

# UNACCOUNTABLE AND UNAFFORDABLE

UNFUNDED  
PUBLIC  
PENSION  
LIABILITIES  
EXCEED  
**\$8.2 TRILLION**





# UNACCOUNTABLE AND UNAFFORDABLE

## **Unaccountable and Unaffordable, 6th Edition**

Unfunded Public Pension Liabilities Reach \$8.2 Trillion

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#### **Acknowledgments and Disclaimers:**

The authors wish to thank Lisa B. Nelson, Christine Phipps and the professional staff at ALEC for their valuable assistance with this project.

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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 spearheaded this report series. 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 commonsense ideas to future generation of state policymakers.*



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## INTRODUCTION

Unfunded state pension liabilities total \$8.28 trillion or just under \$25,000 for every man, woman and child in the United States. This is an unprecedented amount in the history of this report, but most of the change is the result of a decrease in the risk-free discount rate, caused by the decrease in U.S. Treasury note yields. State governments are obligated, often by contract and state constitutional law, to make these pension payments regardless of economic conditions. As these 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 these liabilities instead.

Unfunded liabilities have increased by \$2.45 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. With the financial reporting data from 2021, the risk-free discount rate lowered from 2.34% to 1.13%, in part due to historically low interest rates driving down treasury note yields and drastically increasing the present value of liabilities. It is reasonable to expect that as interest rates rise in response to inflation, treasury yields will increase, increasing the risk-free discount rate and returning unfunded liability amounts closer to previous report estimates.

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% to account for these changes in the risk-free discount rate. Using the ALEC fixed discount rate of 4.5%, unfunded liabilities total just over \$2 trillion.

FY 2020 saw a slight increase in the number of retirees and a slight decrease in the number of active members contributing to pension systems.

Most state pension plans are structured as defined benefit plans, where an employee receives a fixed payout at retirement based on a calculation of 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 (tax revenue) and by taking on debt to pay pension promises. Several states, however, have defined contribution options, such as a 401(k) or other individual retirement account options.

States are obligated to pay pension promises, often by state constitution or statute. 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—similar to how 401(k) plans work in the private sector—states can prevent the rapid growth of unfunded liabilities. Pension reforms that move in the direction of defined contribution systems give public workers greater flexibility with their retirement contributions, plus the ability to take their retirement savings with them to new jobs.

Because of the significant impact unfunded pension liabilities have on state budgets and individual taxpayers, the Center for State Fiscal Reform at 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 and the economy. This report surveys more than 290 state-administered government pension plans, detailing assets and liabilities from FY 2012-2020. The unfunded liabilities are reported using three different calculations:

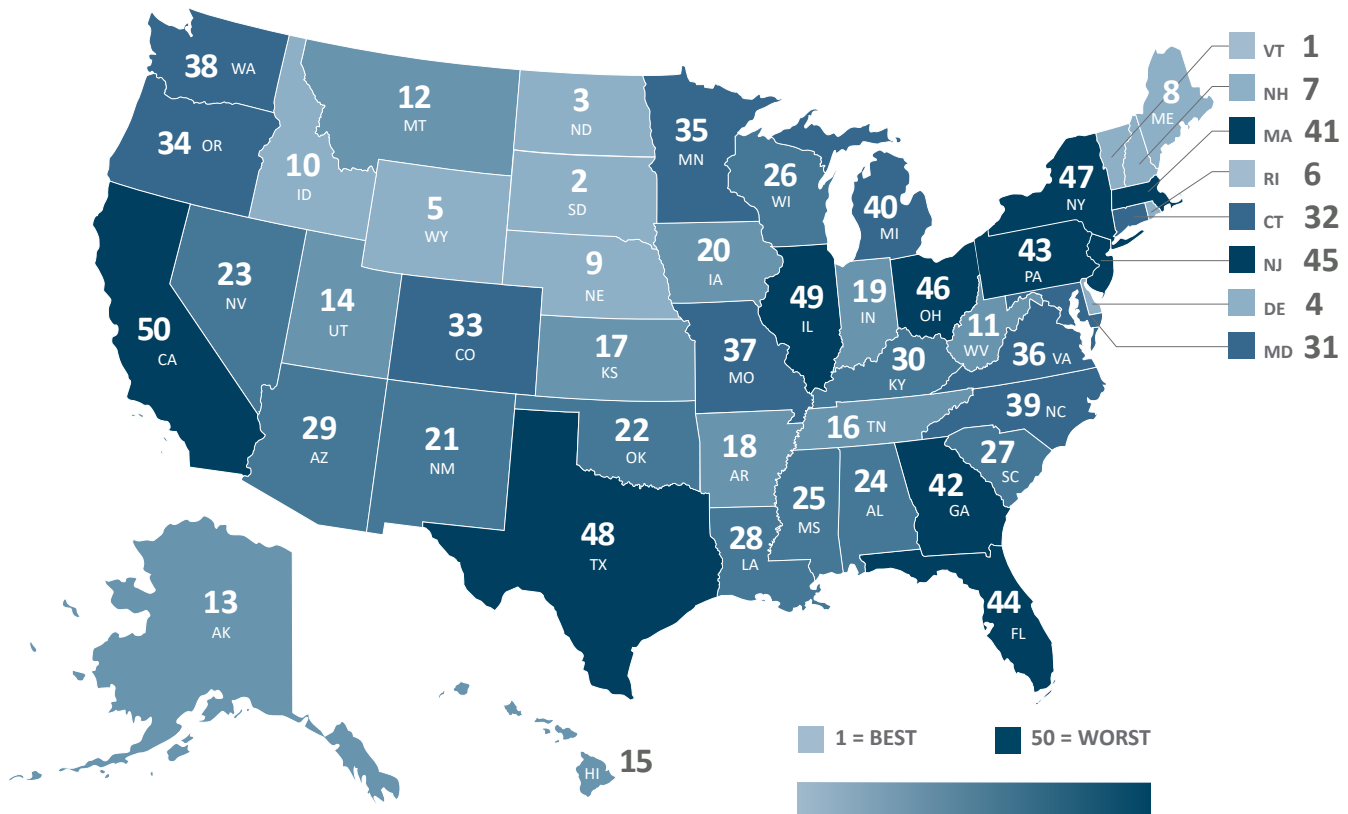
- Estimates from each respective state's financial reporting.
- Estimates using a risk-free discount rate, which reflects constitutional and other legal protections extended to state pension benefits.
- Estimates using a fixed rate of 4.50%, which controls for changes in discount rate assumptions over time.



## SECTION 1: KEY FINDINGS

Figure 1, Table 1

Total Unfunded Pension Liabilities, 2021



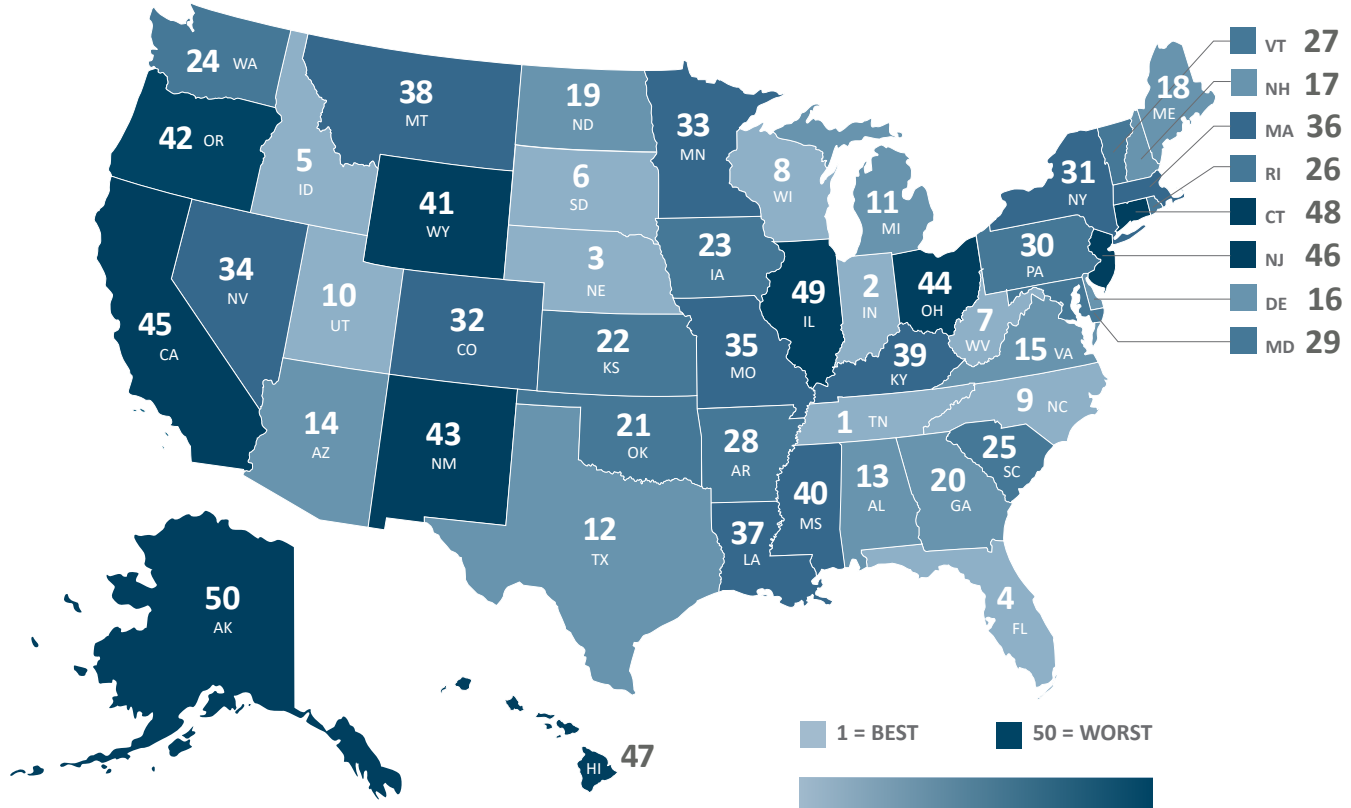
RANK	STATE	RISK-FREE UNFUNDED LIABILITIES
1	Vermont	\$14,436,915,023.19
2	South Dakota	\$14,443,335,262.44
3	North Dakota	\$15,130,326,382.66
4	Delaware	\$18,467,436,374.30
5	Wyoming	\$18,715,506,759.89
6	Rhode Island	\$24,614,454,335.59
7	New Hampshire	\$25,939,504,193.86
8	Maine	\$26,172,124,821.24
9	Nebraska	\$26,226,172,725.89
10	Idaho	\$29,276,256,966.56
11	West Virginia	\$29,335,157,886.19
12	Montana	\$30,665,520,502.16
13	Alaska	\$31,331,382,418.17
14	Utah	\$55,458,770,067.99
15	Hawaii	\$58,122,692,070.11
16	Tennessee	\$58,824,541,726.96
17	Kansas	\$59,846,865,002.38
18	Arkansas	\$67,682,576,006.08
19	Indiana	\$69,135,444,680.63
20	Iowa	\$69,171,677,446.79
21	New Mexico	\$76,211,334,591.85
22	Oklahoma	\$80,636,914,665.72
23	Nevada	\$82,252,281,510.42
24	Alabama	\$92,734,851,779.32
25	Mississippi	\$96,029,349,197.20

