected by both the total amount of unfunded liabilities and the state's population size. For example, Alaska's relatively small population means each Alaskan bears a greater share of unfunded liabilities despite Alaska being in the top 15 for lowest total unfunded liabilities.

RANK	STATE	LIABILITIES PER CAPITA
1	Tennessee	$7,657.99
2	Indiana	$8,041.77
3	Florida	$10,743.78
4	Idaho	$11,236.20
5	Nebraska	$11,658.52
6	North Carolina	$12,537.30
7	Wisconsin	$13,171.38
8	Utah	$13,367.40
9	Michigan	$14,540.35
10	South Dakota	$14,567.44
11	West Virginia	$14,568.04
12	Texas	$14,815.34
13	Virginia	$15,295.25
14	Oklahoma	$15,318.25
15	Delaware	$15,500.34
16	New Hampshire	$15,536.79
17	Maine	$15,683.82
18	Washington	$16,103.14
19	Georgia	$16,180.08
20	Arizona	$16,889.10
21	Iowa	$16,893.43
22	North Dakota	$17,044.89
23	Maryland	$17,367.16
24	Kansas	$18,133.56
25	New York	$18,560.59

RANK	STATE	LIABILITIES PER CAPITA
26	Alabama	$18,616.47
27	Rhode Island	$18,819.26
28	South Carolina	$18,857.05
29	Pennsylvania	$18,865.93
30	Vermont	$19,048.15
31	Arkansas	$19,089.58
32	Minnesota	$19,742.39
33	Missouri	$20,426.05
34	Colorado	$20,764.97
35	Louisiana	$21,759.44
36	Montana	$21,811.24
37	Massachusetts	$25,078.63
38	Kentucky	$25,949.19
39	Wyoming	$27,281.12
40	Mississippi	$27,701.83
41	Oregon	$27,983.79
42	Ohio	$30,050.85
43	Nevada	$31,488.73
44	New Mexico	$31,902.63
45	New Jersey	$34,644.98
46	Connecticut	$34,717.89
47	California	$35,786.97
48	Hawaii	$36,508.16
49	Illinois	$36,925.66
50	Alaska	$46,080.40

Source: Data are based on ALEC Center for State Fiscal Reform calculations.

Figure 3, Table 3 **Funding Ratios**



FUNDING RATIOS

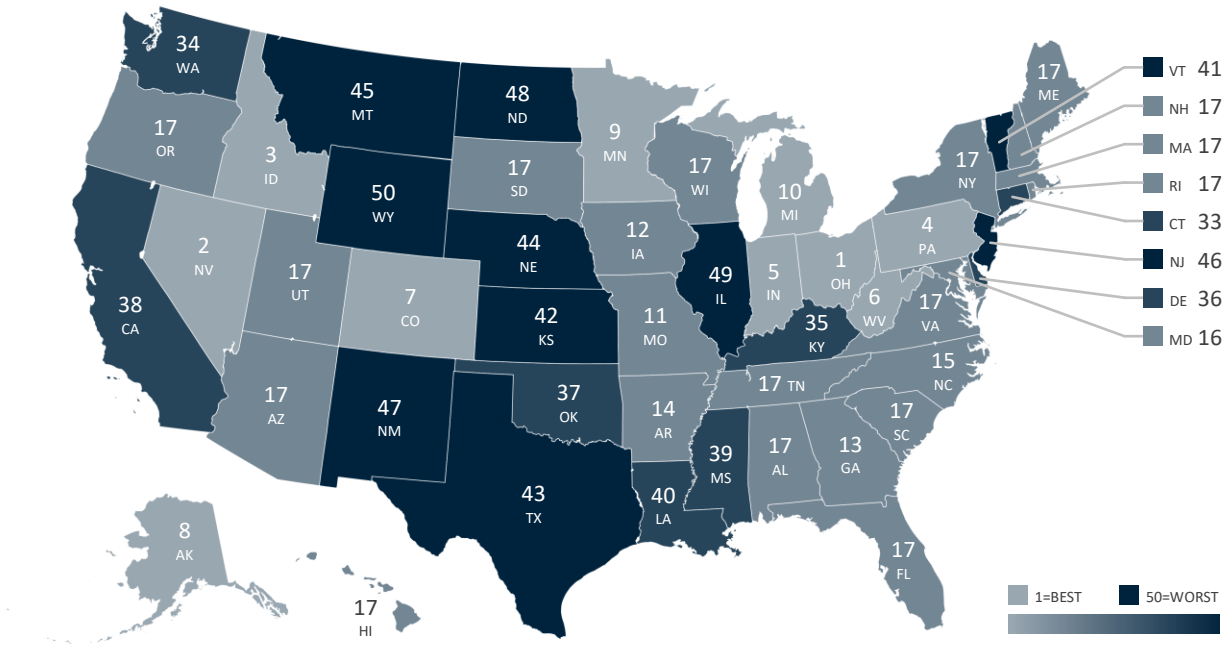
The funding ratio is one measurement of the health of a pension plan. It is the ratio of plan assets to plan liabilities, expressed as a percentage. Each state pension plan should strive for a 100% funding ratio. The measurements here use the asset values reported by states and compares them to the liability values this report calculates by using a risk-free discount rate. The important distinction between a plan's measured liabilities and the risk-free liabilities is explained in Section 2.

RANK	STATE	FUNDING RATIOS
1	Wisconsin	61.67%
2	South Dakota	52.97%
3	New York	52.58%
4	Washington	52.46%
5	Idaho	52.01%
6	Utah	50.24%
7	North Carolina	47.68%
8	Iowa	46.72%
9	Maine	46.57%
10	Florida	46.34%
11	Tennessee	44.40%
12	West Virginia	44.25%
13	Minnesota	43.58%
14	Delaware	43.14%
15	Virginia	42.79%
16	Nebraska	42.76%
17	Georgia	41.51%
18	Oregon	41.51%
19	Oklahoma	41.21%
20	Wyoming	40.88%
21	Indiana	40.72%
22	Ohio	40.36%
23	Maryland	39.26%
24	Missouri	39.16%
25	Montana	37.78%

RANK	STATE	FUNDING RATIOS
26	Louisiana	37.44%
27	Texas	37.03%
28	Arkansas	36.46%
29	Colorado	36.09%
30	North Dakota	36.00%
31	Alaska	35.94%
32	Michigan	35.43%
33	New Hampshire	34.96%
34	California	34.70%
35	Arizona	34.06%
36	Nevada	34.04%
37	New Mexico	33.76%
38	Alabama	33.09%
39	Rhode Island	32.89%
40	Kansas	32.16%
41	Vermont	31.95%
42	Pennsylvania	31.95%
43	Mississippi	30.49%
44	South Carolina	28.96%
45	Massachusetts	28.70%
46	Hawaii	27.26%
47	Kentucky	26.46%
48	Connecticut	25.92%
49	Illinois	25.90%
50	New Jersey	23.41%

Source: Data are based on ALEC Center for State Fiscal Reform calculations.

Figure 4, Table 4 | **Percent Actuarially Determined Contribution (ADC) Paid**



PERCENT ADC PAID

An Actuarially Determined Contribution (ADC) is the amount of money state and local governments must annually contribute to pension plans to meet obligations to current and future retirees. The ADC is made up of two parts: the actuarially calculated contribution taxpayers need to make to cover the pension benefits employees earn for the year, known as the "normal cost," and the amount taxpayers need to contribute to pay down pension liabilities from previous years, known as the "amortization payment."

RANK	STATE	PERCENT ADC PAID
1	Ohio	125.48%
2	Nevada	115.19%
3	Idaho	114.97%
4	Pennsylvania	111.54%
5	Indiana	111.52%
6	West Virginia	109.43%
7	Colorado	108.99%
8	Alaska	107.09%
9	Minnesota	106.18%
10	Michigan	103.35%
11	Missouri	103.14%
12	Iowa	101.96%
13	Georgia	100.23%
14	Arkansas	100.19%
15	North Carolina	100.17%
16	Maryland	100.02%
17	Alabama	100.00%
17	Arizona	100.00%
17	Florida	100.00%
17	Hawaii	100.00%
17	Maine	100.00%
17	Massachusetts	100.00%
17	New Hampshire	100.00%
17	New York	100.00%
17	Oregon	100.00%

RANK	STATE	PERCENT ADC PAID
17	Rhode Island	100.00%
17	South Carolina	100.00%
17	South Dakota	100.00%
17	Tennessee	100.00%
17	Utah	100.00%
17	Virginia	100.00%
17	Wisconsin	100.00%
33	Connecticut	99.95%
34	Washington	99.94%
35	Kentucky	99.76%
36	Delaware	99.13%
37	Oklahoma	98.33%
38	California	97.79%
39	Mississippi	97.36%
40	Louisiana	97.30%
41	Vermont	97.25%
42	Kansas	96.51%
43	Texas	94.64%
44	Nebraska	93.83%
45	Montana	88.73%
46	New Jersey	84.12%
47	New Mexico	80.56%
48	North Dakota	72.86%
49	Illinois	70.56%
50	Wyoming	69.85%

Source: Data are based on ALEC Center for State Fiscal Reform calculations.

