

July 30, 2020

Mr. James A. DeWitt  
Office of Regulations and Interpretations  
Employee Benefits Security Administration  
Room N-5655  
U.S. Department of Labor  
200 Constitution Ave., NW  
Washington, DC 20210

**Re: RIN 1210-AB95, Financial Factors in Selecting Plan Investments; Comments of the American Legislative Exchange Council (ALEC) in support of proposed regulation**

Dear Mr. DeWitt,

The American Legislative Exchange Council (ALEC) submits these comments in support of a regulation proposed under Title I of the Employee Retirement Income Security Act of 1974 (ERISA). The proposed regulation would confirm that ERISA requires plan fiduciaries to select investments and investment courses of actions based solely on pecuniary considerations relevant to the risk-adjusted economic value of a particular investment or investment course of action. The proposal would clarify that “investment behaviors, such as socially responsible investing, sustainable and responsible investing, environmental, social, and corporate governance (ESG) investing, and economically targeted investing”<sup>1</sup> fall outside of the pecuniary requirements mandated by ERISA.

ALEC supports the proposed regulation and recommends that the Department of Labor, through the Employee Benefits Security Administration, adopt it. This recommendation follows ALEC research and analysis on public pension investments, which offer counterfactuals of what happens when divestments occur due to environmental or social reasons rather than pecuniary concerns. Individual investors can assume higher financial risk by making investment decisions that reflect personal convictions. However, investment portfolio managers operating under ERISA should avoid these risky, politically driven investment choices because ESG investing in public sector pension plans has led to lower returns and higher volatility.

This comment will compare the available evidence of ESG investment returns compared to optimized risk investment portfolios (which have no ESG investing), specifically in terms of public pension investments, to help the Department’s analysis of the proposed regulation. Further, ALEC has published research regarding public pensions and non-pecuniary investing considerations that will help EBSA and the DOL’s economic analysis, such as “Unaccountable and Unaffordable”<sup>2</sup> and “Keeping the

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<sup>1</sup> See RIN 1210-AB95, Fed. Reg. 2020-13705.

<sup>2</sup> Thomas Savidge, Jonathan Williams, Bob Williams, and Skip Estes. “Unaccountable and Unaffordable, 2019,” *American Legislative Exchange Council*, 2019, attached as Appendix 1. Hereafter “Unaccountable and Unaffordable.”

Promise: Getting Politics Out of Pensions.”<sup>3</sup>

ALEC is the nation’s largest nonpartisan, voluntary membership organization of state legislators.<sup>4</sup> ALEC, and its legislative members, are dedicated to advancing the principles of limited government, free markets, and federalism.<sup>5</sup>

ALEC is a forum for stakeholders to exchange ideas and develop real, state-based policy solutions to encourage growth, preserve economic security and protect hardworking taxpayers. Because of ALEC’s focus on state policy ideas, ALEC has a wealth of experience analyzing state public pension programs, the policy implications of investment strategies related to the programs and determining types of policies to ensure their solvency.

“Keeping the Promise” includes data and analysis of public pensions that have made investment decisions based on nonpecuniary, primarily political, bases. The data and conclusions in the publication should help this Department analyze the potential economic impact of plan fiduciaries making investment decisions on similar nonpecuniary factors.

Problems with pensions can appear to be invisible when certain conditions are present. If pension fund investments have an exceptionally good year or lawmakers make a larger than expected contribution, losses from ESG-type investments may not be noticeable. A pension fund, though, gets into trouble over a long period of time.<sup>6</sup>

ESG investing can reduce access to sources of capital by limiting what a plan can invest in and increase costs on pension plans.<sup>7</sup> Evidence from unrestrained ESG investing show that divestments have little to no effect on changing how the firms that are targeted through divestment behave, while the costs of divestment are significant.

ESG investing is nothing new and takes many forms. A recent popular form of ESG investing is fossil fuel divestment, with the California Public Employees Retirement System (CalPERS) and the California State Teachers Retirement System (CalSTRS) divesting from fossil fuels, specifically coal companies starting in 2015,<sup>8</sup> for example. For both public pensions, as well as other private pensions similarly situated, financial losses from divestment are significant.