RANK	STATE	RISK-FREE UNFUNDED LIABILITIES
26	Wisconsin	\$97,154,455,679.01
27	South Carolina	\$114,660,456,761.09
28	Louisiana	\$128,821,669,699.20
29	Arizona	\$133,128,569,668.52
30	Kentucky	\$137,219,561,719.94
31	Maryland	\$139,840,588,393.85
32	Connecticut	\$145,779,590,837.11
33	Colorado	\$146,529,003,041.85
34	Oregon	\$147,779,453,199.60
35	Minnesota	\$148,316,886,232.56
36	Virginia	\$160,682,025,027.08
37	Missouri	\$165,965,096,591.08
38	Washington	\$167,432,460,443.31
39	North Carolina	\$174,143,444,572.63
40	Michigan	\$178,933,605,481.79
41	Massachusetts	\$191,086,201,504.61
42	Georgia	\$208,059,092,431.94
43	Pennsylvania	\$299,470,540,222.67
44	Florida	\$302,873,520,481.96
45	New Jersey	\$370,157,297,823.16
46	Ohio	\$429,533,379,709.61
47	New York	\$508,708,887,679.93
48	Texas	\$529,703,784,142.18
49	Illinois	\$533,727,891,857.06
50	California	\$1,530,649,405,906.57

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2021](https://www.alec.org/PensionDebt2021)

Figure 2, Table 2

## Total Unfunded Pension Liabilities Per Capita, 2021

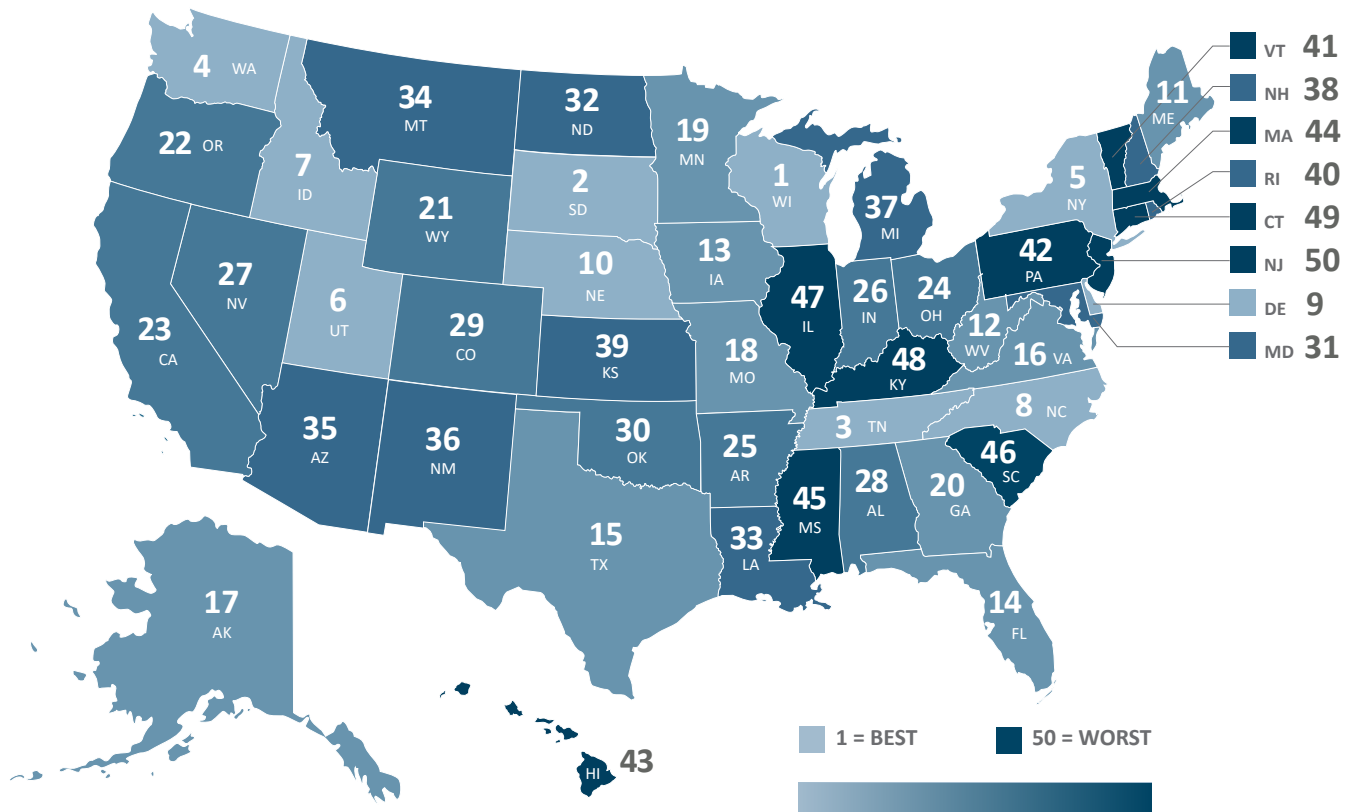


Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2021](https://www.alec.org/PensionDebt2021)

## SECTION 1: KEY FINDINGS

Figure 3, Table 3

### Funding Ratios



### FUNDING RATIOS

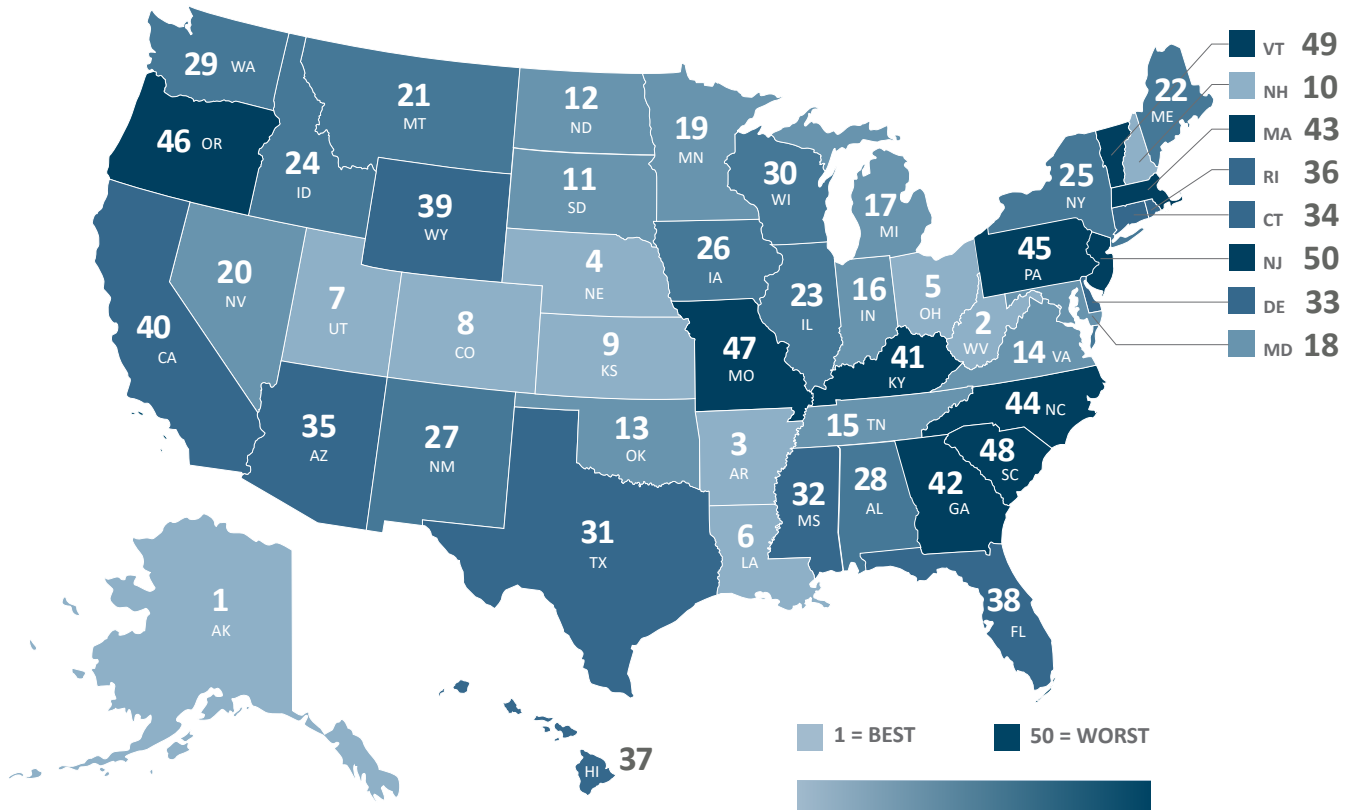
The funding ratio is one measurement of the health of a pension plan. It is the ratio of plan assets to plan liabilities, expressed as a percent. Each state pension plan should strive for a 100% funding ratio. The measurements here use the asset values reported by states and compares them to the liability 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 RATIO	RANK	STATE	FUNDING RATIO
1	Wisconsin	56.26%	26	Indiana	30.65%
2	South Dakota	46.10%	27	Nevada	30.31%
3	Tennessee	41.14%	28	Alabama	30.21%
4	Washington	38.57%	29	Colorado	29.65%
5	New York	38.51%	30	Oklahoma	29.52%
6	Utah	38.29%	31	Maryland	28.59%
7	Idaho	37.95%	32	North Dakota	28.34%
8	North Carolina	37.21%	33	Louisiana	27.97%
9	Delaware	36.99%	34	Montana	27.85%
10	Nebraska	36.92%	35	Arizona	27.57%
11	Maine	36.65%	36	New Mexico	26.79%
12	West Virginia	35.68%	37	Michigan	26.79%
13	Iowa	35.14%	38	New Hampshire	26.08%
14	Florida	34.79%	39	Kansas	25.61%
15	Texas	33.30%	40	Rhode Island	25.47%
16	Virginia	33.06%	41	Vermont	24.36%
17	Alaska	32.53%	42	Pennsylvania	23.85%
18	Missouri	32.17%	43	Hawaii	23.73%
19	Minnesota	32.08%	44	Massachusetts	23.67%
20	Georgia	32.07%	45	Mississippi	22.81%
21	Wyoming	31.63%	46	South Carolina	21.42%
22	Oregon	31.61%	47	Illinois	20.58%
23	California	31.61%	48	Kentucky	19.78%
24	Ohio	31.52%	49	Connecticut	19.14%
25	Arkansas	30.84%	50	New Jersey	17.96%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2021](https://www.alec.org/PensionDebt2021)

Figure 4, Table 4

## Change in Funding Ratios from Fiscal Years, 2012-2020



## CHANGING IN FUNDING RATIOS

This measurement uses the fixed discount rate of 4.5% to account for changes in the risk-free discount rate that occurs year-over-year. It examines the percent change from the earliest year of data collection, FY 2012, to the most recent year of data collection, FY 2020. This measurement changes dramatically year over year because it examines how much a funding ratio has grown or shrunk between the two measured years. With liability growth outpacing asset growth in FY 2020, many state pension funds that saw growth in last year's rankings, such as Colorado, experienced a funding ratio contraction. Wisconsin, which has consistently had the highest funding ratio in the country, increased its funding ratio by 6.21% between FY 2012 and FY 2020.