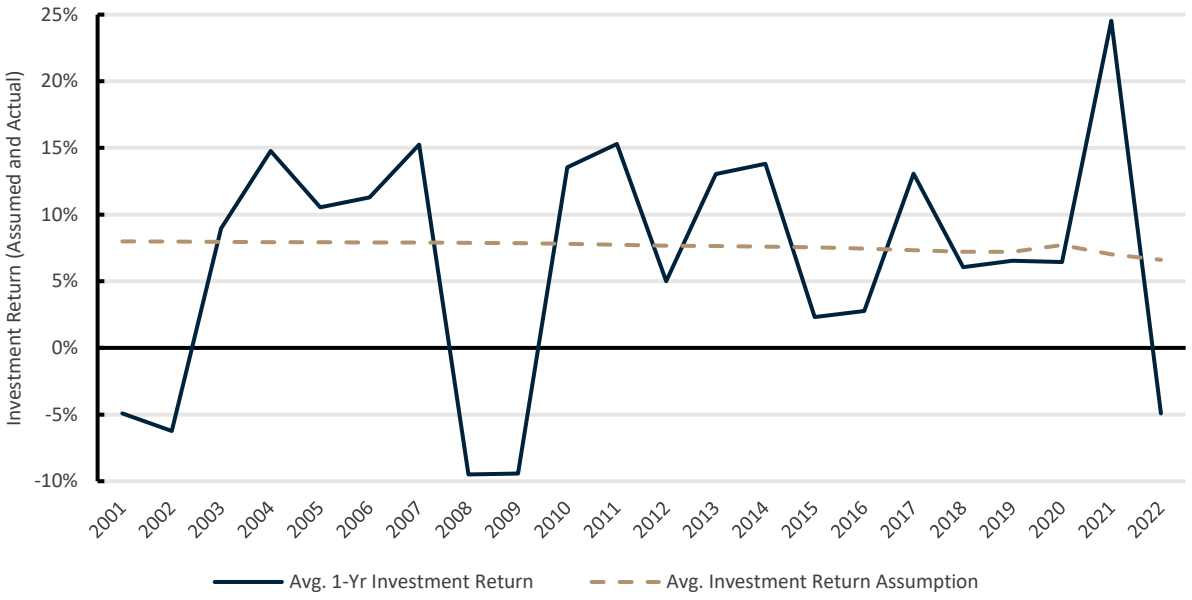
A SNAPSHOT OF PENSION INVESTMENT RETURNS

Most pension plans use historical trends to estimate future conditions of assets and liabilities.[1] Past returns, however, are no guarantee of future performance. As state pension plans invest their funds in increasingly risky assets, the gap between expected rates of return and actual rates of return widens, with results falling far short of expectations. When investment returns fail to meet expectations, taxpayers and plan members must make up the difference through increased contributions.

While assumed rates of return for public pension plans have changed only slightly since this report began, the actual annual returns show a much more volatile picture. Figure 5 and Table 5 show the average annual public pension investment return compared to the average assumed rate of return for a public pension plan.

Two shocking points are the actual returns in 2021 and 2022. Investment returns in 2021 were the best on record, and 2022 average investment returns showed the first loss since 2009. Believe it or not, these two results are connected. This is a classic example of a government-induced boom and bust. The market rebounds in 2021 began in 2020 as many states ended lockdown mandates and Americans were able to get back to work. In 2021, however, stimulus from the federal government by way of the American Rescue Plan Act (ARPA) and from the Federal Reserve drove the rapid boom in the stock market. At the behest of the federal government, the Federal Reserve continued pumping billions of dollars into the market through bond-buying.[2] Investors were then incentivized to buy higher-returning assets, like stocks, but printing billions of dollars per month also contributed to higher inflation. With supply-chain breakdowns and inflation ramping up in late 2021, investment returns began to take a hit but were still strong overall.[3] The Federal Reserve scaled back its bond buying programs and began raising the federal funds effective interest rate in March 2022 to combat above-average inflation.[4] The Federal Reserve tightening monetary policy, as well as international factors, such as the war in Ukraine and continued lockdowns in China crippling productivity, led to the inevitable market decline in 2022.[5]

Figure 5, Table 5: Assumed vs Annual Rates of Return, 2001-2022



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Avg. 1-Yr Investment Return	-4.91%	-6.22%	8.95%	14.76%	10.55%	11.29%	15.25%	-9.49%	-9.42%	13.54%	15.31%
Avg. Investment Return Assumption	7.99%	7.98%	7.95%	7.92%	7.92%	7.91%	7.90%	7.88%	7.85%	7.80%	7.74%
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Avg. 1-Yr Investment Return	4.99%	13.05%	13.82%	2.32%	2.77%	13.06%	6.05%	6.54%	6.43%	24.54%	-4.92%
Avg. Investment Return Assumption	7.67%	7.63%	7.60%	7.54%	7.45%	7.33%	7.22%	7.20%	7.71%	7.02%	6.61%

Source: Public Plans Database, Center for Retirement Research at Boston College, and Reason Foundation.

One silver lining over the past two years is that many plans lowered their assumed rates of returns. For the first time on record, the average assumed rate of return fell below 7% in 2022. Lowering assumed rates of return helps provide a more realistic picture of asset growth as well as the necessary contributions needed to cover annual costs and pay down unfunded liabilities.

Even an amazing investment year like 2021 cannot make up for the structural problems in public pension systems. As Figure 5 and Table 5 show, investment return assumptions over the past 20 years have only changed by fractions of a percentage point while actual annual returns have experienced major up and down swings. This is because pension plans have increased the level of risk in their investment portfolios since the year 2000, essentially chasing financial returns. When data collection for public pensions began in the 1940s, most public pension fund assets were invested in municipal bonds.[6] By 1959, non-governmental securities had grown to 39% of total holdings, with most of these non-governmental holdings invested in corporate bonds.[7] In 1997, the Census Bureau added a category called "International Securities" which represents a mix of non-US bonds and stocks.[8] In addition, public pension plans also increased investments in equities over the course of the late 1990s. By 1999, about 80% of state and local public pension holdings were domestic equities (about 10% of the domestic equities market), in part from the desire to chase returns in the tech sector.[9] As the return on U.S. Treasury notes decreased over time, public pension investments looked to make up for returns in riskier assets.

Lower returns on municipal and corporate bonds incentivized greater investment into stocks and other riskier securities. Increasing risk in the portfolios coupled with increasing promised benefits without making required contributions allowed unfunded liabilities to grow.[10]

In addition, GASB 68 allows pension plans to report "deferred inflows/outflows of resources." This allows state governments to defer the recognition of the difference between the assumed rate of return on plan assets and the actual rate of return. These "deferred inflow/outflow of resources" allow state governments to continue a form of asset smoothing (using multiyear averages of market values to "smooth" market fluctuations in asset returns) despite the fact that GASB 67 requires plans to report the market value of assets for each year.[11] By allowing a deferred inflow of resources to occur over a five-year period, market declines and gains are gradually incorporated into the plan over time, masking the volatility of pension asset portfolios and increasing the risk tolerance of sponsor behavior.[12]

The Big Picture: From "Stealth Budgets" to GASB and Beyond

In 1991, Senior Economist of the Federal Reserve Bank of Richmond Roy H. Webb published a paper titled "The Stealth Budget: Unfunded Liabilities of the Federal Government."[13] In the paper, Webb discussed unfunded liabilities of federal programs ranging from Social Security, Medicare, and Medicaid to bank deposit insurance provided by the FDIC that did not appear on federal budget accounts. "In other words," Webb commented, "a stealth budget that is unseen by most observers will generate future taxing and spending."[14] At the time, he calculated that the federal stealth budget totaled $4 trillion in 1989 dollars (about $9.6 trillion in current dollars), but that total has only grown significantly since Webb's paper was published.[15]

The unfunded liabilities Webb examined were just the tip of the iceberg. State government unfunded liabilities from pension and OPEB plans grew rapidly as well. The U.S. Census Bureau and the Board of Governors of the Federal Reserve System have data on public pensions dating back to 1945.[16] Unfortunately, this data only shows aggregates for all state and local governments. In 1994, the Governmental Accounting Standards Board (GASB) issued statements Number 25 and 27, setting up financial reporting and accounting standards for public defined-benefit pension plans.[17] These standards, however, did not fully measure or report plan liabilities. GASB 25 and 27 allowed practices such as asset smoothing, where plans could obscure asset volatility by taking multiyear averages of market values and using a discount rate based on assumed rates of return to report a lower present value of liabilities.[18] GASB 27 also allowed states to only report the net pension expense, the difference between the annual required contributions and the actual contributions.[19] This allowed states with large unfunded liabilities to report a zero net pension expense if annual payments to the plan were made in full that year.[20]

After years of criticism, GASB updated its guidance for reporting and measuring public pension data in 2012 with GASB statements 67 and 68. These statements went into effect in FY 2014 and 2015, respectively. As discussed in *Unaccountable and Unaffordable, 2019*, GASB 67 and 68 helped bring to light the massive unfunded liabilities hidden in the "stealth budgets," but these changes were far from

perfect.[21] As summarized by Eileen Norcross, VP of Policy Research at the Mercatus Center and Sheila Weinberg, Founder and CEO of Truth in Accounting,

> *The implementation of GASB 67 and 68 was intended to improve the accuracy and transparency of pension reporting for US public sector plans. To date, the standards have had a mixed effect. State and local governments are now required to report the unfunded pension liability as part of their overall fiscal position, providing a more accurate assessment of fiscal health. The underlying assumptions used to measure pension obligations continue to need improvement.*[22]

As will be discussed in further detail later in this report, the changes under GASB 67 and 68 attempted to correct many flawed assumptions allowed under GASB 25 and 27 but still allow for asset smoothing and allow plans to use discount rates greater than the risk-free discount rate, which reflects the inability of states to back out of their pension promises.

In addition to reforming pension assumptions, states can also increase transparency. State and local governments can increase transparency by utilizing digital record keeping and disclosing all financial information to the public in accessible and understandable formats in a regular and timely manner. Failing to disclose key information (such as the financial status of the system, actuarial assumptions, investment portfolio composition and performance, investment decisions, and findings of relevant independent assessments) keeps stakeholders in the dark. The ALEC model policy "The Open Financial Statement Act" outlines how digital records could modernize this process.[23]

Discount Rates

The distinction between investment rates of return and discount rates is a subtle but important distinction. Quite often, the two are viewed as interchangeable, but they serve specific purposes. Discount rates are used to measure the level of risk for pension liabilities and help determine the present value of the amount of pension benefits owed to retirees in the future.[24] When discussing risk with pension liabilities, the focus is on the state's ability to back out of pension promises. A pension liability is low risk if a state cannot back out of its pension promises. As will be discussed in detail in this section, public pensions have a variety of legal protections that prevent states from backing out of those pension promises, even when faced with a fiscal crisis.

The assumed investment rate of return, on the other hand, shows the level of risk in a pension plan's assets. As discussed in the previous section, the level of risk in pension assets has steadily increased over time as pension plans transitioned from primarily low-risk bonds to chasing returns in stocks and other riskier assets. As pension plans increased the level of risk in their asset portfolio over time, the legal protections for pension promises (and therefore the risk) remained unchanged.