Research by the 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.<sup>9</sup> The divested portfolio produced returns 0.7 percentage points lower on

<sup>3</sup> Theodore Lafferty, Kati Siconolfi, Jonathan Williams, and Elliot Young. “Keeping the Promise: Getting Politics Out of Pensions,” *American Legislative Exchange Council*, 2016, attached as Appendix 2. Hereafter “Keeping the Promise.”

<sup>4</sup> See “About ALEC,” About, American Legislative Exchange Council, accessed July 28, 2020, <https://www.alec.org/about/>.

<sup>5</sup> Id.

<sup>6</sup> See, “Keeping the Promise” note 3, above.

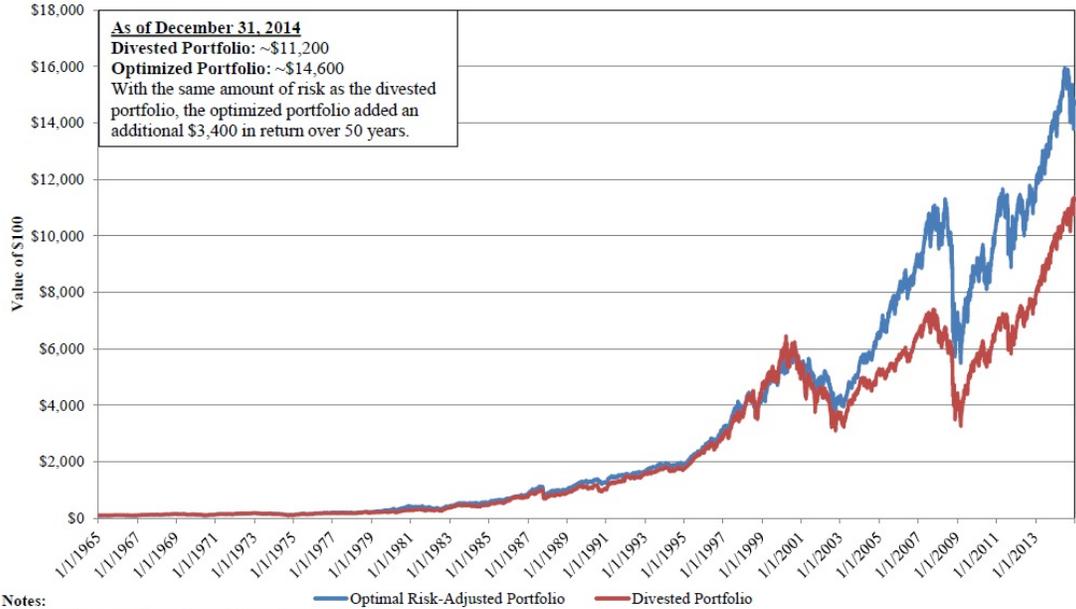
<sup>7</sup> Id.

<sup>8</sup> Id.

<sup>9</sup> David Fischel. “Fossil Fuel Divestment: A Costly and Ineffective Investment Strategy,” *Compass-Lexecon*, 2015, attached as

average per year than the optimal risk-adjusted portfolio that did not divest from energy, representing a massive 23 percentage points decline in investment returns over five decades.<sup>10</sup> That chart is pictured below in Figure 1.

**Figure 1: Optimal Risk-Adjusted Portfolio vs. Divested Portfolio, 1965-2014**



Notes:  
 [1] The indices are value-weighted by market capitalization.  
 [2] The Optimal Risk-Adjusted Portfolio is comprised of the energy index and 1-month Treasury bill, optimized by matching the standard deviation of the Divested Portfolio.  
 [3] The Divested Portfolio is comprised of only the non-energy index.

Source: Fischel, Daniel, "Fossil Fuel Divestment: A Costly and Ineffective Investment Strategy," Center for Research in Security Prices; French, Kenneth.

In addition to Fischel’s research, we examine the actual investment returns of public pension plans that engage in ESG investing versus public pensions that have invested in a diversified portfolio. This comment highlights four public pension cases: California, New York, Tennessee, and Wisconsin. California and New York engage in some types of ESG investing, while Tennessee and Wisconsin invest using a diversified portfolio without politically driven investment or divestment.