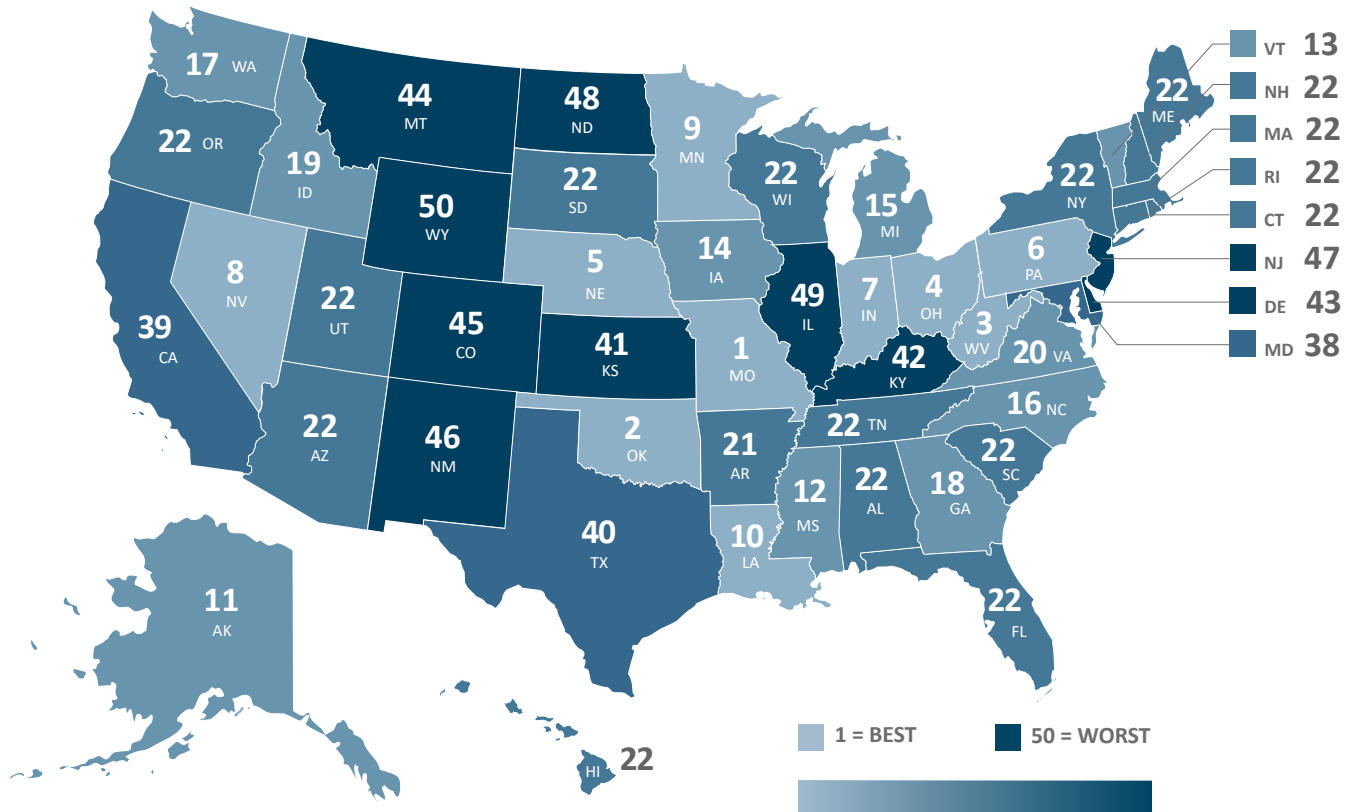
RANK	STATE	FUNDING RATIO	RANK	STATE	FUNDING RATIO
1	Alaska	35.06%	26	Iowa	10.99%
2	West Virginia	31.05%	27	New Mexico	9.84%
3	Arkansas	26.53%	28	Alabama	9.17%
4	Nebraska	25.78%	29	Washington	7.35%
5	Ohio	25.31%	30	Wisconsin	6.21%
6	Louisiana	24.93%	31	Texas	6.21%
7	Utah	24.17%	32	Mississippi	5.58%
8	Colorado	22.40%	33	Delaware	4.92%
9	Kansas	21.65%	34	Connecticut	4.77%
10	New Hampshire	20.13%	35	Arizona	4.63%
11	South Dakota	20.10%	36	Rhode Island	4.12%
12	North Dakota	19.67%	37	Hawaii	3.78%
13	Oklahoma	18.52%	38	Florida	3.64%
14	Virginia	17.93%	39	Wyoming	2.78%
15	Tennessee	16.05%	40	California	2.41%
16	Indiana	15.04%	41	Kentucky	-0.04%
17	Michigan	14.95%	42	Georgia	-1.44%
18	Maryland	14.71%	43	Massachusetts	-4.67%
19	Minnesota	14.48%	44	North Carolina	-5.89%
20	Nevada	14.45%	45	Pennsylvania	-7.68%
21	Montana	12.85%	46	Oregon	-9.77%
22	Maine	12.45%	47	Missouri	-16.17%
23	Illinois	12.38%	48	South Carolina	-18.11%
24	Idaho	12.10%	49	Vermont	-27.16%
25	New York	11.92%	50	New Jersey	-27.48%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2021](https://www.alec.org/PensionDebt2021)

## SECTION 1: KEY FINDINGS

Figure 5, Table 5

Percent Actuarially Determined Contribution (ADC) Paid



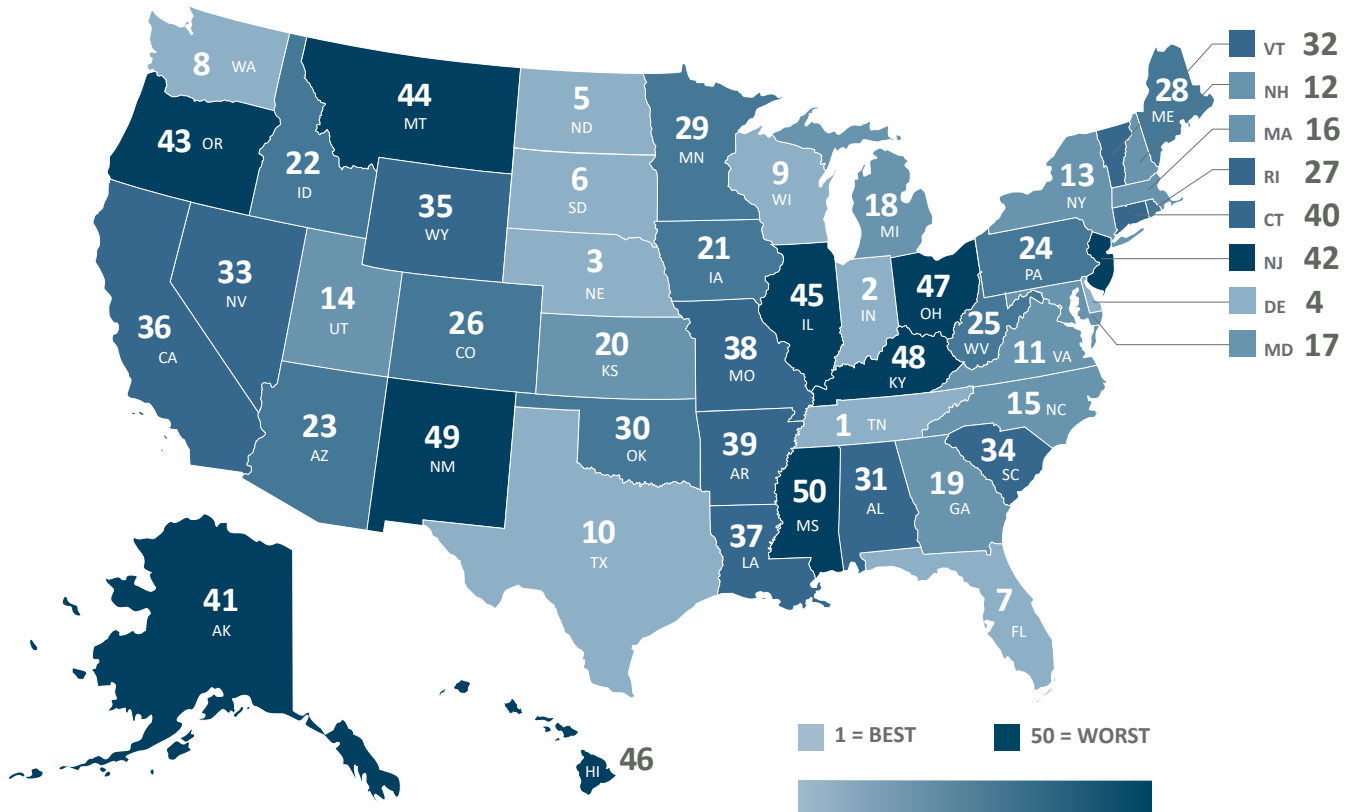
RANK	STATE	PERCENT ADC PAID
1	Missouri	294.96%
2	Oklahoma	205.82%
3	West Virginia	117.26%
4	Ohio	115.95%
5	Nebraska	115.01%
6	Pennsylvania	114.60%
7	Indiana	112.42%
8	Nevada	110.85%
9	Minnesota	106.49%
10	Louisiana	105.39%
11	Alaska	104.40%
12	Mississippi	104.12%
13	Vermont	101.85%
14	Iowa	100.91%
15	Michigan	100.87%
16	North Carolina	100.76%
17	Washington	100.70%
18	Georgia	100.38%
19	Idaho	100.25%
20	Virginia	100.10%
21	Arkansas	100.06%
22	Alabama	100.00%
22	Arizona	100.00%
22	Connecticut	100.00%
22	Florida	100.00%