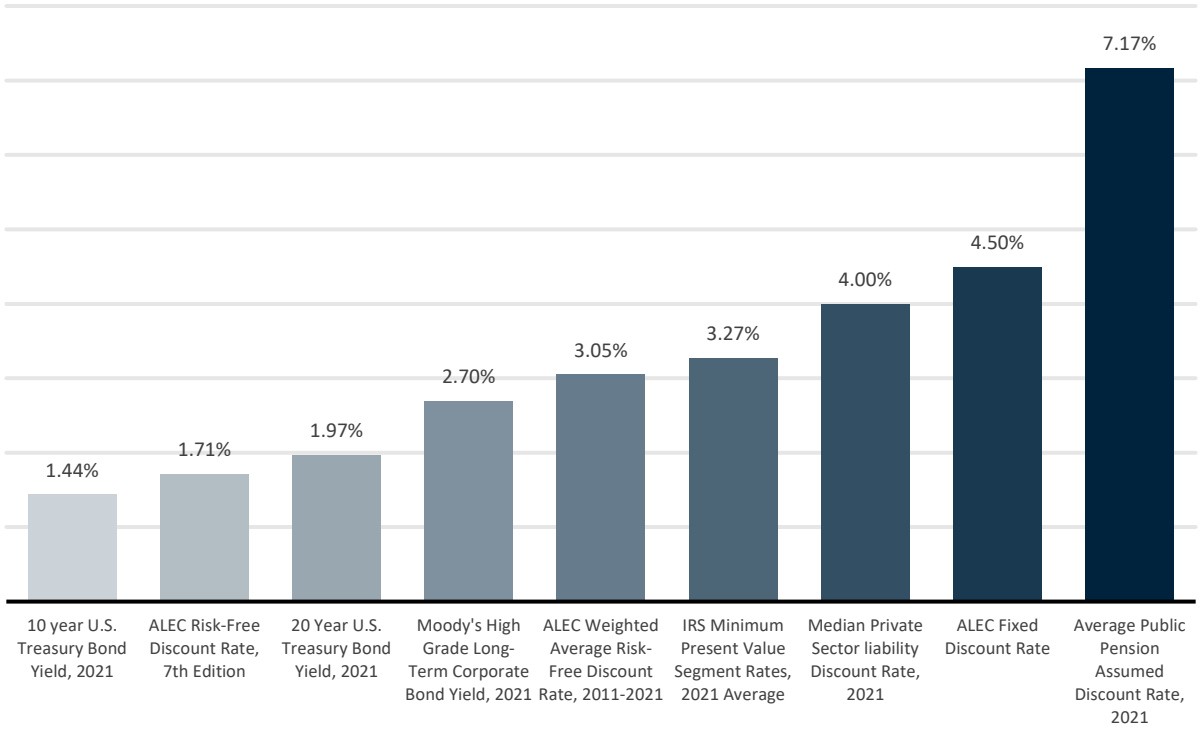
The unfunded liabilities in this report are measured using three different calculations:

- Estimates from each respective state.
- Estimates using a risk-free discount rate, which reflects constitutional and other legal protections extended to state pension benefits, as well as the weighted average of all risk-free discount rates, currently 3.05%.
- Estimates using a fixed rate of 4.50%, which controls for changes in discount rate assumptions over time.

The guidelines for discount rates, as outlined in GASB 67, advise plans to value the funded portion of the liability using a higher discount rate based on the rate of return on plan assets and value any unfunded portion of the liability using a lower discount rate based on the low-risk and low return on tax-exempt municipal bonds. These two discount rates together create a blended rate that plans currently use. The blended rate was a compromise over whether plans should use a discount rate based on expected returns for plan assets or the inability to default on plan liabilities.

Researchers have noted that there was considerable variance with how states applied the standards for discount rates.[25] Little has changed since 2017. In the 2017 edition of *Unaccountable and Unaffordable*, many states, such as Illinois and Kentucky, still relied on the long-term rate of return for the discount rate.[26] Figure 6 shows various discount rates compared with the average pension discount rate used for FY 2020.

Figure 6: Discount Rate Comparisons



Sources: Federal Reserve Bank of St. Louis FRED Database; Pension Benefit Guarantee Corporation; Internal Revenue Service; and American Legislative Exchange Council.

As noted in Figure 6, the average discount rate used for public pension plans for FY 2020 was 7.17%, far higher than other discount rates. Even with the blended discount rate compromise from GASB 67, public sector pension plans are not being held to the same standards as private defined benefit pension plans. These comparisons are important because the relatively high discount rates assumed by public plans are undervaluing liabilities. Public plans should not use the assumed rate of return on investments as a discount rate for two reasons. First, public plans do not often hit their target investment. Second, the levels of risk associated with plan assets differ greatly from the level of risk associated with plan liabilities.

Unfunded liabilities have decreased by $1.32 trillion in this year's report due to several factors:

- This study uses a risk-free discount rate, expressed as a percent, to determine the value of liabilities that pension plans must pay in the future. The "risk-free" aspect of our discount rate calculation follows the reality that states cannot default on their pension promises. This risk-free discount rate is based upon the yields of the 10-year and 20-year U.S. Treasury bonds, which means the rate changes each year.
    - This year, the risk-free discount rate increased from 1.13% to 1.71%, in part due to the rise of interest rates in response to inflation as mentioned in the previous edition of this year's report. As interest rates rise, Treasury yields will increase, increasing the risk-free discount rate and returning unfunded liability amounts closer to previous report estimates.
- The highest market returns on record for this report (an average of 24.54%) occurred in the first half of calendar year 2021 (the latter half of fiscal year 2021 for most states), causing massive growth in Fiduciary Net Position (FNP) and decreasing unfunded liabilities.
- In the beginning of calendar year 2021, massive amounts of federal dollars under the American Rescue Plan Act (ARPA) led to budget surpluses in many states. As a result, many state governments were able to make contributions greater than the actuarially determined contribution (ADC),

contributing to the increase in fiduciary net position.

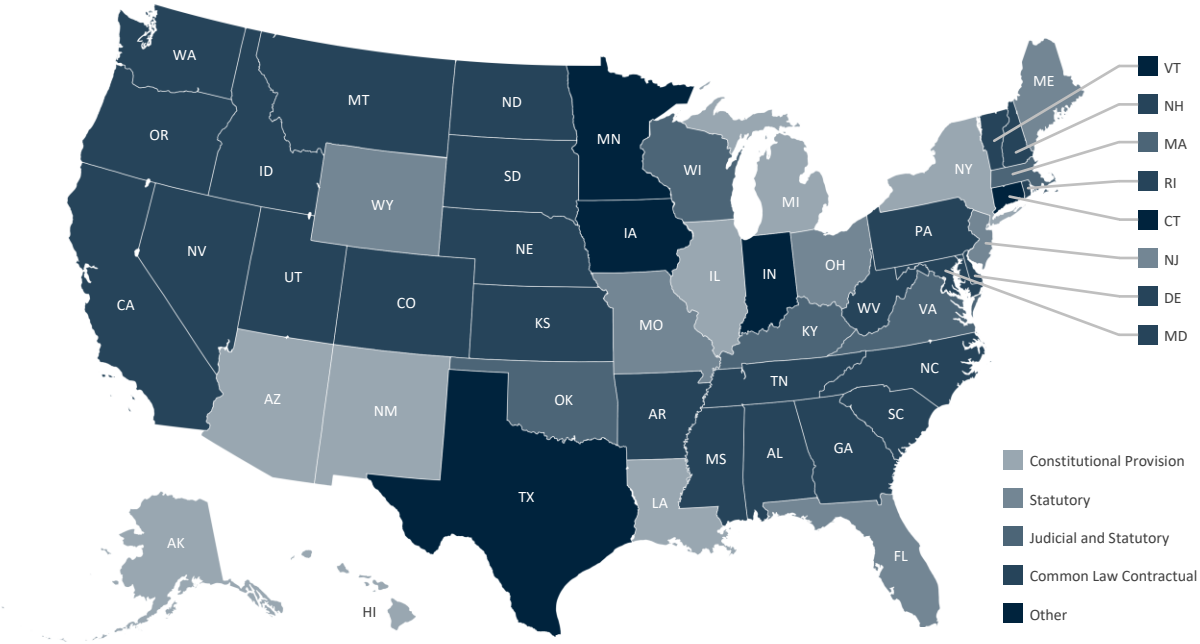
- To account for unexpected fluctuations in the risk-free discount rate, this report also measures liability values with a fixed discount rate of 4.5% as well as the weighted average of all risk-free discount rates from 2011-2021 (3.05%) to account for these changes in the risk-free discount rate. Using the ALEC fixed discount rate of 4.5%, unfunded liabilities total $1.7 trillion. Using the weighted average of the risk-free discount rates, unfunded liabilities total $4.9 trillion.

While the level of risk for pension assets increased over time, the level of risk for liabilities remained relatively low. All public pension plans have legal protections regarding accrued benefits, rate of future accrual of benefits and cost of living adjustments.[27] These protections, however, vary across the states. These protections are outlined in Figure 7. Currently, eight states have constitutional amendments guaranteeing their respective pension plans, six states rely solely on statutes enacted by the legislature, five states use a combination of judicial decisions and state statute and five use their own method of protection.[28] The remaining 26 states rely on what Greg Mennis calls the "common-law contractual approach."[29] This approach relies on court rulings that find pensions to be a part of a contract between the employer and the employee.

The five states that use their own method of protection are Connecticut, Indiana, Iowa, Minnesota, and Texas. Connecticut uses property interest in the retirement fund prior to retirement and state statute once retired. Indiana uses gratuity for mandatory plans prior to retirement and judicial precedents for voluntary plans and once retired. Iowa protects accrued benefits only once a participant has retired. Minnesota uses promissory estoppel, the doctrine that "a party may recover on the basis of a promise made when the party's reliance that promise was reasonable, and the party attempting to recover detrimentally relied on the promise."[30] Texas relies on the state constitution for certain municipal plans and gratuity for non-municipal plans.