The analysis will show that Tennessee and Wisconsin have been able to keep annual pension costs for the state and employees stable, predictable, and affordable by not engaging in ESG investing. A healthy pension system requires sound investing and funding practices.<sup>11</sup>

Examine the assumed and the actual one-year returns for both the CalPERS and CalSTRS retirement systems since 2001. While investment return assumptions have remained fairly constant (indicated by

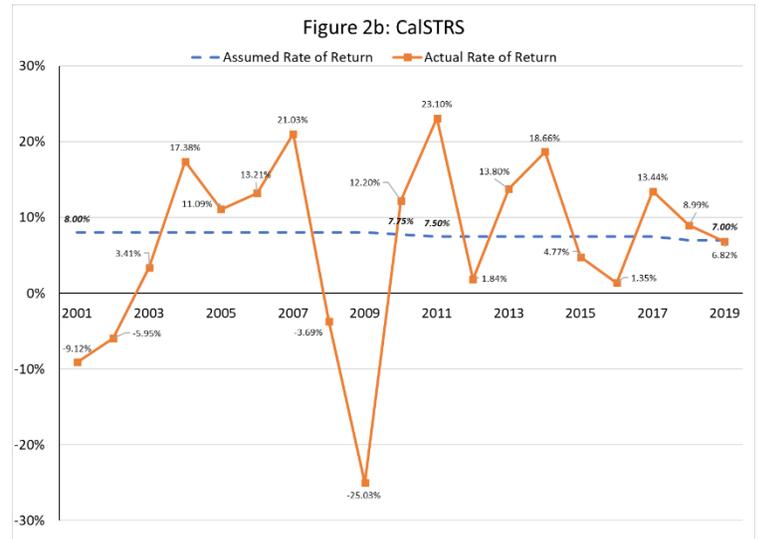
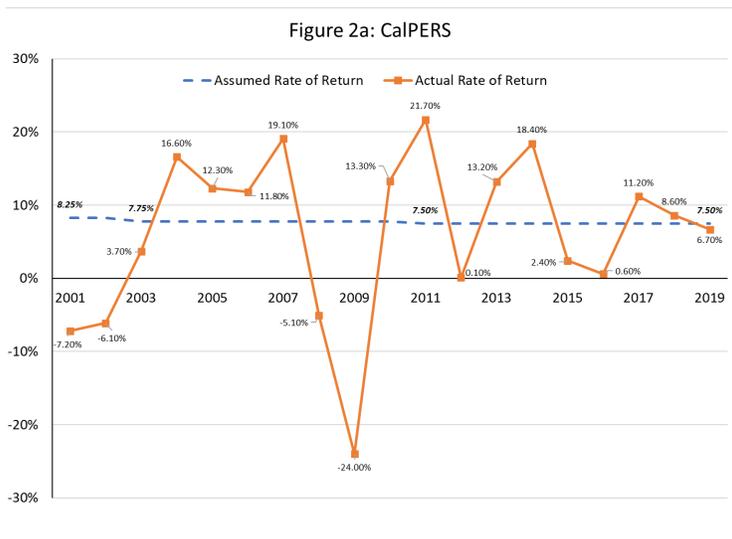
Appendix 3.

<sup>10</sup> Id.

<sup>11</sup> "ALEC Statement of Principles on Sound Pension Practices," American Legislative Exchange Council, 2016, accessed July 30, 2020, <https://www.alec.org/model-policy/alec-statement-of-principles-on-sound-pension-practices/>.

the blue line), actual one-year investment returns have been extremely volatile (indicated by the orange line). This investment return volatility has contributed to rising costs, as annual required contributions (ARC) payments for the state of California has increased for both CalPERS<sup>12</sup> and CalSTRS<sup>13</sup> over the past decade. The ARC payment covers both normal costs for the year and an amortization payment of liabilities from previous years, both of which depend partially on investment returns and, with California not making the full ARC payments every year, unfunded liabilities grew as well.<sup>14</sup> Those charts are pictured in Figure 2.

**Figure 2: California Public Employee Retirement System (2a) and California State Teachers Retirement System (2b) Assumed vs Actual Investment Returns, 2001-2019**



Source: Public Plans Database; Center for Retirement Research at Boston College

For the CalPERS system, investment return assumptions were 8.25%, then lowered to 7.75% in 2003, and then lowered to 7.5% in 2010, where it remains today. Meanwhile, investment returns have either fallen far below assumed rate of return or far above, with an average rate of return of 5.58% since 2008, 25.4% below the current assumed rate of return on investments.