RANK	STATE	PERCENT ADC PAID
22	Hawaii	100.00%
22	Maine	100.00%
22	Massachusetts	100.00%
22	New Hampshire	100.00%
22	New York	100.00%
22	Oregon	100.00%
22	Rhode Island	100.00%
22	South Carolina	100.00%
22	South Dakota	100.00%
22	Tennessee	100.00%
22	Utah	100.00%
22	Wisconsin	100.00%
38	Maryland	99.41%
39	California	98.69%
40	Texas	97.33%
41	Kansas	97.05%
42	Kentucky	92.88%
43	Delaware	92.11%
44	Montana	88.62%
45	Colorado	86.29%
46	New Mexico	85.84%
47	New Jersey	77.42%
48	North Dakota	76.22%
49	Illinois	71.21%
50	Wyoming	66.55%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2021](https://www.alec.org/PensionDebt2021)

Figure 6, Table 6

## Unfunded Liabilities as a Percentage of Gross State Product (GSP)



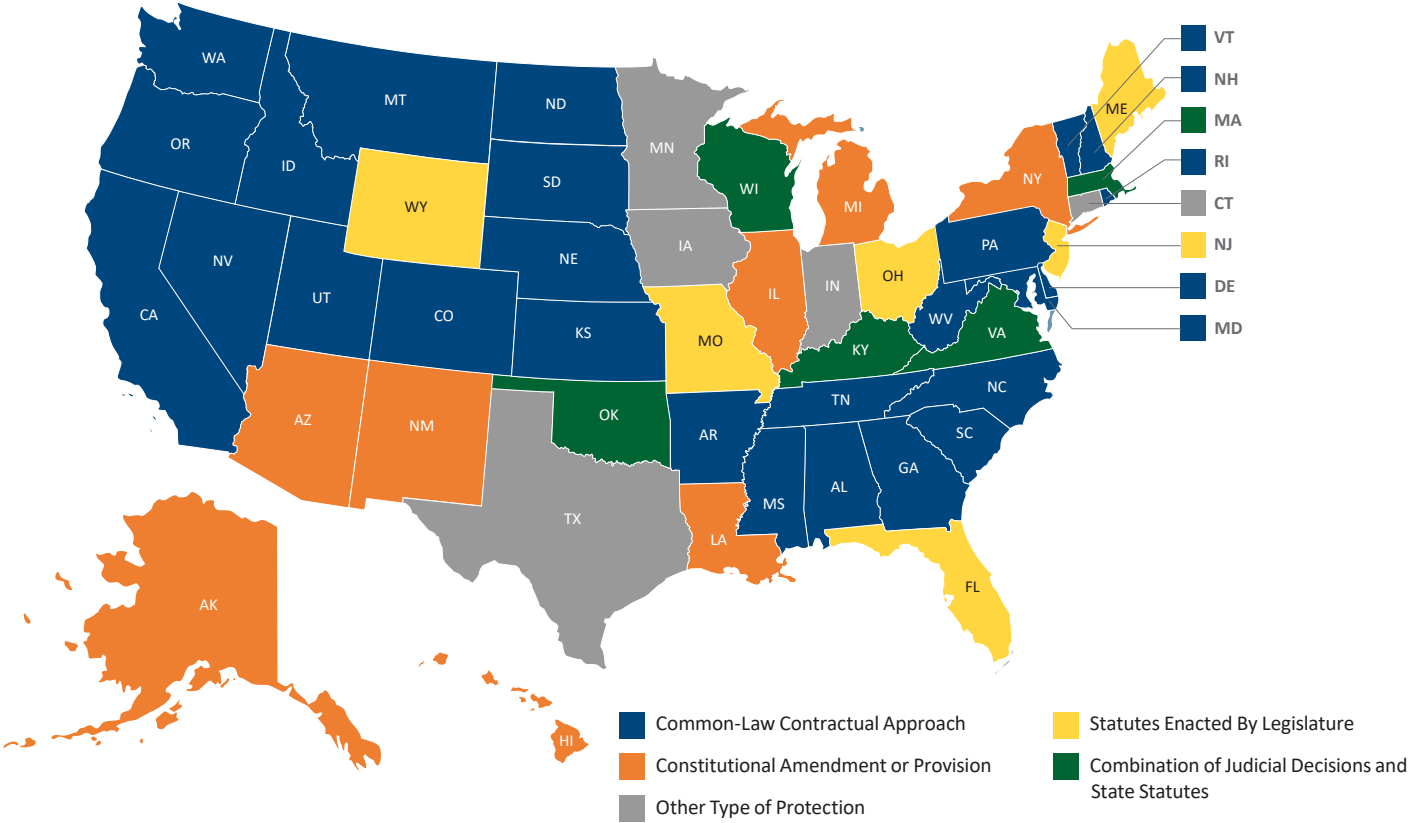
RANK	STATE	PERCENT CHANGE
1	Tennessee	15.47%
2	Indiana	18.33%
3	Nebraska	20.64%
4	Delaware	24.49%
5	North Dakota	26.53%
6	South Dakota	27.10%
7	Florida	27.70%
8	Washington	27.92%
9	Wisconsin	27.97%
10	Texas	28.07%
11	Virginia	28.99%
12	New Hampshire	29.28%
13	New York	29.37%
14	Utah	29.42%
15	North Carolina	29.63%
16	Massachusetts	32.09%
17	Maryland	32.65%
18	Michigan	33.04%
19	Georgia	33.76%
20	Kansas	34.57%
21	Iowa	35.51%
22	Idaho	36.18%
23	Arizona	36.36%
24	Pennsylvania	36.81%
25	West Virginia	37.52%

RANK	STATE	PERCENT CHANGE
26	Colorado	37.54%
27	Rhode Island	38.74%
28	Maine	38.76%
29	Minnesota	38.94%
30	Oklahoma	39.13%
31	Alabama	40.15%
32	Vermont	41.50%
33	Nevada	46.31%
34	South Carolina	46.55%
35	Wyoming	47.21%
36	California	48.79%
37	Louisiana	48.82%
38	Missouri	49.98%
39	Arkansas	50.82%
40	Connecticut	51.04%
41	Alaska	56.55%
42	New Jersey	57.40%
43	Oregon	58.73%
44	Montana	58.78%
45	Illinois	59.49%
46	Hawaii	59.75%
47	Ohio	61.50%
48	Kentucky	63.92%
49	New Mexico	73.28%
50	Mississippi	80.85%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2021](https://www.alec.org/PensionDebt2021)



Figure 7 Sources of Legal Protection in Each State



SOURCES OF LEGAL PROTECTION IN EACH STATE

Figure 7 features one of two new measurements: the Sources of Legal Protections for Pension Plans, which draws from a 2019 PEW Charitable Trusts Issue Brief. This map and table highlight the different types of protections states put in place for public plans. These approaches include:

- 26 states following the “Common-Law Contractual Approach.”
- 8 states rely on constitutional amendments or provisions
- 6 states relying on statutes enacted by the legislature.
- 5 states use a combination of judicial decisions and state statutes.
- 5 states use other types of protection.

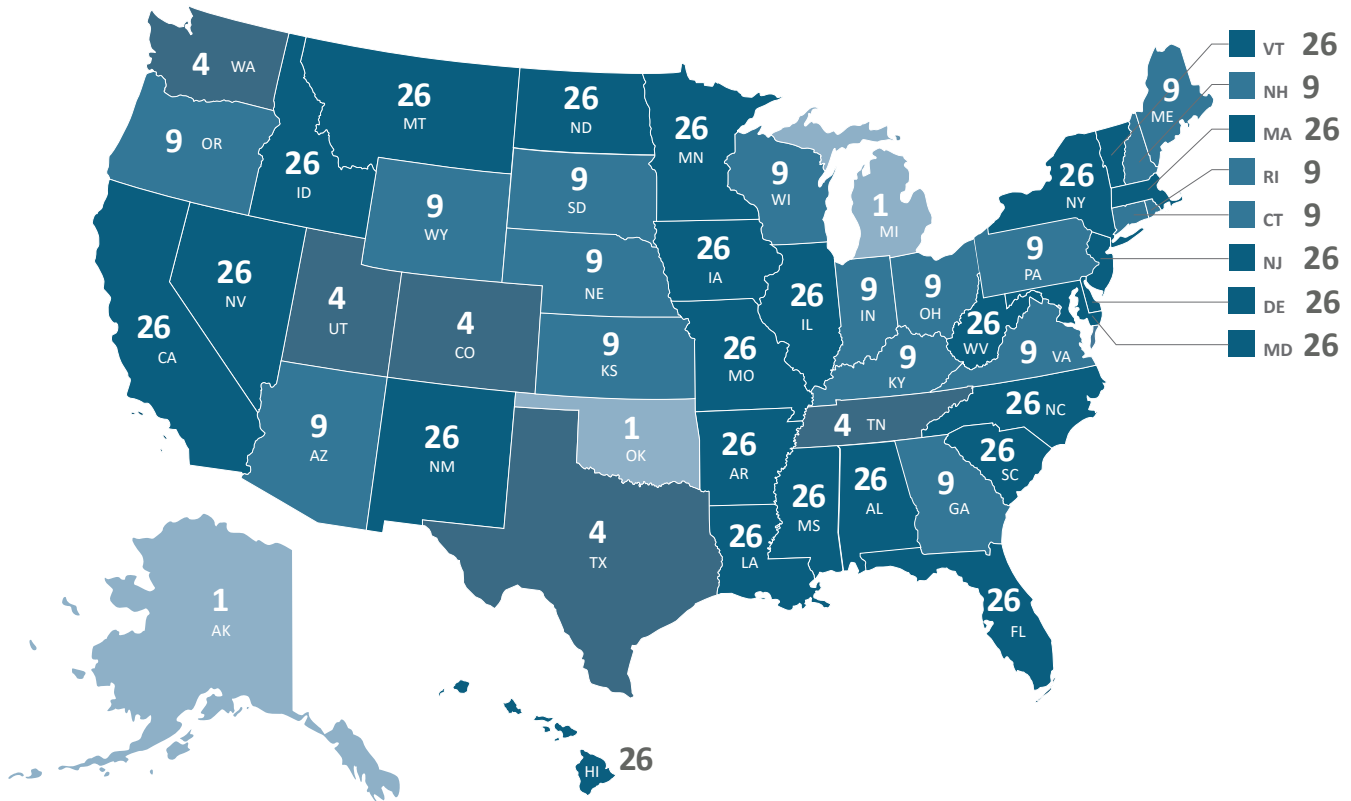
Read more about this ranking in Section 2.