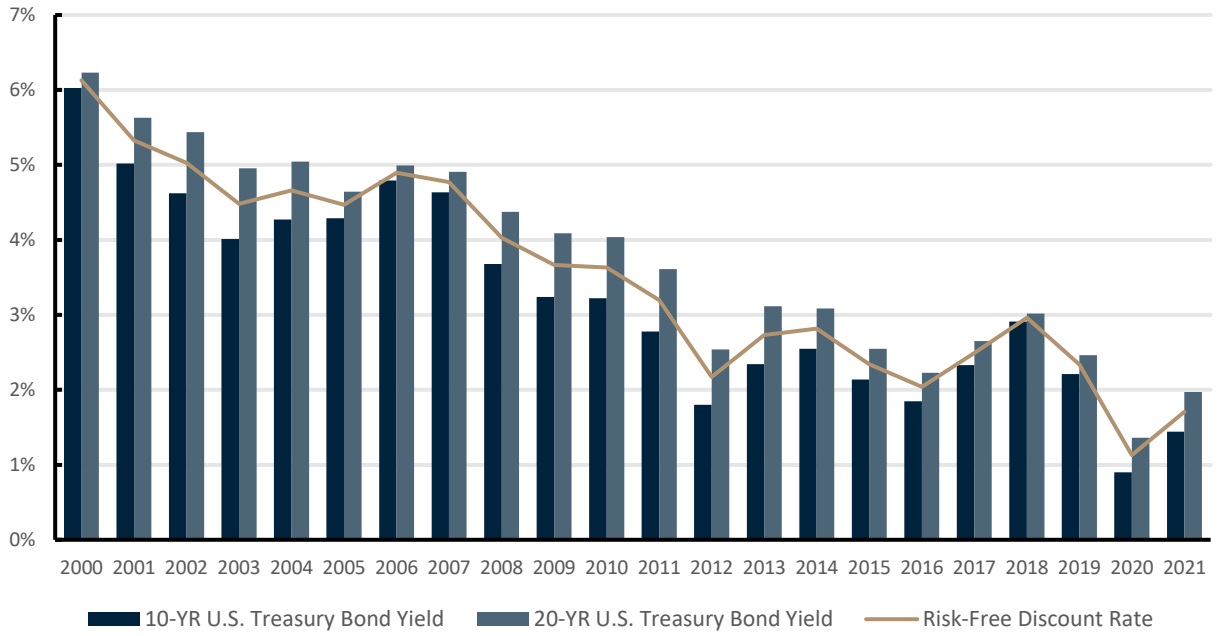
Mennis notes that the U.S. Supreme Court developed a three-part test to determine if a state is justified in its use of adjusting pension benefits during times of fiscal distress. He notes that the state would need to "establish that fiscal distress required a change to pension benefits and that the change made was the least-drastic means of addressing the financial condition."[31] This is a difficult standard to prove. In addition, state courts in Arizona and Illinois have reversed efforts of state policymakers adjusting pension benefits due to state fiscal distress.[32, 33]

Figure 7: Sources of Legal Protection for Public Pension Plans



Source: Mennis, Greg. "Legal Protections for State Pension and Retiree Health Benefits: Findings from a 50-state survey of retirement plans." PEW Charitable Trusts, 2019. Updated for the present by the authors.

Figure 8: ALEC Risk-Free Discount Rates, 10-Year U.S. Treasury Bond Yield and 20-Year U.S. Treasury Bond Yield by Year



Source: Federal Reserve Bank of St. Louis FRED Database.

State pension plans must use a discount rate to reflect these legal protections on pensions. Economist Joshua Rauh notes:

> *The logic of financial economics is very clear that measuring the value of a pension promise requires using the yields on bonds that match the risk and duration of that promise. Therefore, to reflect the present value cost of actually delivering on a benefit promise requires the use of a default-free yield curve, such as the Treasury yield curve. Financial economists have spoken in near unison on this point. The fact that the stock market, whose performance drives that of most pension plan investments, has earned high historical returns does not justify the use of these historical returns as a discount rate for measuring pension liabilities.*[34]

The use of a risk-free discount rate is also endorsed by economists Eileen Norcross and Daniel J. Smith in their book *The Political Economy of Public Pensions*.[35] As they note, "Any discount rate above the risk-free rate would imply that [plan managers] were factoring into their actuarial assumptions the assumption that there were some possible scenarios where these liabilities would not be guaranteed."[36] Actuary Larry Pollack also endorses using a risk-free discount rate: "The fact that ALEC stresses risk-free discount rates, and bases its primary analysis on those rates, is very refreshing. It's incredibly frustrating to me that the economics is so well settled and yet it seems everyone else just accepts and uses the actuary's rates."[37]

The ALEC risk-free discount rate is calculated using the average of the 10-year and 20-year U.S. Treasury Bond yield curves. The ALEC risk-free discount rate was developed by Bob Williams and Andrew Biggs when this report was created by State Budget Solutions (now a project of the Center for State Fiscal Reform at ALEC). This rate separates the ALEC annual pension report from other pension reports that estimate plan liabilities using pension plan assumptions. The risk-free discount rate accurately reflects a plan's inability to back out of pension promises but the risk-free discount rate is prone to fluctuations.

Since the previous edition of this report, the yields on the 10-year U.S. Treasury jumped from 0.9% to 1.44% and 20-year U.S. Treasury bonds have increased from 1.36% to 1.97%. These increases caused the ALEC risk-free discount rate to increase and the present value of risk-free unfunded liabilities to decrease. Present value and discount rates have an inverse relationship. When discount rates are high, the present value is low and when discount rates are low, present value is high. Changes in the U.S. Treasury Bond yields and the risk-free discount rate are shown in Figure 7.

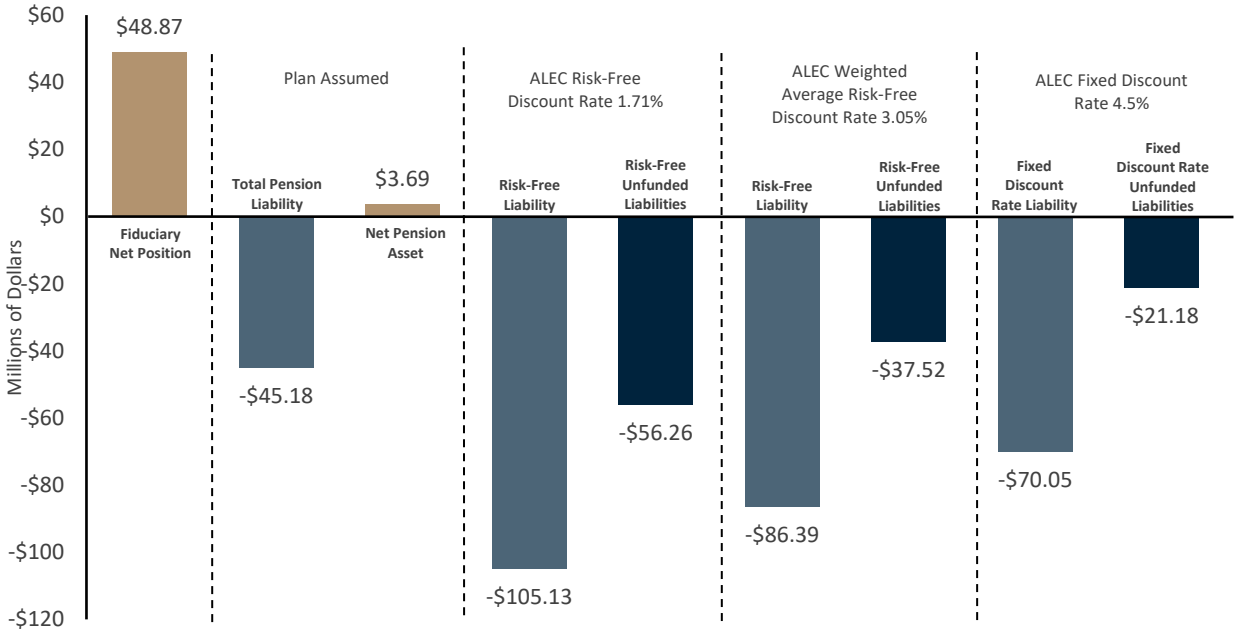
While it is normal to expect fluctuations in Treasury yields from year to year, since 2020 the fluctuations have been wider, causing larger increases and decreases in unfunded liabilities. With rising interest rates in 2022, it is reasonable to expect U.S. Treasury Bond yields to increase and the present value of unfunded liabilities to decrease. To account for the fluctuations, ALEC also utilizes measures liabilities using a fixed discount rate of 4.5%, like the discount rates used on private pensions mandated by federal law, as well as a new weighted average of the risk-free discount rates from 2011-2021.

As noted in GASB 67, pension plans are required to provide an analysis of the sensitivity of the net pension liability to changes in the discount rate.[38] This analysis, however, only extends to one percentage point greater than and less than the current assumed discount rate. An analysis using both the ALEC risk-free discount rate and the ALEC fixed discount rate of 4.5% reveals different results. When using a risk-free discount rate or a discount rate average for private plans, liabilities increase dramatically.

These differences are highlighted in the example shown in Figure 9. Figure 9 shows this sensitivity analysis for the Michigan Municipal Employees' Retirement System (MERS) using the plan's assumed discount rate, the ALEC risk-free rate, the weighted average of the ALEC risk-free discount rates 2011-2021, and the ALEC fixed discount rate. Figure 9 shows what unfunded liabilities look like using different discount rates. The plan fiduciary net position (FNP) is shown in green on the left for comparison. Figure 8 shows that even a minute detail, such as a discount rate, has a major effect on how healthy a pension fund will appear. As a reminder, Michigan constitutionally protects pension benefits under Article IX ss 24 of the Michigan State Constitution.[39] Using the assumed discount rate (based on GASB guidelines) shows MERS having a surplus, but using the risk-free discount rate (which reflects the constitutional protections for pension benefits) tells a different story.

If plan liabilities are valued using the MERS discount rate of 7.6%, which is 0.43 percentage points greater than the average public pension discount rate shown in Figure 6, the value of the liabilities shows a net pension asset of $3.69 million. If any of the ALEC discount rates are used, however, MERS shows unfunded liabilities. Using the ALEC fixed discount rate of 4.5% shows the MERS having over $105 million in unfunded liabilities. Michigan is one of eight states that constitutionally protects public pension benefits.[40] Going back to the quote from Joshua Rauh, a risk-free discount rate (such as the one in Figure 8) accurately reflects the constitutional protections for Michigan pensions. Using the risk-free discount rate to measure liabilities, MERS has over $105 million in unfunded liabilities. If the weighted average of the risk-free discount rates from 2011-2012 is used, the result is a 3.05% discount rate with $37.52 million in unfunded liabilities. What a difference a discount rate change makes.