The CalSTRS system had an assumed rate of return of 8% until it was lowered to 7.75% in 2010, then lowered to 7.5% from 2011 to 2017, and then lowered to the present assumed return at 7%. The actual investment rate of return for CalSTRS is like CalPERS, investment returns falling far below expectations or exceeding investment expectations. CalSTRS had an average rate of return of 6.35% since 2008, 9.23% below the current assumed rate of return on investments.

It is also important to note that California currently has the largest unfunded pension liabilities in the

<sup>12</sup> "Comprehensive Annual Financial Report for 2018-19," California Public Employees' Retirement System (CalPERS), 30 June 2020, accessed July 30, 2020, <https://news.calpers.ca.gov/get-the-facts-in-our-annual-financial-report-2/>.

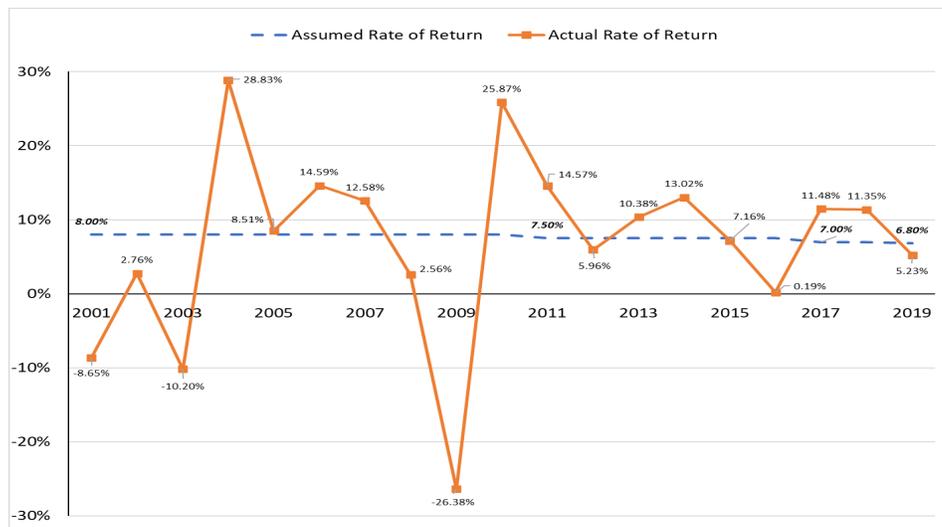
<sup>13</sup> "Comprehensive Annual Financial Report for 2018-19," California State Teachers' Retirement System (CalSTRS), 30 June 2020, accessed July 30, 2020, <https://www.calstrs.com/comprehensive-annual-financial-report>.

<sup>14</sup> To read more on public pension costs, see *Unaccountable and Unaffordable*, note 2, above.

United States at over \$780 billion, or \$19,720 per capita.<sup>15</sup> While poor investment decisions are not the sole cause of these massive unfunded liabilities, they are a contributor to the growth of unfunded liabilities. For instance, CalPERS and CalSTRS divested from companies tied to tobacco starting in 2001. From 2001-2018, the CalPERS lost \$3.6 billion in investment returns.<sup>16</sup>

Politically driven ESG investing and divesting is currently a heated issue in the state of New York. As of FY 2019, New York State has roughly \$13 billion of its \$215.4 billion Common Retirement Fund investments in fossil fuels.<sup>17</sup> In addition, New York has integrated ESG investment principles into its corporate governance to include, “sustainability, diversity, and accountability” by investing \$20 billion in renewable energy sources.<sup>18</sup> The New York State Common Retirement Fund annual investment returns is shown in Figure 3.

**Figure 3: New York Common Retirement Fund; Assumed vs Actual Investment Returns, 2001-2019**



Source: Public Plans Database; Center for Retirement Research at Boston College

The fund maintained an 8% assumed rate of return until 2011 when it lowered to 7.5%, then to 7% in 2017 and finally 6.8% in 2019. Since 2001, investment returns have been volatile, either exceeding or falling far short of assumed expectations. Since 2008, average investment performance was 6.78%, 0.25% below current assumed rate of return. New York currently has over \$277 billion in unfunded pension liabilities (\$14,184 per capita), the 4<sup>th</sup> largest unfunded pension liability burden in the nation.