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, Table 7

## States Reforming Pension Systems



## STATES REFORMING PENSION SYSTEMS

Figure 8, Table 7 features one of two new measurements: the Pension Reform Ranking, which measures how states are reforming pension systems for new hires. Each state received points based on these criteria:

- One point if the plan has an “automatic trigger” that adjusts contributions and/or benefits based on the funding health of the defined benefit plan
- One point if new hires are enrolled in a hybrid and/or cash balance plan
- Four points if new hires are automatically enrolled in a defined contribution plan similar to a 401(k) and the defined benefit plan is closed to new hires.

Read more about this ranking in Section 3.

RANK	STATE	DC SCORE
1	Alaska	4
1	Michigan	4
1	Oklahoma	4
4	Colorado	2
4	Tennessee	2
4	Texas	2
4	Utah	2
4	Washington	2
9	Arizona	1
9	Connecticut	1
9	Georgia	1
9	Indiana	1
9	Kansas	1
9	Kentucky	1
9	Maine	1
9	Nebraska	1
9	New Hampshire	1
9	Ohio	1
9	Oregon	1
9	Pennsylvania	1
9	Rhode Island	1
9	South Dakota	1
9	Virginia	1
9	Wisconsin	1
9	Wyoming	1

RANK	STATE	DC SCORE
26	Alabama	0
26	Arkansas	0
26	California	0
26	Delaware	0
26	Florida	0
26	Hawaii	0
26	Idaho	0
26	Illinois	0
26	Iowa	0
26	Louisiana	0
26	Maryland	0
26	Massachusetts	0
26	Minnesota	0
26	Mississippi	0
26	Missouri	0
26	Montana	0
26	Nevada	0
26	New Jersey	0
26	New Mexico	0
26	New York	0
26	North Carolina	0
26	North Dakota	0
26	South Carolina	0
26	Vermont	0
26	West Virginia	0

Data were collected from the Public Plans Database “Public Defined Contribution Plans” data set, the NASRA Issue Brief, “Hybrid Plans, 2021” and the NASRA 2019 Paper, “In-Depth: Risk Sharing in Public Retirement Plans.”

## SECTION 2: POOR ASSUMPTIONS MAKE POOR PENSIONS

### SECTION 2: POOR ASSUMPTIONS MAKE POOR PENSIONS

State government balance sheets are experiencing increased pressure from growing pension liabilities. This pressure is becoming more apparent with improved financial reporting. The Governmental Accounting Standards Board (GASB) statements 67 and 68 went into effect in FY 2014 and 2015, respectively. These changes were discussed extensively in *Unaccountable and Unaffordable, 2019*.<sup>1</sup> As summarized by Eileen Norcross and Sheila Weinberg,

*“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.”<sup>2</sup>*

Most pension plans use historical trends to estimate future conditions of assets and liabilities.<sup>3</sup> 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.

To reflect terminology used in most pension plans, this report refers to the fiduciary net position (FNP) when discussing the value of assets and the total pension liability (TPL) to discuss the value of liabilities. Even with market rebounds in the fall of 2020, actual investment returns still fell short of most plan assumed rates of return. As this report shows, pension plans cannot invest their way out of the unfunded liabilities.

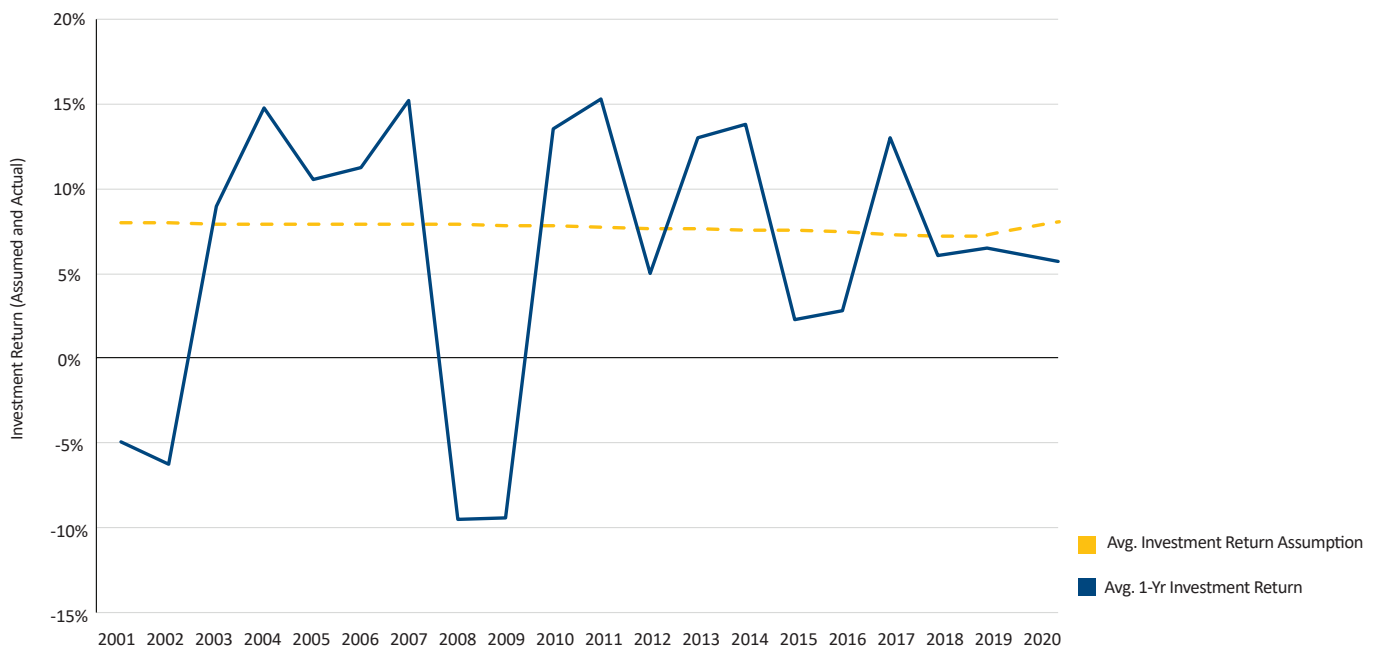
Table 8, Figure 9

Assumed vs Annual Rates of Return, 2001-2020

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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%
Avg. Investment Return Assumption	7.99%	7.98%	7.95%	7.92%	7.92%	7.91%	7.90%	7.88%	7.85%	7.80%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Avg. 1-Yr Investment Return	15.31%	4.99%	13.05%	13.82%	2.32%	2.77%	13.06%	6.05%	6.54%	6.43%
Avg. Investment Return Assumption	7.74%	7.67%	7.63%	7.60%	7.54%	7.45%	7.33%	7.22%	7.20%	7.71%



Source: Public Plans Database, Boston College Center for Retirement Research

## DISCOUNT RATES AND INVESTMENT RATES OF RETURN

The distinction between investment rates of return and discount rates is an important but subtle 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.<sup>4</sup> The assumed investment rate of return, on the other hand, shows the level of risk in a pension plan's assets.

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 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

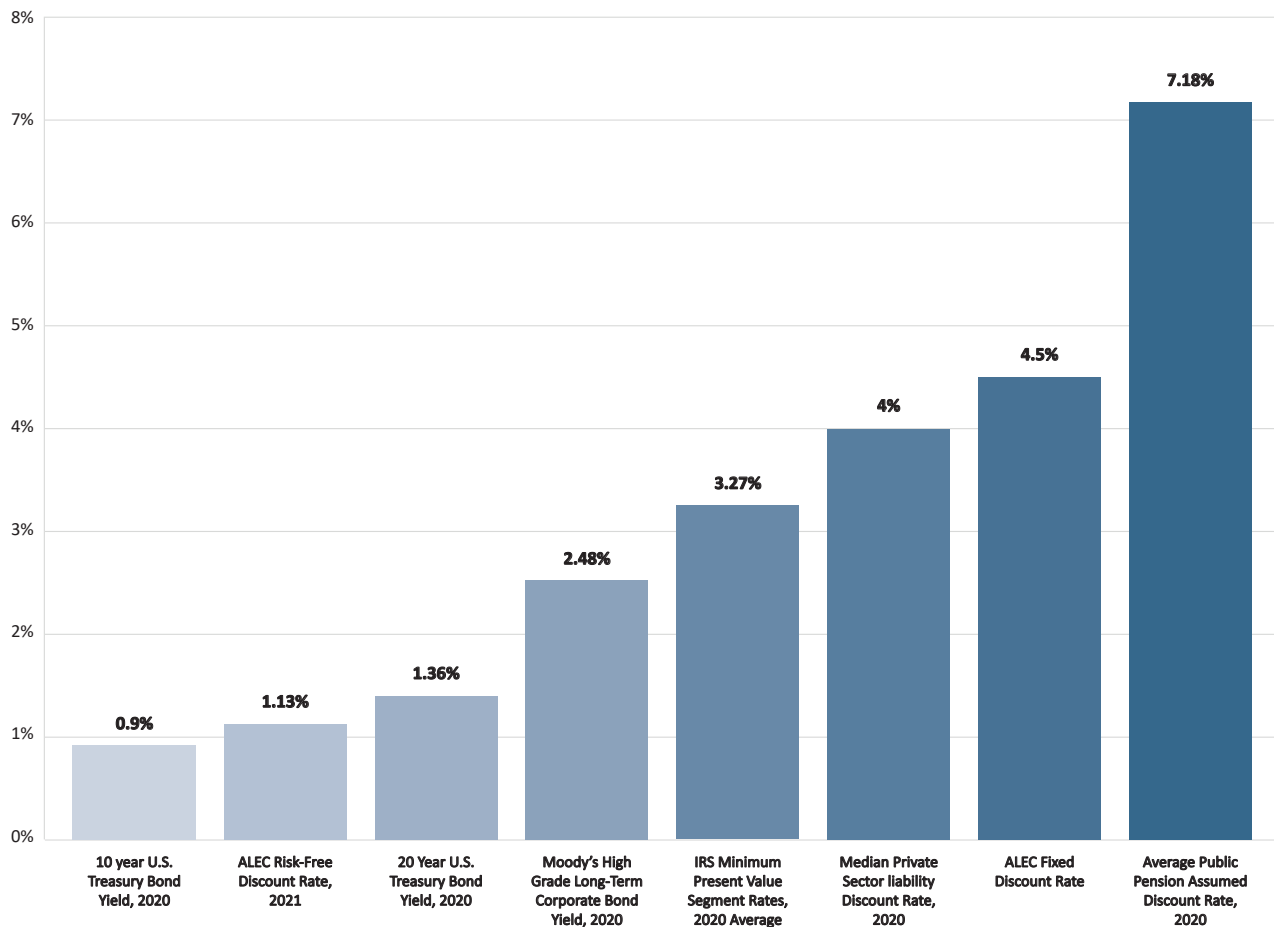
whether plans should use a discount rate based on expected returns for plan assets or the inability to default on plan liabilities.