Figure 9: Michigan Municipal Employees' Retirement System (MERS) Liability Valuations Using Various Discount Rates



Sources: Michigan Municipal Employees' Retirement System Actuarial Valuations and Authors' Calculations.

Actuarially Determined Contributions

An Actuarially Determined Contribution (ADC) is the amount of money state and local governments must annually contribute to pension plans to meet obligations to current and future retirees. The ADC is made up of two parts: the actuarially calculated contribution taxpayers need to make to cover the pension benefits employees earn for the year, known as the "normal cost," and the amount taxpayers need to contribute to pay down pension liabilities from previous years, known as the "amortization payment." Each ADC is calculated a little differently. In some cases, the ADC is referred to by other names. Previous editions of this report use "actuarially recommended contribution" and "annual required contribution," but they all refer to the same definition. This report uses the term "actuarially determined contribution" to reflect the language currently used by most public pension plans.

The ADC is the normal cost plus the unfunded actuarial accrued liability amortization. The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from the time an employee begins working to the moment they retire.[41] The "Unfunded Actuarial Accrued Liability Amortization" is the amount of money the state (in reality, the taxpayers) needs to contribute this year to fully pay off the unfunded liabilities within a 20-year window, which is a shorter timeframe than the GASB requirement of 30 years.[42]

Unlike ADC payments for OPEB plans, GASB 67 and 68 require strict reporting of annual contributions in pension actuarial valuations and in Annual Comprehensive Financial Reports (ACFRs), previously known as Comprehensive Annual Financial Reports (CAFRs).[43] These requirements allow us to observe how much the state is putting toward paying down unfunded liabilities, as well as the annual cost of these unfunded liabilities to taxpayers. Unfortunately, with the increased risk in pension assets comes more volatile investments. When investments fall short of the assumed rate of return, the state and taxpayers must make up the difference through the ADC payments. The less predictable investment returns are, the less predictable the ADC payments are each year, making it difficult to predict the annual cost of pensions to taxpayers.

In some of the worst cases, states ignore the ADC and instead use state statute to contribute less than the ADC each year. Such is the case with Illinois. As noted in *Unaccountable and Unaffordable, 2019*, Illinois uses state statute to contribute less than its ADC payment, leading to the massive growth of unfunded liabilities.[44] This practice has not changed as of FY 2021.

In FY 2021, states experienced massive budget surpluses due in part to billions of dollars from the federal government.[45] With the budget surpluses, many states sought to make large contributions to their pension funds to help pay down their debt. This is shown in Figure 4, Table 4. One such case is Arizona, which has made 100% of the ADC for the past several years, where state legislators wanted to make large contributions at the end of FY 2022 to pay down their pension debt.[46] In this edition of *Unaccountable and Unaffordable*, the average ADC was 99.14% and the median ADC was 100%. These large contributions helped contribute to growth in the FNP for FY 2021.

If a plan is consistently making ADC payments, it is better able to adjust to fluctuating variables (i.e., cost of living adjustments and life expectancy) and pay off its liabilities within 30 years. Unfortunately, until plans change assumed rates of return and use risk-free discount rates, contribution rates will not reflect the amount states need to cover annual costs and pay down unfunded liabilities.

Threats to Pension Reform in Alaska and Oklahoma

During the 2022 Legislative Session, bills in both the Alaska and Oklahoma legislatures threatened to undo the pension reform accomplishments and endanger the solvency of those retirement systems.

In Alaska, House Bill 55 (applying to law enforcement and firefighters) and House Bill 220 (for public employees and teachers) sought to reopen the original defined benefit pension systems for all public employees.[47, 48] When Alaska switched all its pension systems to full defined contribution for all new hires in 2005, the Reason Foundation noted there were two major arguments for the switch. The first was that unfunded liabilities had already reached unsustainable levels and were crowding out other spending in the state budget. The second was that state legislators feared another revenue shortage similar to those in the 80's and 90's, threatening the legislature's ability to fund already accrued benefits.[49] The argument for undoing the 2005 reforms was that offering generous pension benefits improved recruitment and employee retention.[50]

Analysis from the Reason Foundation found that House Bill 55 alone could have easily added over $200 million in new

unfunded liabilities.[51] Additional analysis found that the Alaska Teachers' Retirement System saw a decrease in the number of teachers leaving their jobs after the 2005 reforms both in the short and long-term.[52] These results cast doubt on the case for reopening the defined benefit pensions, as the evidence shows it will do more harm than good.

Oklahoma closed the Oklahoma Public Employees' Retirement System (OPERS) and enrolled new hires into a defined contribution plan in 2014. Under this plan, the state matches the employee's contribution starting at 3 percent and increasing by 1% a year until it reaches a maximum of 7% in the fifth year. This was better than many private sector 401(k) plans at the time.[53] Combining the 2014 reforms with 2011 reforms requiring full advance funding of any cost-of-living increases, Oklahoma helped keep public retirement systems solvent while reducing the burden on taxpayers.[54] As measured in Table 6, Oklahoma has seen almost a 52% increase in funding ratio growth since FY 2012. Section 1 also shows that Oklahoma is in the top 15 for lowest unfunded liabilities per capita. In a 2014 interview with Reason, Rep. Randy McDaniel discussed the importance of viewing pension reform as an ongoing effort: "The final issue is tenacity. Reforms were required if we were going to have a sustainable Oklahoma. We could no longer make excuses and turn our backs on a problem that was impacting all of our other funding priorities. There is no substitute for hard work and dedication to mission accomplishment."[55]

In 2022, Oklahoma House Bill 2486 proposed closing the defined contribution plan and reopening the legacy OPERS defined benefit plans. The bill would have allowed current defined contribution plan holders to transfer their balances over to the OPERS system using a relatively high discount rate of 6.5%.[56] This transfer would create major immediate risks similar to the risks created by pension obligation bonds. In the event of market downturn, unfunded liabilities would rapidly grow.[57] To further complicate matters, HB 2486 did not go through any rigorous actuarial or risk analyses while it was being considered, leaving stakeholders in the dark about the impact this could have on OPERS and Oklahoma taxpayers.[58]

While none of these bills made it past the legislature, this demonstrates the constant need to educate public employees, legislators, and taxpayers alike on the importance of sound pension reform.

Table 6: Percentage Change in Funding Ratios, 2012-2021

RANK	STATE	PERCENT CHANGE IN FUNDING RATIO
1	Alaska	63.66%
2	West Virginia	60.57%
3	Louisiana	53.47%
4	Oklahoma	51.87%
5	Utah	49.55%
6	New Hampshire	47.80%
7	Ohio	47.25%
8	Maryland	44.55%
9	Minnesota	42.72%
10	Idaho	41.03%
11	Montana	40.48%
12	Indiana	40.28%
13	New York	40.26%
14	Kansas	40.19%
15	Virginia	40.10%
16	Michigan	39.53%
17	North Dakota	39.52%
18	Arkansas	37.30%
19	Colorado	36.73%
20	Iowa	35.43%
21	Washington	34.02%
22	Nebraska	33.69%
23	Maine	31.12%
24	Connecticut	30.20%
25	Illinois	29.78%
26	Mississippi	29.55%
27	New Mexico	27.01%
28	Florida	26.71%
29	South Dakota	26.64%
30	Arizona	23.87%
31	Rhode Island	23.39%
32	Alabama	23.00%
33	Kentucky	22.78%
34	Wyoming	21.91%
35	Nevada	17.98%
36	Georgia	17.08%
37	Tennessee	16.05%
38	Pennsylvania	13.51%
39	Delaware	12.31%
40	North Carolina	10.69%
41	Hawaii	9.41%
42	Oregon	8.74%
43	Texas	8.40%
44	Wisconsin	6.86%
45	Massachusetts	6.09%
46	California	3.18%
47	South Carolina	1.61%
48	Missouri	-9.10%
49	Vermont	-12.33%
50	New Jersey	-13.27%

Source: Data are based on ALEC Center for State Fiscal Reform calculations.

Politically Motivated Investment Strategies Threaten Beneficiaries and Taxpayers

Politically motivated investing in public pensions has been around since the 1970's.[59] The latest iteration of this is known as environmental, social, and governance (ESG) investing. ESG is a framework for pushing desired political goals related to environmental impact, stances on social issues, and internal corporate governance. While what does and does not count as ESG is vague, the framework is broadly supportive of government intervention. In finance, ESG is used to rate companies based on many non-financial factors, or politically motivated investment schemes.

As discussed in *Keeping the Promise: Getting Politics Out of Pensions*, politically motivated investments are dangerous for public pensions and for taxpayers because it often yields lower investment returns.[60] When an investment portfolio is driven by politics instead of pecuniary concerns, the portfolio leaves money on the table. These results have been proven multiple times. For example, Research from University of Chicago Law School Professor Daniel Fischel found that a hypothetical portfolio diversified across all industries outperformed a hypothetical portfolio divested from energy stocks over the past 50 years.[61] These results held true for public pension funds, as examined in a 2020 policy brief from the Center for Retirement Research at Boston College, which examined 160 public pension plans from across the country finding that politically motivated investing decreased investment returns and failed to achieve the desired social goals.[62] The authors of the brief conclude that politically motivated investing is inappropriate for public pension funds.[63]

Furthermore, these divestment strategies are not an effective means of achieving their goals. In the same 2020 brief on ESG, the Center for Retirement Research found that politically motivated investing strategies, including ESG, are unlikely to influence change.[64] The authors noted that, given ESG's incredibly vague standards, it is nearly impossible to measure success. Even when taking a specific goal, such as reducing fossil fuel pollution or smoking, these strategies were ineffective. Politically motivated divestment strategies are ineffective because other buyers can "swoop in, purchase the stock and make money."[65] At best, these tactics may result in a temporary fall in stock prices, but the long-run stock value is unaffected.