<sup>15</sup> “Id.

<sup>16</sup> Heather Gillers. “CalPERS’ Dilemma: Save the World or Make Money?” *The Wall Street Journal*, June 16, 2019, <https://www.wsj.com/articles/calpers-dilemma-save-the-world-or-make-money-11560684601>.

<sup>17</sup> “New York State Common Retirement Fund Asset Listing as of March 31, 2019.” *Office of the New York State Comptroller*. March 31, 2019, <https://www.osc.state.ny.us/sites/default/files/retirement/documents/pdf/2019-12/asset-listing-2019.pdf>.

<sup>18</sup> “New York State Common Retirement Fund Comprehensive Annual Financial Report for the Fiscal Year ending March 31, 2019.” *Office of the New York State Comptroller*. March 31, 2019, <https://www.osc.state.ny.us/sites/default/files/retirement/documents/pdf/2019-11/comprehensive-annual-financial-report-2019.pdf>.

These volatile investment returns have necessitated higher ARC payments to cover investment losses and have led unfunded liabilities to grow over time.

Despite these volatile returns and growing unfunded liabilities, some still argue that the Common Retirement Fund’s commitments to ESG investing have not gone far enough. New York State Senator Liz Krueger has introduced several bills over the past five years to divest the New York State Common Retirement Fund. Senator Krueger recently introduced Senate Bill S2126A, which “Relates to limitations on investments of public pension funds in fossil fuel companies.”<sup>19</sup> The legislation would create a list of “all coal producers and oil and gas producers in which the Common Retirement Fund has direct investments...the Comptroller shall divest the Common Retirement Fund from direct investments in any company on the exclusion list, and cease new direct investments in any company that meets the definition of a coal, oil, or gas producer.”<sup>20</sup>

Senate Bill S2126A has drawn some push-back from New York State Comptroller Thomas DiNapoli. In an op-ed for *The Albany Times-Union*, he emphasized his fiduciary duty over the Common Retirement Fund, stating:

“As trustee of the state pension fund, I have the fiduciary responsibility to protect the investment strategies that fund the lion's share of over \$1 billion in monthly pension payments to New York's state and local public retirees who depend upon their well-earned pensions...To have the state Legislature micromanage the investments of the state pension fund would be a dangerous step that would threaten the independence of the comptroller's office to make investment decisions solely in the interest of retirees, current and future.”<sup>21</sup>

Public sector unions in New York also have strongly opposed Senate Bill S2126A. The Civil Service Employees Association, which represents 300,000 public and private sector members, stated that S2126A would, “jeopardize the financial security of over one million current and future retirees.”<sup>22</sup>

As noted in *Unaccountable and Unaffordable*, states with the 10 highest public pension funding ratios<sup>23</sup> are Wisconsin, South Dakota, Utah, New York, Idaho, Tennessee, North Carolina, Delaware, Maine, and Nebraska.<sup>24</sup>

<sup>19</sup> Liz Krueger. “Senate Bill S2126A: Relates to limitations on investments of public pension funds in fossil fuel companies.” *New York State Legislature*, 2019-2020 Legislative Session, <https://www.nysenate.gov/legislation/bills/2019/s2126>.

<sup>20</sup> Id.

<sup>21</sup> Thomas P. DiNapoli. “N.Y. pension fund one of the world’s most responsible.” *Albany Times-Union*. July 12, 2020, <https://www.timesunion.com/opinion/article/N-Y-pension-fund-one-of-world-s-most-responsible-15403354.php>.

<sup>22</sup> Bernadette Hogan. “Unions oppose move to make state dump fossil fuel investments from pension fund,” *New York Post*, April 30, 2019, <https://nypost.com/2019/04/30/unions-oppose-move-to-make-state-dump-fossil-fuel-investments-from-pension-fund/>

<sup>23</sup> The funding ratio is the ratio of pension plan assets to pension plan liabilities. Large funding ratios are a key indicator of a well-funded defined benefit plan. To read more on funding ratios, see *Unaccountable and Unaffordable*, note 2, above.

<sup>24</sup> Id.