Researchers have noted that there was considerable variance with how states applied the standards for discount rates.<sup>5</sup> 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.<sup>6</sup> Figure 8 shows various discount rates compared with the average pension discount rate used for FY 2020.

As noted in Figure 10, the average discount rate used for public pension plans for FY 2020 was 7.18%, which is 60% higher than the fixed ALEC discount rate of 4.5%, 80% higher than the median private sector discount rate, 120% higher than the 2020 average of the IRS Minimum Present Value Segment Rates, 190% greater than Moody's High Grade Long-Term Bond Rate, 200% greater than the ALEC floating risk-free discount rate, 428% higher than the 20-year U.S. Treasury bond maturity rate, and 700% higher

Figure 10

Discount Rate Comparisons



Source: Federal Reserve Bank of St. Louis FRED Database; Pension Benefit Guarantee Corporation; Internal Revenue Service; American Legislative Exchange Council; and Center for Retirement Research Public Plans Database

than the 10-year U.S. Treasury bond maturity rate. The median private sector discount rate is taken from the Pension Benefit Guaranty Corporation ERISA 4022 Lump Sum Interest Rates from 1993-2020.<sup>7</sup> These interest rates were used to calculate the lump-sum present value of deferred annuities, specifically regular private sector pension payments as per the Employee Retirement Income Security Act (ERISA). Starting in 2021, as mandated by changes in federal regulations, the IRS “Minimum Present Value Segment Rates” are now used to value these annuities.<sup>8,9</sup>

Surprisingly, investment returns in calendar year 2020 were not as grim as originally forecasted in March 2020. In March of 2020, many experts feared pension investment losses like the losses sustained in 2008 and 2009.<sup>10</sup> Market downturns in Q2 2020, the end of FY 2020, contributed to investment returns coming up short in FY 2020.

As Figure 10 and Table 9 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. Marc Joffe notes that when data collection for public pensions began in the 1940s, most public pension fund assets were invested in municipal bonds.<sup>11</sup> By 1959, non-governmental securities had grown to 39% of total holdings, with most of these non-governmental holdings invested in corporate bonds.<sup>12</sup> In 1997, the Census Bureau added a category called, “International Securities” which represents a mix of non-US bonds and stocks.<sup>13</sup> As the return on U.S. treasury notes decreased over time, public pension investments looked to “chase returns” by investing 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.<sup>14</sup>

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 even though GASB 67 eliminated asset smoothing.<sup>15</sup> 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 increasing the risk tolerance of sponsor behavior.<sup>16</sup>

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.<sup>17</sup> These protections, however, vary across the states. These protections are outlined in Figure 7, Table 7. Currently, eight states<sup>18</sup> have constitutional amendments guaranteeing their respective pension plans, six states<sup>19</sup> rely solely on statutes enacted by the legislature, five states<sup>20</sup> use a combination of judicial decisions and state statute and five<sup>21</sup> use their own method of protection. The five states that use their own method of protection are Connecticut,<sup>22</sup> Indiana,<sup>23</sup> Iowa,<sup>24</sup> Minnesota<sup>25</sup> and Texas.<sup>26</sup> The remaining 26 states rely on what Greg Mennis calls, the “common-law contractual approach.”<sup>27</sup> This approach relies on court rulings that find pensions to be a part of a contract between the employer and the employee.

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.”<sup>28</sup> 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.<sup>29,30</sup>

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.”<sup>31,32</sup>*

The ALEC risk-free discount rate is calculated using the average of the 10-year and 20-year U.S. Treasury Bond yields. 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).

See the Methodology section to learn more about the risk-free discount rate calculation. The risk-free discount rate separates this 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 it is prone to fluctuations. Over the course of 2020 and 2021, U.S. Treasury note yields plummeted across the board.<sup>33</sup> This was caused by several factors, especially historically low interest rates reducing bond yields.<sup>34</sup> This caused a dramatic increase in the present value of risk-free liabilities in this year's report. To account for the fluctuations, this report also utilizes a fixed discount rate of 4.5%, like the discount rates used on private pensions mandated by federal law. See the Appendix for further analysis of how liabilities are calculated.

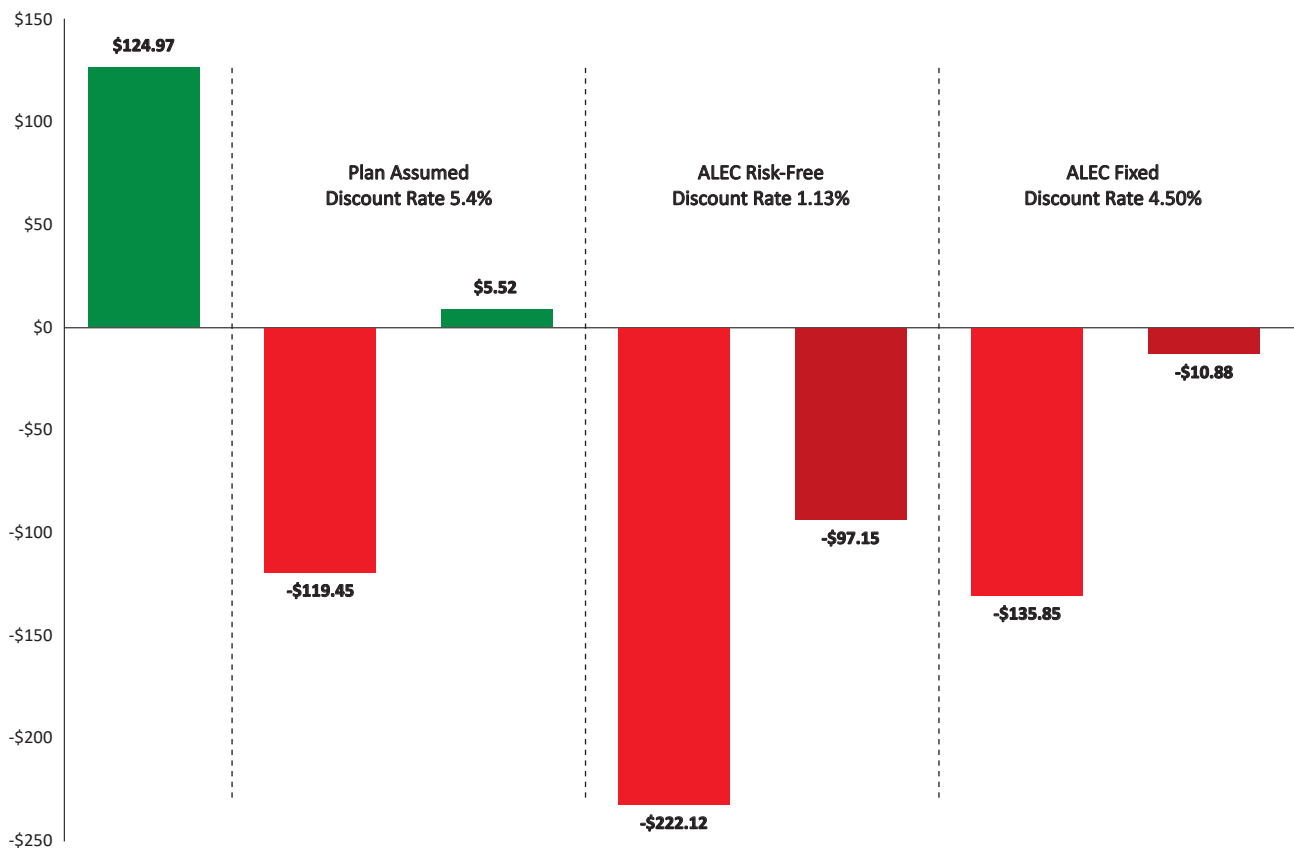
As noted in GASB 67, pension plans are required to provide an analysis of the sensitivity of the net pension liability to changes in the discount rate.<sup>35</sup> This analysis, however, only extends to one percentage point greater than and less than the current assumed

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. Figure 11 shows this sensitivity analysis for the Wisconsin Retirement System (WRS) using the plan's assumed discount rate, the ALEC risk-free rate, and the ALEC fixed discount rate. The three sets of red bars in Figure 11 show the same liabilities and unfunded liabilities using different discount rates. The plan fiduciary net position is shown in green on the left for comparison. Figure 11 shows that even a minute detail, such as a discount rate, has a major effect on how healthy a pension fund will appear.

If plan liabilities are valued using the Wisconsin Retirement System discount rate of 5.4%, which is 1.78 percentage points below the average public pension discount rate shown in Figure 8, the value of the liabilities show a net pension asset. If either of the ALEC discount rates are used, however, the Wisconsin Retirement System shows unfunded liabilities. Even a slight

Figure 11

## Wisconsin Retirement System Liability Valuations Using Different Discount Rates



Sources: Wisconsin Retirement System Actuarial Valuations; American Legislative Exchange Council Center for State Fiscal Reform

adjustment from the plan discount rate of 5.4% to the ALEC fixed discount rate of 4.5%, only a 0.9 percentage point difference, shows the WRS having over \$10 billion in unfunded liabilities. Wisconsin currently has statutory protections for pensions under Section 40.19 WI State Statutes, stating that pensions are a contractual right, but the state is permitted to change the benefits terms with future statutes.<sup>36</sup> Using the risk-free discount rate to reflect the legal protections the WRS pensions have, it shows the WRS has over \$97 billion in unfunded liabilities.