It is clear that politically motivated investment strategies threaten public pension assets. California is a prime example of the damage that can be caused. For the past 20 years, California has been involved in various forms of politically motivated investing and, as a result, left over $3 billion in foregone investment returns on the table from tobacco divestments alone.[66] As of 2022, the University of California pension system and the California State University pension system were fully divested from fossil fuels.[67, 68] In June 2022, the California Senate passed Senate Bill 1173, which would fully divest the California Public Employees' Retirement System (CalPERS) and the California State Teachers' Retirement System (CalSTRS) portfolios from fossil fuels and prohibit these retirement systems from making new investments in fossil fuel companies.[69] As ALEC's Lee Schalk and Thomas Savidge noted in *The Orange County Register* in June 2022:

> *When lawmakers are allowed to use retirement funds for their own political activism, investment returns suffer, and unfunded liabilities grow at a faster pace. This higher volatility means taxpayers must pay more in pension contributions when investment returns fall short of assumed returns.*[70]

The bill's committee hearing in the California State Assembly was later postponed, but it is likely the bill will make a resurgence in future legislative sessions.[71] Fifteen states have some sort of ESG-specific policy in place, whether in support of the Ceres Investor Network on Climate Risk and Sustainability or the Climate Action 100+ (two organizations that support ESG efforts and manage assets based on ESG criteria).[72] These states are California, Connecticut, Hawaii, Illinois, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New Mexico, New York, Oregan, Rhode Island, Vermont, and Washington.[73]

ESG is still pervasive outside of the states that explicitly endorse it. The control of fiduciaries over proxy votes has led to increased activist voting of shares in publicly held companies, using public funds to achieve personal crusades. One infamous case occurred in 2021 over a proxy fight to replace four board members of ExxonMobil with ESG activists.[74] Proxy advisors used their positions advised the Employees' Retirement System of Texas (ERS) and Teachers' Retirement System of Texas (TRS) to recommend the pension systems vote in favor of replacing the board members. The ERS and TRS both followed the recommendations and three of the four board members of ExxonMobil were replaced.[75]

The ALEC model policy "State Government Employee Retirement Protection Act" protects public pensions from

politically motivated investing strategies like ESG. It applies what is known as the sole interest rule. The sole interest rule requires fiduciaries to discharge their duties in the sole financial interest of the plan. The sole interest rule applies to both investment decisions and proxy advisement.

States Push Back Against ESG

In response to pension funds being used to promote politically motivated investing strategies, many states have pushed back against using a variety of responses.

In September 2022, Florida Governor Ron DeSantis announced that the Florida Retirement System would eliminate any ESG investing considerations from their investing strategies and that it would bring its investment voting in-house, taking away proxy advisory voting power from BlackRock, State Street, and Vanguard.[76] The ALEC model advises that all shareholder votes should be in the hands of a state official that is politically accountable to the voters. This person is contractually bound by the sole interest rule and prudent man standard of care. That same month, Michigan State Senator Jim Runestad introduced Senate Bill 1192, based on ALEC model policy, to protect Michigan public pensions from political investing strategies like ESG.[77]

Pension Reform in Practice

Transitioning new hires to a defined contribution pension system is the best reform a public retirement system can make because it addresses the key problems with pension underfunding. Repeated throughout every edition of *Unaccountable and Unaffordable*, academic research also supports transitioning new hires to a defined contribution pension system. Economists Eileen Norcross and Daniel Smith note that transitioning new hires into a new defined contribution system is "the most promising structural reform" for public plans.[78] Benefits are delivered up front to an account owned by the employee. Under a defined contribution system, an increase in benefits would require a current increase in taxes.[79] Furthermore, a closed defined-benefit pension plan would see lower unfunded liabilities over time so long as the state government and members continue to make the full ADC payment each year.

As noted in *Keeping the Promise*, transitioning new hires to a defined contribution plan will keep politics out of their retirement savings.[80] With defined contribution, the employee has full control over where his or her retirement savings are invested. These retirement accounts are safe from policymakers who wish to make a political statement by divesting pension funds from political causes or investing in causes they support, exposing retirement savings to unnecessary risk.

Currently, Alaska, Michigan, and Oklahoma are the only states that have pension plans that enroll new hires into a full defined contribution pension system, but many of the pension plans in these states are still defined benefit. Alaska closed its teachers and state employees defined benefit plans to new hires in 2006, but legislators did not make the full contributions to the closed defined benefit plan and continued to assume high returns on plan investments, contributing to systemic underfunding.[81, 82]

Michigan, as discussed in previous editions of *Unaccountable and Unaffordable*, made key reforms in the 1990s for state employees and then again in 2017 for teachers, which reduced the growth of unfunded liabilities by billions of dollars.[83, 84] Michigan, however, still has numerous defined benefit plans open to new hires.

Oklahoma closed its Public Employees' Retirement System defined benefit plan to all new employees hired on or after November 1, 2015, and enrolled new hires into the Pathfinder plan, a composed 401(a) Plan and 457(b) plan. The 401(a) portion of the plan includes a mandatory contribution of 4.5% of pre-tax salary with state and local employers contributing 6% of pre-tax salary. Any additional voluntary contributions from employees are put into the 457(b) plan.[85]

Another piece of reform is the introduction of automatic triggers to benefits and/or contributions based on the funding health or investment performance of the pension plans. The two states that have best implemented these automatic triggers are Maine and Wisconsin. As discussed in *Unaccountable and Unaffordable, 2019*, Maine pursued a series of reforms in 2016 under former Governor Paul LePage which implemented variable contribution rates, a type of risk-sharing plan, for their state pension system.[86] Because of these reforms, Maine's unfunded pension liabilities have decreased by almost $10 billion (about 50%) in the past two years from FY 2018-2020.[87] Normally, employer contribution rates fluctuate to meet the ADC or other contribution standards, whereas employee contributions are a fixed rate set by contract. In Maine under this risk-sharing plan, both employee and employer contributions fluctuate to changes in the funding ratio.

Thanks to reforms passed by the Wisconsin Legislature and then-Governor Scott Walker in 2011, the Wisconsin Retirement System (WRS) incorporated several cost and risk-sharing measures.[88] These reforms included requiring all WRS participants, including public safety employees, to contribute half of all ADC payments for pension plans. By requiring participants and the state to split the ADC payment every year, it incentivizes prudent investment practices to minimize financial risks and annual costs.[89] These reforms helped Wisconsin become the best funded pension system in the country from FY 2012-2018.[90]

What may come as a surprise is that many states offer some form of defined contribution retirement plan. In most cases, however, these defined contribution plans are optional, and most employees are enrolled in the traditional defined benefit plan. While this is a step in the right direction, keeping the original plans open to new hires does not fix the key problems of pension underfunding. For example, Colorado, Florida, Indiana, Montana, North Dakota, Ohio, Pennsylvania, and South Carolina allow some employees to select a defined contribution plan as their primary plan.[91] Colorado, Indiana, Ohio and Pennsylvania are more effective hybrid systems because new employees are automatically enrolled in these systems. In Florida, Montana, North Dakota, and South Carolina employees must choose to opt into the hybrid system and are still

automatically enrolled in the traditional defined benefit plan.

Another example of changes being made can be seen in the California State Teachers' Retirement System (CalSTRS). The system administers two defined benefit supplement programs (cash balance plans) on top of the traditional defined benefit pension. The traditional CalSTRS pension, however, is still available to new employees.[92] By not closing the traditional defined benefit plans, unfunded liabilities continue to grow rapidly in California.

Many states also apply tiering systems in public plans, which adjust requirements such as retirement age and vesting requirements based on when employees are hired. The New York State and Local Retirement System (NYSLRS), currently on tier 6, is an example of an effective tiering system. The New York State and Local Retirement System currently has six tiers of benefit levels for its defined benefit pension plans. The year a public employee becomes a member of NYSLRS determines what tier he or she enters. Public employees who became NYSLRS members on or after April 1, 2012, are members of Tier 6.[93] The tiers adjust the number of years of service required to receive full pension benefits (the vesting period) and the minimum amount employees must contribute to the retirement fund. For example, all employees hired after January 1, 2010 (Tiers 4-6 for public employees and Tiers 5 and 6 for police and fire) require ten years of service to be 100% vested.[94] Members of Tiers 3-5 must contribute a minimum of 3% of their salary to the NYSLRS while Tier 6 member contributions vary from 3%-6% based on salary.[95]

In addition, benefits are also adjusted based on tier. For Tier 6, a member must be 55 and complete 10 years of service to start receiving benefits but he or she cannot receive full benefits until age 63.[96] When calculating final average salary, Tier 6, limits compensation to no more than 10% greater than the average of the previous four years' salary.[97] Enacting a tiering system helped keep the funding ratio at 49.32%, despite having some of the largest unfunded liabilities in the country.

CONCLUSION

Pension reform is an essential policy item for states to address. The way forward for states is serious structural reform:

- Enroll new hires in defined contribution plans.
- Implement cost and risk sharing measures to make sure defined benefit plans are properly funded.
- Keep politics out of pension investments.

State leaders promise public employees a fully funded retirement and taxpayers affordable, quality public services. Making reforms today means keeping the promises made to present and future public employees and taxpayers.

The road ahead for pension reform is difficult, but ALEC is here to help be a resource on sound pension reform. For over a decade, ALEC has provided research, model policies, and educational programming on sound pension reform. We encourage readers to reach out to ALEC for state specific issue briefings that cover specific pension plans, the history of your state's pension system, and opportunities to reform.

APPENDIX A: **METHODOLOGY**

This report features a complete dataset from FY 2012 to 2020. This report uses each plan's fiduciary net position (FNP) and total pension liability to calculate unfunded liabilities. This report, however, makes several assumptions regarding the structure and actuarial assumptions in state liabilities to present a more reasonable estimate of each state's liabilities than is commonly found in the state financial reports.

In addition, many plans use the phrase "rate of return" and "discount rate" interchangeably. Section 2 explains the differences between an investment rate of return and a discount rate. As discussed in Section 2, there is also a major difference between the assumed return on investments and actual return on investments.

Another important factor in understanding state pensions is how the discount rate affects the value of liabilities. Generally, the higher/lower the discount rate, the lower/higher the liability. Also mentioned in Section 2, assuming higher rates of return and discount rates creates perverse incentives for policymakers to overvalue the returns on investment and undervalue liabilities.

For this year's edition of the report, a 15-year midpoint, using a hypothetical 15-year U.S. Treasury Bond yield, is used to derive an estimated risk-free discount rate of 1.13%. This is calculated as the average of the 10-year and 20-year bond yields.

As stated in Section 2, the 15-year midpoint comes from the GASB recommendation that a pension plan take no longer than 30 years to pay off its pension liabilities. While state financial documents are not required to report their liabilities projected over a time series (i.e., reporting total liability due per year for the next 75 years), this report must assume the midpoint of state liabilities to recalculate state liabilities under different discount rates.