Of those states, only New York’s public pension system utilizes ESG investing.<sup>25</sup> New York is among the highest funded states because of reforms that create a tiered pension system, not ESG investing.<sup>26</sup> The latest reforms, Tier 6 (enacted in 2012), include a defined contribution option for state employees among other reforms that helped improve New York pension funding.<sup>27</sup>

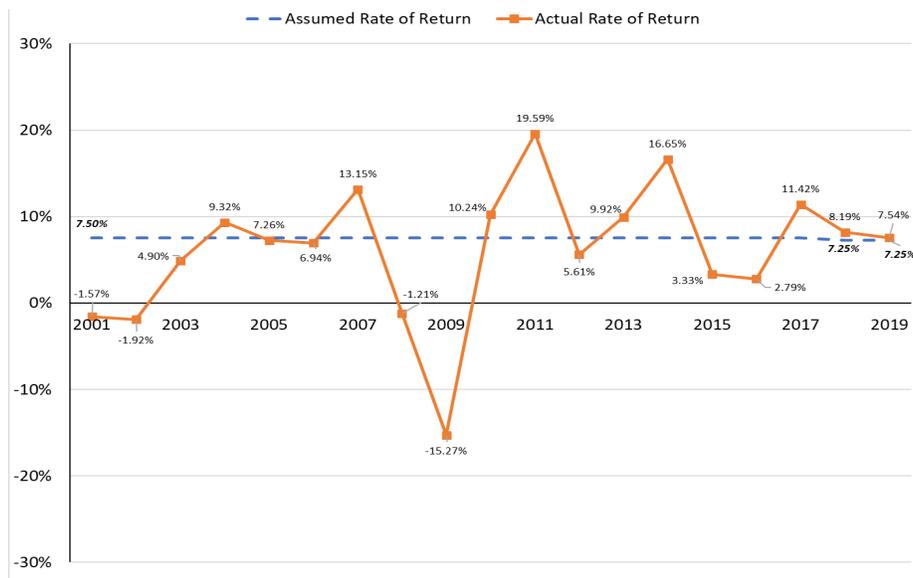
Among the states without ESG investing, this comment will focus on Tennessee, the public pension system with the lowest unfunded liabilities per capita, and Wisconsin, the state with the highest funding ratio.

The Tennessee Retiree Group Trust (TGRT) is a group trust that pools funds from the various Tennessee public pension plans (not including political subdivisions), along with other assets in the custody of the State Treasurer, solely for investment purposes.

The stated primary investment objective is, “to establish a stable, diversified investment portfolio that, in the long term, will meet or exceed the assumed rate of return, as adopted by the Board, in order to provide sufficient liquidity to pay beneficiaries in a timely manner.”<sup>28</sup>

The TGRT assumed and actual investment returns are shown in Figure 4.

**Figure 4: Tennessee Retiree Group Trust; Assumed vs Actual Investment Returns, 2001-2019**



Source: Public Plans Database; Center for Retirement Research at Boston College

<sup>25</sup> “ESG-Environmental, Social, and Governance.” *National Association of State Retirement Administrators (NASRA)*, Feb. 2019, <https://www.nasra.org/esg>.

<sup>26</sup> E.J. McMahon. “Testimony: Tier 6 Pension” *Empire Center for Public Policy*, January 2012, accessed July 30, 2020, <https://www.empirecenter.org/publications/e-j-mcmahon-testimony-tier-6-pension/>.

<sup>27</sup> Id.

<sup>28</sup> “Tennessee Consolidated Retirement System Comprehensive Annual Financial Report (CAFR) For the Fiscal Year Ended June 30, 2019.” June 30, 2019, [https://treasury.tn.gov/Portals/0/Documents/Retirement/CAFR%20Reports/2019/2019%20CAFR\\_Full%20Report.pdf](https://treasury.tn.gov/Portals/0/Documents/Retirement/CAFR%20Reports/2019/2019%20CAFR_Full%20Report.pdf).

The TGRT has come close to meeting or exceeding its assumed investment goals. The Trust’s assumed rate of return has been 7.5% until 2018 when it was lowered to 7.25%. The investment loss due to the financial crisis in 2008 (-15.27%) was not nearly as severe as the investment losses in California (-24% for CalPERS and -25.03% for CalSTRS) or New York (-26.38%). Since 2008, the TGRT had an average investment return of 6.57%, 9.43% below the current assumed rate of return.