### ACTUARIALLY DETERMINED CONTRIBUTION

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 calculated based on certain parameters, including normal costs for the year and a component for amortization of the total unfunded pension liabilities for a period no longer than 30 years as stated by GASB. Each ADC is calculated a little differently. For example, here is how the Indiana Public Employees' Retirement Fund (PERF) calculates its actuarially determined contribution:<sup>37</sup>

$$\text{ADC} = \text{Normal Cost} + \frac{\text{Unfunded Actuarial Accrued Liability}}{\text{Amortization Payment}}$$

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.<sup>38</sup> The "Unfunded Actuarial Accrued Liability Amortization" is the amount of money the state of Indiana 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.<sup>39</sup>

Unlike ADC payments for OPEB plans, GASB 67 and 68 require strict reporting of annual contributions in pension actuarial valuations and in Comprehensive Annual Financial Reports.

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.<sup>40</sup> This practice did not change in FY 2019 or FY 2020.

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.

### SECTION 3: PUBLIC PENSIONS AFTER 2020

Many experts feared dramatic pension investment losses in 2020.<sup>41</sup> Even in years where investment returns beat the assumed return, public pensions cannot invest their way out of the problem of growing unfunded liabilities. As shown in previous editions of *Unaccountable* and *Unaffordable*, even in years with great market returns, such as 2018-2020, unfunded liability growth outpaces pension asset growth. The problems of pension underfunding are structural. Poor assumptions, over promising benefits, chasing returns, and political investment strategies plague public pensions across the country. The way forward for public pensions is sound pension reform.

#### STATES MAKING PENSION REFORMS NOW

In Section 1, Figure 8, Table 7 examines states implementing pension reforms that make pension systems sustainable for both public employees and taxpayers. As explained in Section 1, states received points based upon three possible criteria:

- One point if the plan has an “automatic trigger” that adjusts contributions and/or benefits based on the funding health of the defined benefit plan.
- One point if new hires are enrolled in a hybrid and/or cash balance plan.
- Four points if new hires are automatically enrolled in a defined contribution plan like a 401(k) and the defined benefit plan is closed to new hires.

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. 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.<sup>42</sup> Benefits are delivered upfront to an account owned by the employee. Under a defined contribution system, an increase in benefits would require a current increase in taxes.<sup>43</sup> Furthermore, a closed pension plan would see lower unfunded liabilities over time so long as the state government and members continued 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.<sup>44</sup> 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.<sup>45,46</sup> 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.<sup>47,48</sup> 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 pretax salary with state and local employers contributing 6% of pretax salary. Any additional voluntary contributions from employees are put into the 457(b) plan.<sup>49</sup>

The rankings also reflect states that introduce 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.<sup>50</sup> 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.<sup>51</sup> 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.<sup>52</sup> 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.<sup>53</sup> These reforms helped Wisconsin become the best funded pension system in the country from FY 2012-2018.<sup>54</sup>

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. In these cases, states did not earn any points for these optional choices because, while 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, several states allow some employees to select a defined contribution plan as their primary plan including Colorado, Florida, Indiana, Montana, North Dakota, Ohio, Pennsylvania and South Carolina.<sup>55</sup> While Colorado, Indiana, Ohio and Pennsylvania did earn a point for their hybrid systems, Florida, Montana, North Dakota and South Carolina did not earn points because 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.<sup>56</sup>

The rankings in Figure 8 Table 8 also do not account for the various types of tiering systems in public plans, such as the tiering system in the New York State and Local Retirement System. This tiering system has helped keep the funding ratio at 49.32%, despite having some of the largest unfunded liabilities in the country.

The New York State and Local Retirement System (NYSLRS) currently has six tiers of benefit levels for its defined benefit pension plans. What tier a public employee falls under is determined by what year he or she became a member of the NYSLRS. Public employees who became NYSLRS members on or after April 1, 2012, are members of Tier 6.<sup>57</sup> 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 10 years of service to be 100% vested.<sup>58</sup> 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.<sup>59</sup>

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.<sup>60</sup> When calculating final average salary, Tier 6, limits compensation to no more than 10% greater than the average of the previous four years' salary.<sup>61</sup>

While the tiering system helps keep funding ratios up, liability growth still outpaces asset growth because of poor funding practices and structural problems. First, New York state permits "double dipping," where employees collect both a retirement pension and a salary from taxpayers.<sup>62</sup> In addition, based on the Rich States, Poor States: ALEC-Laffer State Economic Competitiveness Index, New York has the 4th largest public employee workforce in the country and employee compensation is 2nd highest in the country.<sup>63</sup> In New York, employee compensation makes up the single biggest element of most municipal budgets, which drives up the cost of pension promises to unsustainable levels.<sup>64</sup> In addition, the NYSLRS engages in political investing practices such as investing in companies based on "transition readiness and climate-related investment risk" as well as measures of diversity, equity and inclusion.<sup>65</sup> By subjecting pension investments to political scrutiny instead of investment performance, the NYSLRS is adding unnecessary risk to its retirement investments.

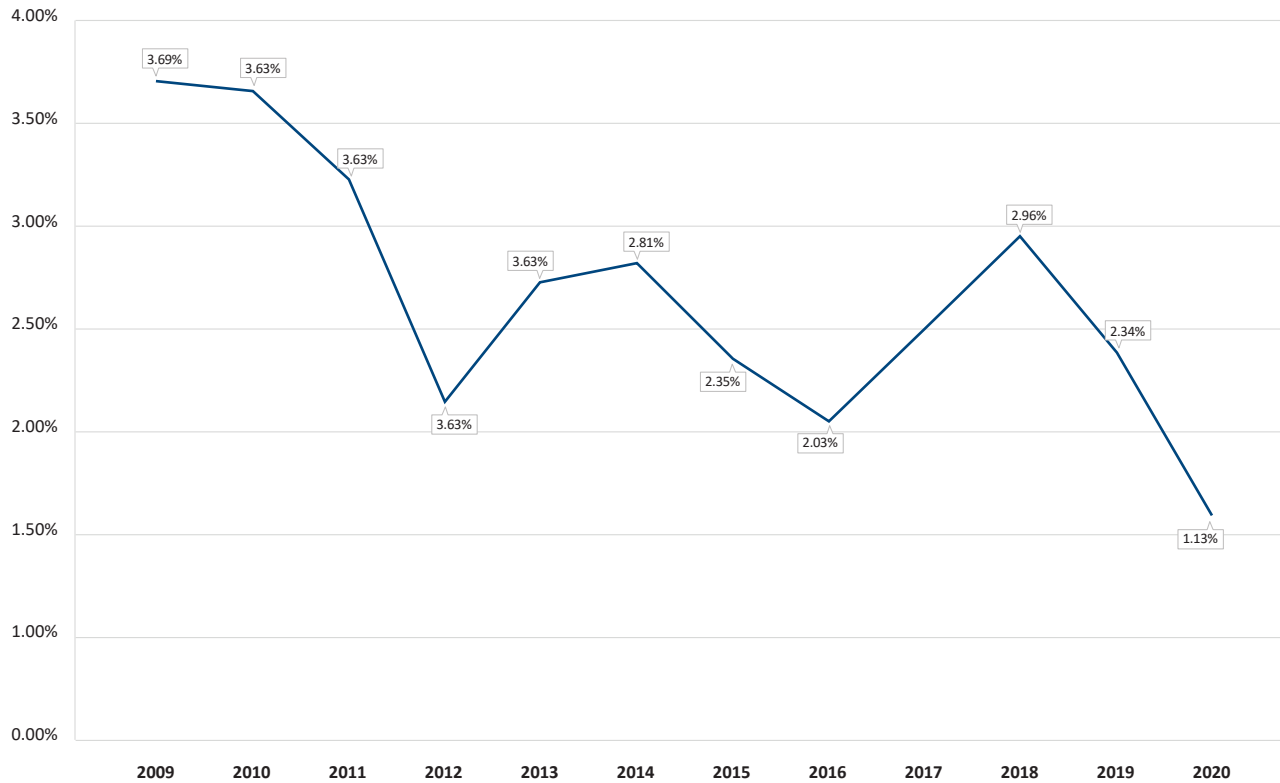
### USING A RISK-FREE DISCOUNT RATE

One reform most pension plans can immediately adopt is lowering their discount rates to the private sector average of 4.5%, or for a more accurate measurement, to a risk-free rate to reflect the risk-free nature of state pension promises.<sup>66</sup> The risk-free rate used in ALEC pension reports varies from year to year based upon the average of 10-year and 20-year U.S. Treasury bond yields. Figure 11 shows the risk-free discount rate by fiscal year.



Figure 12

## Risk-Free Discount Rate by Year



Source: Federal Reserve Bank of St. Louis FRED Database and Authors' calculations

As described in Section 2, the risk-free rate provides the most accurate depiction of pension promises because it reflects a state's inability to default on pension promises. "Any discount rate above the risk-free rate," comments Norcross and Smith, "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."<sup>67</sup>

### AVOIDING PENSION OBLIGATION BONDS

In early September 2021, Heather Gillers in *The Wall Street Journal* noted state and local governments issued just over \$10 billion in pension obligation bonds.<sup>68</sup> That means state and local governments have issued more pension obligation bonds in the first eight months of 2021 than in any year in the previous 15 years. That is shown in Figure 12, recreated from *The Wall Street Journal*.