Applying the risk-free rate to pension liabilities allows for more accurate cross-state comparisons than simply comparing liability values as stated in state financial documents.

The valuations in this report are calculated based on the present value of those liabilities. While it is difficult to estimate how much future liabilities will cost because of factors such as changes in inflation and mortality rates, we can estimate the value of those future liabilities today by calculating their present value. Present value is the value today of an amount of money in the future.

The discount rate is the rate used to determine the present value of benefits a pension plan must pay retirees in the future.[98] A general rule is the higher the discount rate, the lower the present value of future pension liabilities and vice versa. This study uses a discount rate that is lower than the discount rate in many state financial documents. This is, in part, to show a more conservative valuation of those liabilities (compared to many state financial documents) and to allow more accurate liability comparisons to be made between states.

Pension plan discount rates can vary even among plans within a state. The use of a risk-free discount rate normalizes discount rates across pension plans, providing the means to assess present value of liabilities across plans. This provides a basis of comparison for liabilities and funding ratios across the 50 states. Other variables provided by state financial documents such as mortality rates, demographics, and health care costs were assumed to be correct and not normalized across plans.

A risk-free discount rate is a more prudent discount rate than many plans offer. The formula for calculating a risk-free present value for a liability requires first finding the future value of the liability. That formula, in which "i" represents a plan's assumed discount rate, is described in equation 1 below:

$$(1)\ Future\ Value\ =\ Total\ Pension\ Liability \times (1+i)^{15}$$

The second step is to discount the future value to arrive at the present value of the more reasonably valued liability. That formula in which "i" represents the risk-free discount rate, 4.5% fixed discount rate, or the weighted average risk-free rate of 3.05% is described in equation 2 below:

$$(2)\ Present\ Value\ =\ \frac{Future\ Value}{(1+i)^{15}}$$

This methodology was developed by Bob Williams and Andrew Biggs when this report was created by State Budget Solutions. The State Budget Solutions report is now a project of the ALEC Center for State Fiscal Reform. Using a single discount rate, either the floating risk-free discount rate or fixed discount rate, normalizes liability values across plans and presents a more prudent valuation of liabilities than many state benefits plans. The inclusion of the fixed discount rate of 4.5%, was added by the authors of *Unaccountable and Unaffordable, 2018*.[99] This discount rate controls for changes in the risk-free rate, year-over-year, and is similar to private sector pension discount rates

that are mandated by federal law. Now with a decade of pension data, we have also incorporated the weighted average of all the risk-free discount rates to help adjust for large fluctuations in the U.S. Treasury Bond yields since 2020.

Furthermore, smaller plans that did report their investment rates of return tended to deviate from the national average more than larger plans, likely due to their smaller and less diversified funds. In some cases, smaller plans pool their assets with the state employee, teacher or police funds to reduce management costs. This created a comparison problem between states in terms of their investment rates of return. States with smaller plans tended to report a larger variance in their investment returns than states with consolidated funds as well as, problematically, states with smaller plans that did not report investment rates of return. For this reason, this report excludes smaller plans and uses the Boston College Center for Retirement Research Public Plans Database Investment rates of return to analyze larger state plan investment returns.

Membership figures are collected from ACFRs, valuations and GASB notes, and are divided into active employees and beneficiaries (i.e., current retirees, inactive employees entitled to benefits who have not yet retired and survivors entitled to benefits). Some state plans used the term "inactive" to refer to different aggregations of inactive employees, such as retirees, inactive employees entitled to a future benefit and inactive employees not entitled to a benefit. Supporting documents were used to parse the two groups. For example, the Connecticut Municipal Employee Retirement System, uses the term "inactive members" in their GASB 68 report ambiguously but clarifies the figure in their GASB 67 report by parsing the total into retirees currently receiving benefits and inactive members entitled to a benefit.

Actuarially determined contributions (ADCs) and the percentage of actuarially determined contributions made were collected primarily from pension ACFRs, usually from tables titled "Schedule of Employer Contributions." Actuarially determined contributions, actuarially recommended contributions, actuarially determined contributions net of taxes and fees are reported as ADC in our study.

ALEC Statement of Principles on Sound Pension Practices

Summary

Retirees, taxpayers and workers expect the state government to wisely steward pension investments. Therefore, the state government is responsible for making the best possible investments to fully fund future pension benefits. In order for state governments to keep their pension promises, policy principles are essential. The fundamental principles presented here provide guidance for a responsible, accountable, and transparent government pension system.

Statement of Principles

- **Stability** – Government pensions should be secure and safe from high risk assumptions. State and local governments should eliminate incentives to underfund pension commitments, or to over-expend benefits beyond available revenues.

- **Predictability** – The pension obligations of states should be predictable and structured to foster certainty for taxpayers and policymakers. Contribution levels should be stable. Benefits of government pensions should be comparable to plans available by private citizens, and the costs and benefits should be sustainable.

- **Adequacy** – An unrealistically high assumed rate of return is a guaranteed way to underfund the government pension systems. State legislatures should fund 100 percent of Annually Required Contributions (ARC). Government pension systems should use assumptions that are consistent with Governmental Accounting Standards Board (GASB) and/or Generally Accepted Accounting Principles (GAAP) standards.

- **Affordability** – Government pension plans should be properly structured within affordable employee contributions and government financial support of their core functions, without imposing an undue burden on taxpayers.

- **Transparency** – Government pension systems should be transparent, open and non-political. Comprehensive Annual Financial Reports (CAFR) should be reasonably simple to understand and published in a timely manner.

- **Responsibility** – Risks should be balanced equitably among employees, government and taxpayers. Lawmakers and fund managers should be accountable for the adequacy and solvency of retirement funds.

- **Ownership** – Pension plans should ultimately benefit, reward, and compensate the work of government employees. Employees should share in the benefits, risks, and decisions of their retirement plans and their money, while protecting against potentially risky or ill-informed individual decisions.

- **Choice** – Employees should be able to choose defined contribution investment plans to help balance risk and gain within individual investment needs and strategies.

- **Transportability** – Government pension plans should move with employees throughout their careers, without locking employees into government jobs or penalizing those who chose to move in or out of the public sector.

- **Liquidity** – Government pension plans should consider adequate liquidity to allow employees to use or sell some of their assets, especially during personal or family emergencies.

- **Safety** – Legislators and other appropriate government organizations should have sufficient oversight and protections to protect employees against security risks to pension plans, including waste, fraud, and abuse, and crimes such as embezzlement, identity theft, and cyber theft.

Defined-Contribution Pension Reform Act

Summary

The defined-benefit model of retirement benefits for state and municipal employees is not fiscally sustainable. It is the intent to direct state retirement boards to create and maintain a defined-contribution program in which all state and municipal employees hired on or after [date], 2011 will automatically enroll after [X] months of employment to become eligible to accrue retirement benefits.

Intent Section

The Legislature finds that the defined-benefit model of retirement benefits for state and municipal employees is not fiscally sustainable. It is the intent of the Legislature, therefore, to direct the [state retirement board] to create and maintain a defined-contribution program in which all state and municipal employees hired on or after [date], 2011 will automatically enroll after [X] months of employment to become eligible to accrue retirement benefits.

Short Title

This Act shall be known and may be cited as the "Defined-Contribution Retirement Act."

Section 1.

(A) Definitions:

(1) "Defined-contribution retirement system" means a compensation system of post-employment benefits which are accorded based upon

(a) The percentage of salary the employer contributes

(b) The percentage of salary the employee contributes

(c) The investment return of the 401(k) plan to which the employer and employee contributions are made

(2) "Vested" or "vesting" refers to the point at which an employee has become eligible to receive benefits upon retirement.

Section 2.

(A) Enrollment of current employees:

(1) All current employees shall be transferred to the new defined-contribution retirement plan

(2) All employee accrual in the existing defined-benefits retirement plan shall be immediately frozen and the accrued sums transferred to employee accounts in the new defined-contribution retirement plan.

(B) Enrollment of new employees:

(1) State and municipal employees hired on or after [date], 2011 will automatically enroll after [X] months of employment.

Section 3.

(A) Contributions

(1) Upon enrollment, the employer shall contribute [X] percent of each employee's salary toward a defined-contribution plan qualified under section 401(k) of the Internal Revenue Code.

(2) Upon enrollment, the employee must contribute [X] percent and may voluntarily contribute up to [X] percent of salary to the same 401(k) plan which receives the employer's contributions.

Section 4.

(A) Vesting

(1) The full amount contributed by the employer to the employee's plan vests after [X] years. The employee contribution to the plan vests immediately and is not subject to forfeiture.

Section 5.

(A) Investment

(1) {Insert state} shall sponsor [X] investment funds eligible for use in the 401(k) plan, including a default fund into which contributions flow prior to vesting.

(2) Prior to vesting, the employer contributions will be directed into a default investment fund.

(3) Upon vesting, the employer contributions may be directed by the employee into a combination of available investment funds at [X] percent increments.

(4) The employee contributions which vest to the employee immediately are directed into a default investment fund but may be redirected by the employee into a combination of other available investment funds at [X] percent increments.

(5) Investment of such funds shall be self-directed and shall be administered by an agency of {insert state} on behalf of the employees and subject to annual audit by the state Comptroller, the results of which shall promptly be made available to all state and municipal workers and citizens of the state.

Section 6.

(A) Redemption

(1) Upon completion of service, all vested contributions and returns in the 401(k) plan are eligible for redemption in full or in the form of an annuity by the employee.

(2) At the employee's election, all vested contributions and returns may be paid out in the form of an annuity for a time certain, for life, or for a joint and survivor annuity.

Section 7.

(A) Forfeiture

(1) If employee terminates employment prior to vesting, employer contributions are subject to forfeiture.

(2) Such contributions may become eligible for vesting again if the employee enters employment with the same or participating state employer within [X] years, at which point previous years worked are used to determine the vesting eligibility.

(3) The retirement board shall set up a forfeiture account and specify its uses, which may include the subsidy or employer contributions.

Section 8.

For any pension or retirement system controlled by the state of {insert state} benefit enhancements must be concurrently funded at the time the benefit is authorized.