The TGRT was found to perform nearly on par with the average returns on public pension investments and the S&P 500.<sup>29</sup> By not engaging in politically driven ESG practices, the TGRT has strictly adhered to its fiduciary duties and reduced volatility in investment returns.

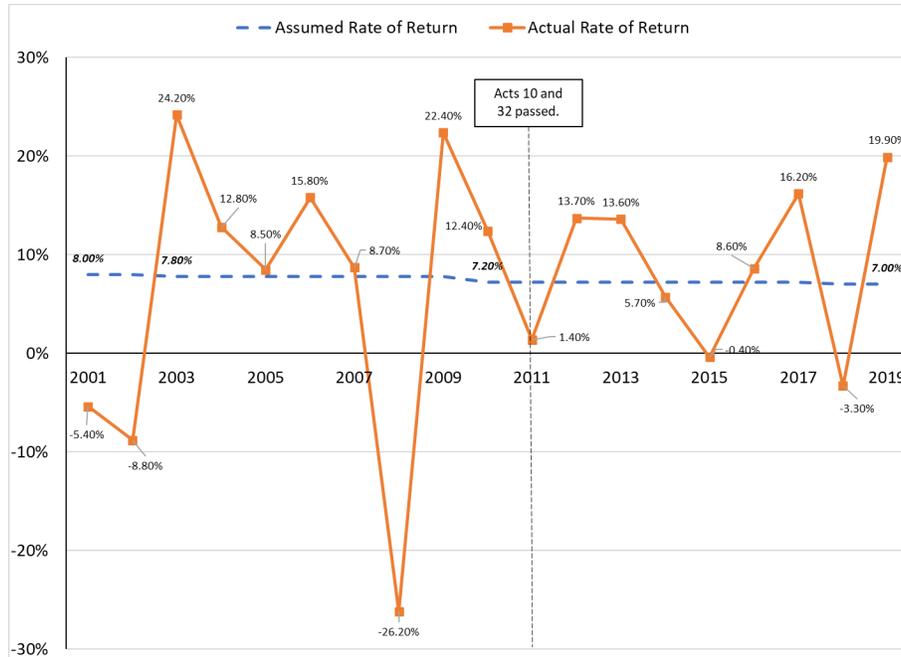
Wisconsin, which has the best funded public pension system in the nation, has also avoided ESG investing. The State of Wisconsin Investment Board (SWIB) key investment philosophies include “Asset classes and sub-asset classes are broadly defined to gain exposure to the entire investable opportunity set and capture the greatest depth of available investment opportunities to the extent they offer a risk-return trade-off commensurate with SWIB’s return objectives and risk tolerance.”<sup>30</sup>

The Wisconsin Employee Retirement System (WRS) assumed vs actual one-year investment returns are shown in Figure 5.

<sup>29</sup> Thomas Savidge “Tennessee Public Pensions: A Model for Pension Reform.” *Political Economy Research Institute at Middle Tennessee State University Policy Study*, Aug. 2020, attached as Appendix 4.

<sup>30</sup> “Board of Trustees Wisconsin Retirement System Investment Policy.” *State of Wisconsin Investment Board*, March 18, 2020, [https://7ffb9e60-f2dc-4359-b148-1db6b9d76c71.filesusr.com/ugd/69fc6d\\_1183ae90c6854453acfd9a296a915c03.pdf](https://7ffb9e60-f2dc-4359-b148-1db6b9d76c71.filesusr.com/ugd/69fc6d_1183ae90c6854453acfd9a296a915c03.pdf).

**Figure 5: Wisconsin Retirement System,  
Assumed vs Actual Investment Returns, 2001-2019**



Source: Public Plans Database; Center for Retirement Research at Boston College

As noted in Figure 5, the Wisconsin Legislature and then-Gov. Scott Walker signed Acts 10 and 32 in 2011, which included public pension reforms.<sup>31</sup> These Acts introduced several pension cost and risk-sharing measures, such as requiring all WRS participants (including public safety employees) to contribute half of all annual required contribution for pension plans (ARC).<sup>32</sup> By requiring participants and the state to split the ARC payment ever year, prudent investment practices are incentivized to minimize financial risks and annual costs.