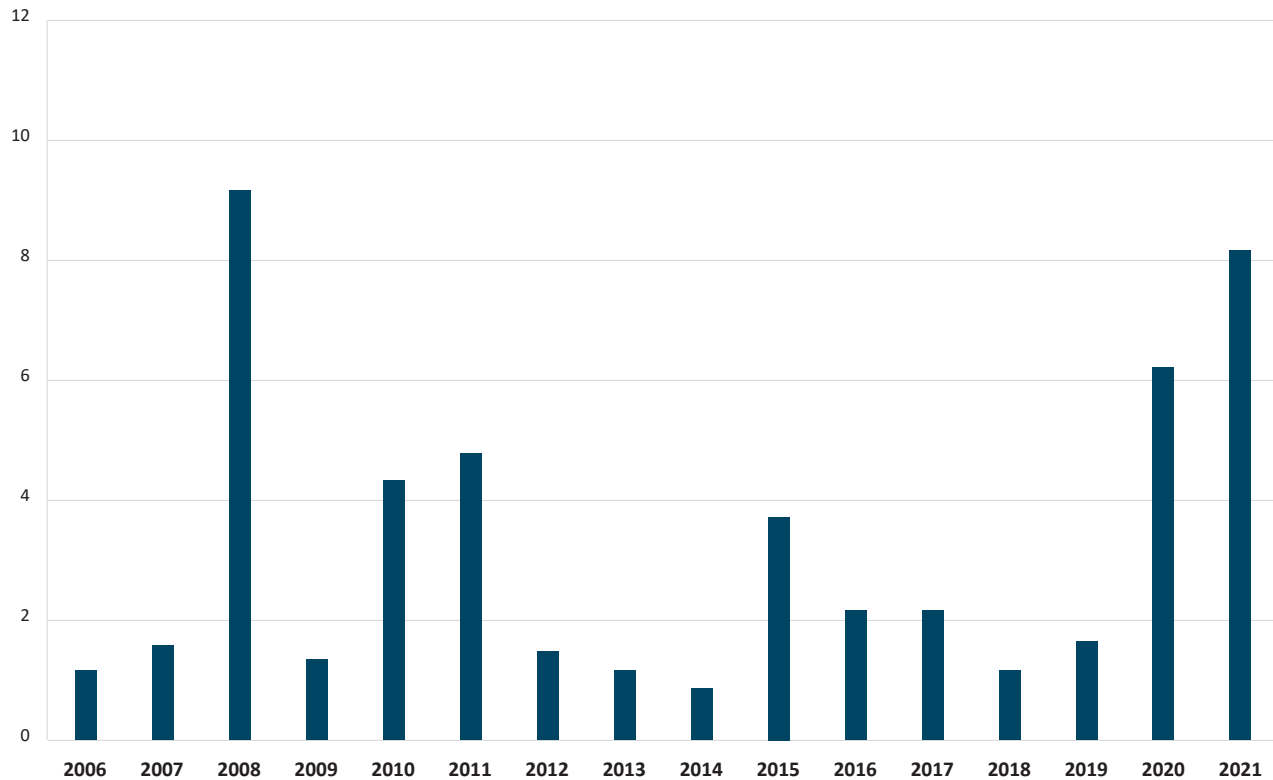
So how do pension obligation bonds work? States and municipalities issue taxable bonds at low interest rates, take revenue earned from issuing the bonds and invest that money in capital markets. The goal is to manage the investments such that rates of return are higher than the interest owed on the bonds. Pension obligation bonds are an arbitrage strategy to reduce employer costs of pension funds by turning pension debt into bonded obligations. Advocates of pension obligation bonds say that the time to invest in pension obligation bonds is during times of economic downturn so that when markets rebound investment returns are high.

The Government Finance Officers Association and many other groups, including ALEC, have repeatedly warned that state and local governments should not issue pension obligation bonds.<sup>69</sup> Governments issuing bonds to fund pensions is like taking out a second mortgage to fund your IRA. It's a reckless investment strategy. In 2009, the Center for Retirement Research at Boston College found that most borrowers had lost money because

## SECTION 2: POOR ASSUMPTIONS MAKE POOR PENSIONS

Figure 13

Bonds Issued for Pension Funding, 2006-2021



Notes: 2021 data is through August 31; some bonds also include money for other purposes  
Sources: Municipal Market Analytics analysis of Bloomberg data and The Wall Street Journal

their pension fund investments returned less than the amount of interest they were paying on the bonds.<sup>70</sup> A 2014 update found those losses had reversed, but what will a more recent update show?

If a state or municipality issues pension obligation bonds, taxpayers must pay the principal amount plus interest when they fully mature, regardless of if there are enough funds to cover other government services. Gillers noted that pension obligation bonds contributed to Chapter 9 bankruptcies in Detroit, Michigan, Stockton, California and San Bernardino, California.<sup>71</sup>

The public pension system in Puerto Rico, the Employee Retirement System (ERS), is another example of the failure of pension obligation bonds. The ERS issued pension obligation bonds in 2008 hoping to ride a market rebound and to stem chronic underfunding. The results were disastrous. After issuing the bonds, the ERS still did not make the necessary contributions until 2013, when all new hires were added to a 401(k) plan.

Unfunded liabilities, however, still grew for current employees. Then in August 2017, at the urging of the ERS Board of Trustees, all beneficiaries of the ERS were put into defined contribution plans to stop the growth of unfunded liabilities. This did not, however, allow them to avoid paying their pension obligation bonds.<sup>72</sup> In January 2022, Puerto Rico completed the largest debt restructuring in American history, but still owes \$7 billion to creditors and \$50 billion in accrued but unfunded pension obligations.<sup>73</sup>

Unfortunately, state and local governments are still attracted by the siren song of low interest rates and rising market returns. Even if states and municipalities issue bonds during recessions, like the Connecticut Teachers Retirement System did in 2008, there is no guarantee that high returns in bull markets will keep pension plans solvent in the long run.<sup>74</sup> As noted in State Bonded Obligations 2020, the State of Illinois has \$13 billion in general obligation pension bonds and received a bailout from the Federal Reserve Municipal Liquidity Facility in 2020.<sup>75</sup>

Connecticut and Illinois have some of the worst funded public pension systems in the country for every year measured in Unaccountable and Unaffordable as well as billions of dollars in bonded obligations. States would do well to resist issuing pension obligation bonds.

## THE ALEC STATEMENT OF PRINCIPLES ON SOUND PENSION PRACTICES

The best way to keep pension systems solvent is to follow the ALEC Statement of Principles on Sound Pension Practices.<sup>76</sup> Transitioning new hires to a defined contribution retirement system fixes part of the problem. States must still keep the promises made to current employees and retirees by properly funding the defined benefit pension systems that already exist. By following these principles, states will properly fund defined benefit pension systems. These principles are listed here:

- **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% of Actuarially Determined Contributions, ADCs. 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.

## AVOIDING POLITICALLY MOTIVATED INVESTMENTS

In two comments submitted to the United States Department of Labor Employee Benefits Security Administration, ALEC supported a rule clarifying the role of Environmental, Social and Governance (ESG) investing and fiduciary management.<sup>77,78</sup> ESG investing prioritizes investments that meet desired political criteria over investment performance.<sup>79</sup> The 2020 DOL rule states that ESG investing falls outside of fiduciary duties of plan managers and that pension plan managers select investments solely on financial considerations. As ALEC outlined in *Keeping the Promise: Getting Politics Out of Pensions*, when pensions are subjected to unnecessary risk, taxpayers must bear the cost when retirement investments do not meet their investment target.

While the rule applied to private pension funds, the ALEC comment aimed to educate on what occurs to pension investments when such a rule does not exist.<sup>80</sup> Public pensions

offer a clear counterexample. The 2020 rule was reversed by a 2021 rule issued by the DOL under the Biden Administration. In a public comment submitted in 2021 on the rule change, ALEC stated that the 2020 rule got it right: under ERISA, pension plan managers must make investment decisions solely on financial considerations. When plan managers allow political causes or social issues to drive investment strategies, pensions can miss out on millions of dollars of foregone investment returns. When investment returns come up short, employers and employees must make up the difference through higher contributions. The data clearly shows that when managers decide to play politics with other people's money, public pension investments suffer greater volatility, lower returns, and more significant losses when compared to public pensions that invest based solely on financial considerations. The same can be expected with private pension funds as well.<sup>81</sup>

Norcross and Smith offer several governance reforms to public plans including prohibiting private placement investments or requiring private placements to utilize standard reputable and transparent methods of evaluation through external audits; requiring conflict of interest disclosures for all board members, pension executives and investment leadership; setting an allowable range of portfolio weights in order to prevent public pensions from increasing risk in order to "chase returns;" and requiring annual fiduciary reviews.<sup>82</sup> These reviews, citing Randy Miller and Rick Funston, must be able to answer these questions: <sup>83,84</sup>

- Are we meeting our fiduciary responsibilities?
- How do recent changes affect our fiduciary duties?
- How well are we managing potential conflicts of interest?
- Are governance processes working as well as they can/should?
- Do we have the most appropriate policies and practices?
- How are we doing compared to leading practices?
- Where can we improve?
- How can we be more effective and efficient?
- What is best for our fund and beneficiaries, given our current stage of development?

In addition, the ALEC publication *Keeping the Promise* offers a list of solutions for sound pension investing and preventing political crusade cronyism:<sup>85</sup>

- Trustees should manage pension funds solely in the interest of plan participants and beneficiaries as a whole, impartially.

Fulfilling this provision should require pursuing the best long-term, risk-adjusted returns for the pension fund.

- Enact fiduciary provisions requiring any introduction of or vote on shareholder resolutions to be based solely on pursuing the best long-term, risk-adjusted returns for the pension fund.
- Dispense with any existing divestment requirements for specific companies or industries.
- Require a comprehensive report from an independent financial consultant before any divestment action is approved detailing the estimated short-term and long-term cost of the proposed divestment.
- Require all introductions of and votes on shareholder resolutions to be made in consultation with the whole pension board.

Require reporting each year of how a pension fund voted on each shareholder resolution and the justification for their decision.

With these guidelines in place, state leaders can help keep the promises they made to public employees to fund retirement benefits and to taxpayers for low-cost public services.

## CONCLUSION

Pension reform is an essential policy item for states to address. Sound pension reform is a necessity to keep the promise to public employees for solvent retirement funds and to keep the promise to taxpayers for affordable government services. Several states are leading the charge on pension reform, but the time is now for legislators in all 50 states to act.

As outlined in this report, unfunded liabilities total \$8.28 trillion. While the large increase in unfunded liabilities from last year was caused primarily from changes to the risk-free discount rate, unfunded liabilities still represent trillions of dollars in debt to taxpayers. These unfunded liabilities are driven by deep structural and governance issues such as lofty investment return assumptions, high discount rates, political crusades influencing investment decisions and overpromising benefits.

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. Avoid political investment crusades. Making reforms today means keeping the promise to public employees, taxpayers and future generations.

## APPENDIX: 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 (TPL) 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.<sup>86</sup> 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:

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

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 or 4.5% fixed discount rate is described in equation 2 below:

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

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.<sup>87</sup> 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.

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 CAFRs, 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, CMERS, 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 CAFRs, 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.

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19. These states are Alaska, Arizona, Hawaii, Illinois, Louisiana, Michigan, New Mexico and New York.
20. These states are Florida, Maine, Missouri, New Jersey, Ohio and Wyoming.
21. These states are Kentucky, Massachusetts, Oklahoma, Virginia, and Wisconsin.
22. These states are Connecticut, Indiana, Iowa, Minnesota, and Texas.
23. Connecticut uses property interest in the retirement fund prior to retirement and state statute once retired.
24. Indiana uses gratuity for mandatory plans prior to retirement and judicial precedents for voluntary plans and once retired.
25. Iowa protects accrued benefits only once a participant has retired.
26. 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."
27. Texas relies on the state constitution for certain municipal plans and gratuity for non-municipal plans.
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