Section 9. { Severability clause.}

Section 10. {Repealer clause.}

Section 11. {Effective date.}

The Open Financial Statement Act

Summary

This act replaces PDF-formatted audited financial statements of state, country, municipal, and special district filings with filings utilizing Interactive eXtensible Business Reporting Format (iXBRL). It also establishes these iXBRL audited financial statements as the only annual financial filing required from public agencies by the state, reducing duplicative reporting efforts.

The Open Financial Statement Act

Whereas state and local governments are filing their audited financial statements in outmoded PDF formats,

Whereas local governments are required to file both audited PDFs and unaudited Annual Financial Reports containing duplicative or contradictory information,

Whereas many pension systems, fiduciary trusts and component units also file audited financial statements in outmoded PDF formats,

Whereas transitioning these documents to machine readable formats will ease the identification of fiscally distressed local governments and will increase liquidity in the municipal bond market,

Therefore, the State will undertake this transition.

(1) Local Government, Pension Systems, Fiduciary Trusts and Component Unit Financial Statement Format

It is the intent of the legislature to replace PDF-formatted audited financial statements with filings utilizing Interactive eXtensible Business Reporting Format (iXBRL). It is also the intent of the legislature to establish these iXBRL audited financial statements as the only annual financial filing required from public agencies by the state. To implement this change:

> (i) The governor shall appoint a seven-member commission including(1) a representative from the State Controller's Office, (2) a representative from the State Auditor's Office, (3) a representative of a city or county, (4) a representative of a special district, (5) a government accounting researcher affiliated with a state university, (6) a municipal bond investor and (7) an information technology professional employed in the private sector. This body shall be named the "Open Financial Statement Commission" or OFSC.
>
> (ii) The legislature appropriates $_____to the OFSC with the following restrictions: (1) none of the appropriation may be spent on member or staff salaries and (2) no more than $_____ of the appropriation may be spent on committee meetings.
>
> (iii) The commission shall choose contractors to (1) build one or more XBRL taxonomies suitable for state, county, municipal and special district financial filings and (2) create a software tool that enables financial statement filers to easily create iXBRL documents consistent with the taxonomy or taxonomies. Contractors shall be recruited and selected through an open Request for Proposals process. The OFSC may require the use of existing taxonomy(ies) when prudent to reduce costs and increase comparability between entries.
>
> (iv) The commission shall evaluate the contractors' prototype taxonomy and filing software and specify any changes it deems appropriate. It shall require that all work be completed no later than <<Date0>>.
>
> (v) The commission shall submit a report to the legislature no later than <<Date1>> describing the work products and advising of its decision as to whether to implement the taxonomy or taxonomies.

(vi) If the OFSC deems the work products adequate, all governmental financial statements pertaining to fiscal years ending on or after <<Date2>> must be filed in iXBRL format and must meet the validation requirements of the relevant taxonomy.

(vii) If the OFSC deems the work products unacceptable, it shall instruct its contractors to make necessary revisions or replace the original contractors with new ones capable of making the necessary revisions. The commission will then make a second implementation decision no later than <<Date3>> and provide a second report to the legislature no later than <<Date4>>. If the commission fails to recommend an implementation by <<Date5>>, it will be dissolved, and the filings will remain in their current formats.

(viii) Once a government commences filing in iXBRL it will no longer be required to file a PDF, submit an Excel-based AFR or complete any online forms requesting annual financial statistics. If any state agency is unable to use iXBRL financial statements by <<Date5>>, it will be the Department's responsibility to convert the iXBRL filing into PDF for its internal use.

(ix) The OFSC will be tasked with identifying changes to reporting requirements that bring AFR into alignment with CAFR to facilitate the latter satisfying the requirements for the former.

(2) State Government Report Format

For fiscal years ending on <<Date 5>> and thereafter, the State Controller shall submit the comprehensive annual financial report in Interactive eXtensible Business Reporting Format (iXBRL) format if the Open Financial Statement Commission described above has mandated the use of this format by local governments.

State Government Employee Retirement Protection Act

Summary

This model strengthens fiduciary rules to protect pensioners from politically driven investment strategies. These strategies reduce investment returns over the long term which leads to underfunding in state pension plans across the country.

(1) Definitions

(a) The term "defined benefit pension plan" or "plan" shall mean any plan, fund or program which was heretofore or is hereafter established, maintained, or offered by [the State] or any subdivision, county, municipality, agency or instrumentality thereof, or any school, college, university, administration, authority, or other enterprise operated by the State (collectively "the State"), to the extent that by its terms or as a result of surrounding circumstances –

(i) Provides retirement income or other retirement benefits to employees or former employees, or

(ii) Results in a deferral of income by such employees for period extending to the termination of covered employment or beyond.

(b) The term "fiduciary" means a person who with respect to a defined benefit pension plan (i) exercises any discretionary authority or discretionary control respecting management of such plan or exercises any authority or control respecting management or disposition of its assets, (ii) renders investment advice for a fee or other compensation, direct or indirect, with respect to any moneys or other property of such plan, or has any authority or responsibility to do so, or (iii) has any discretionary authority or discretionary responsibility in the administration of such plan, including making recommendations or voting a plan's shares or proxies.

(c) When used to qualify a risk or return, the term 'material' means a risk or return regarding which there is a substantial likelihood that a reasonable investor would attach importance when –

(i) evaluating the potential financial return and financial risks of an existing or prospective investment, or

(ii) exercising, or declining to exercise, any rights appurtenant to securities.

(iii) When used to qualify a risk or return, the term "material" does not include:–

(a) furthering non-pecuniary, environmental, social, political, ideological, or other goals or objectives, or

(b) any portion of a risk or return that primarily relates to events that –

(A) involve a high degree of uncertainty regarding what may or may not occur in the distant future, and

(B) are systemic, general, or not investment-specific in nature.

(d) The term "pecuniary factor" means a factor that has a material effect on the financial risk and/or financial return of an investment based on appropriate investment horizons consistent with the plan's investment objectives and the funding policy. The term excludes non-pecuniary factors.

(e) The term "non-pecuniary" includes any action taken or factor considered by a fiduciary with any purpose to further environmental, social, or political goals. A fiduciary purpose may be reasonably determined by

evidence, including, but not limited to, a fiduciary's statements indicating its purpose in selecting investments, engaging with portfolio companies, or voting shares or proxies, or any such statements by any coalition, initiative, or organization that the fiduciary has joined, participated in, or become a signatory to, in its capacity as a fiduciary.

(2) Sole Interest and Prudent man standard of care.

(a) A fiduciary shall discharge his duties with respect to a plan solely in the pecuniary interest of the participants and beneficiaries for the exclusive purpose of –

(i) providing pecuniary benefits to participants and their beneficiaries; and

(ii) defraying reasonable expenses of administering the plan;

(b) and with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims;

(c) by diversifying the investments of the plan so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so; and,

(d) in accordance with the documents and instruments governing the plan insofar as such documents and instruments are consistent with the provisions of this chapter.

(3) Consideration of Non-Pecuniary Factors Prohibited. A fiduciary's evaluation of an investment, or evaluation or exercise of any right appurtenant to an investment, must take into account only pecuniary factors. Plan fiduciaries are not permitted to promote non-pecuniary benefits or any other non-pecuniary goals. Environmental, social, corporate governance, or other similarly oriented considerations are pecuniary factors only if they present economic risks or opportunities that qualified investment professionals would treat as material economic considerations under generally accepted investment theories. The weight given to those factors should solely reflect a prudent assessment of their impact on risk and return. Fiduciaries considering environmental, social, corporate governance, or other similarly oriented factors as pecuniary factors are also required to examine the level of diversification, degree of liquidity, and the potential risk-return in comparison with other available alternative investments that would play a similar role in their plans' portfolios. Any pecuniary consideration of environmental, social, or governance factors must necessarily include evaluating whether greater returns can be achieved through investments that rank poorly on such factors.

(4) Voting Ownership Interests. [Bracketed portions may be adjusted for the needs of each state]

(a) All shares held directly or indirectly by or on behalf of a defined benefit pension plan and/or the beneficiaries thereof shall be voted solely in the pecuniary interest of plan participants. Voting to further non-pecuniary, environmental, social, political, ideological or other benefits or goals is prohibited.

(b) [Unless no economically practicable alternative is available,] a fiduciary may not adopt a practice of following the recommendations of a proxy advisory firm or other service provider unless such firm or service provider has a practice of, and in writing commits to, follow proxy voting guidelines that are consistent with the fiduciary's obligation to act based only on pecuniary factors.

(c) [Unless no economically practicable alternative is available,] plan assets shall not be entrusted to a fiduciary, unless that fiduciary has a practice of, and in writing commits to, follow guidelines, when engaging with portfolio companies and voting shares or proxies, that match the [governmental entity's] obligation to act based only on pecuniary factors.

(d) Authority to vote such shares should be in the hands of a State official politically accountable to the people of [State name]. As such, all current proxy voting authority with respect to any and all shares held directly or indirectly by or on behalf of a pension benefit plan and/or the plan participants is hereby revoked. All such voting authority shall reside with [the State Treasurer or appropriate board or committee], [except that the [state official or board] may delegate such authority to a person who has a practice of, and in writing commits to, follow guidelines that match the [governmental entity's] obligation to act based only on pecuniary factors].

(e) All proxy votes shall be tabulated and reported annually to the [Board]. For each vote, the report shall contain a vote caption, the plan's vote, the recommendation of company management, and, if applicable, the proxy advisor's recommendation. These reports shall be posted on a publicly available webpage on the Board's website.

(5) Enforcement

(a) This [article] may be enforced by the attorney general.

(b) If the attorney general has reasonable cause to believe that a person has engaged in, is engaging in, or is about to engage in, a violation of this article, he may:

> (i) Require such person to file on such forms as he prescribes a statement or report in writing, under oath, as to all the facts and circumstances concerning the violation, and such other data and information as he may deem necessary.
>
> (ii) Examine under oath any person in connection with the violation.
>
> (iii) Examine any record, book, document, account, or paper as he may deem necessary.
>
> (iv) Pursuant to an order of the [state trial court], impound any record, book, document, account, paper, or sample or material relating to such practice and retain the same in his possession until the completion of all proceedings undertaken under this article or in the courts.

(6) Severability. Should a court of competent jurisdiction hold any provision(s) of this chapter to be invalid, such action will not affect any other provision of this chapter.

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