<sup>31</sup> Act 32 modifies the cost-sharing provisions of Act 10, covering municipal police and fire employers as well as state employers of troopers and vehicle inspectors.

<sup>32</sup> Kerri Seyfert. "The Wisconsin Retirement System Is Fully Funded and a Model for Other States." *Reason Foundation*, January 14, 2020, <https://reason.org/commentary/the-wisconsin-retirement-system-is-fully-funded-and-a-model-for-other-states/>.

When managers of public pension plans focus on pecuniary considerations only, the plans enjoy greater long-run investment stability.<sup>33</sup> Private pensions would likely enjoy the same benefit if the proposed regulation is adopted. Further, the evidence from public pensions is that politically driven ESG investing leads to foregone gains and long-run volatility. Because of the available data from public pensions as discussed in this comment and the attached appendices, the Department’s proposed regulation regarding the “Investment Duties” regulation is a necessary, and proper, interpretation of ERISA and ALEC recommends its adoption.

Sincerely,

Jonathon Paul Hauenschild, Esq.  
Director  
Jonathan Williams  
Executive Vice President, Policy and ALEC Chief Economist  
Thomas Savidge  
Research Manager, Center for State Fiscal Reform

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<sup>33</sup> ALEC members adopted a Statement of Principles on Sound Pension Practices. The first two principles outline that state governments should make investment decisions based on stability and predictability. These principles mean that government pensions should be secure and safe from high risk assumptions and be predictable and structured to foster certainty for taxpayers and policy makers. “ALEC Statement of Principles on Sound Pension Practices,” *American Legislative Exchange Council*, September 12, 2016, <https://www.alec.org/model-policy/alec-statement-of-principles-on-sound-pension-practices/>.

# **Appendix 1**

*Unaccountable and Unaffordable, 2019*

# UNACCOUNTABLE AND UNAFFORDABLE

UNFUNDED  
PUBLIC  
PENSION  
LIABILITIES  
TOTAL NEARLY  
**\$5 TRILLION**





# UNACCOUNTABLE AND UNAFFORDABLE

## **Unaccountable and Unaffordable 2019 Unfunded Public Pension Liabilities Total Nearly \$5 Trillion**

### **About the American Legislative Exchange Council**

The *Unaccountable and Unaffordable 2019* report was published by the American Legislative Exchange Council (ALEC) as part of its mission to discuss, develop and disseminate model public 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.

### **About the ALEC Center for State Fiscal Reform**

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. We also strive 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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## INTRODUCTION

Unfunded state pension liabilities total \$4.9 trillion or \$15,080 for every man, woman and child in the United States. State governments are often obligated, by contract and state constitutional law, to make these pension payments regardless of economic conditions. As these pension payments continue to grow, revenue that would have gone to essential services like public safety and education, or tax relief, goes to paying off these liabilities instead.

Unfunded liabilities have fallen in this year's report due to several factors:

- Improved pension reporting has allowed the authors to collect data from the same fiscal year (FY 2018) for all 50 states rather than collecting data from a spread of fiscal years.
- Some states have improved pension funding, with several states seeing the benefits of transitioning to hybrid pension plans (a mix of defined-benefit and defined-contribution).
- The risk-free discount rate has increased from 2.49% to 2.96%, lowering the present value of liabilities. In addition, numerous plans have lowered their own discount rates, thus affecting the valuation of liabilities.
- Strong market returns for pension fund portfolios have increased the value of pension fund assets.

Yet, unfunded pension liabilities are still a \$4.9 trillion problem exacerbated by constant underfunding of pension plans. Most state pension plans are structured as defined-benefit plans. Under a defined-benefit plan, an employee receives a fixed 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. They accrue assets through employee contributions,

tax revenue and, in the worst case, by taking on debt to pay pension promises today. 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.



In most cases, states cannot avoid paying their pension obligations. There are important reforms, however, that can prevent unfunded liabilities from growing in the future. By offering newly elected employees defined-contribution plans (such as a 401(k) plan in the private sector), states can prevent the rapid growth of unfunded liabilities, give public workers greater flexibility with their retirement contributions and give them the ability to take their retirement savings with them to new positions or new careers.

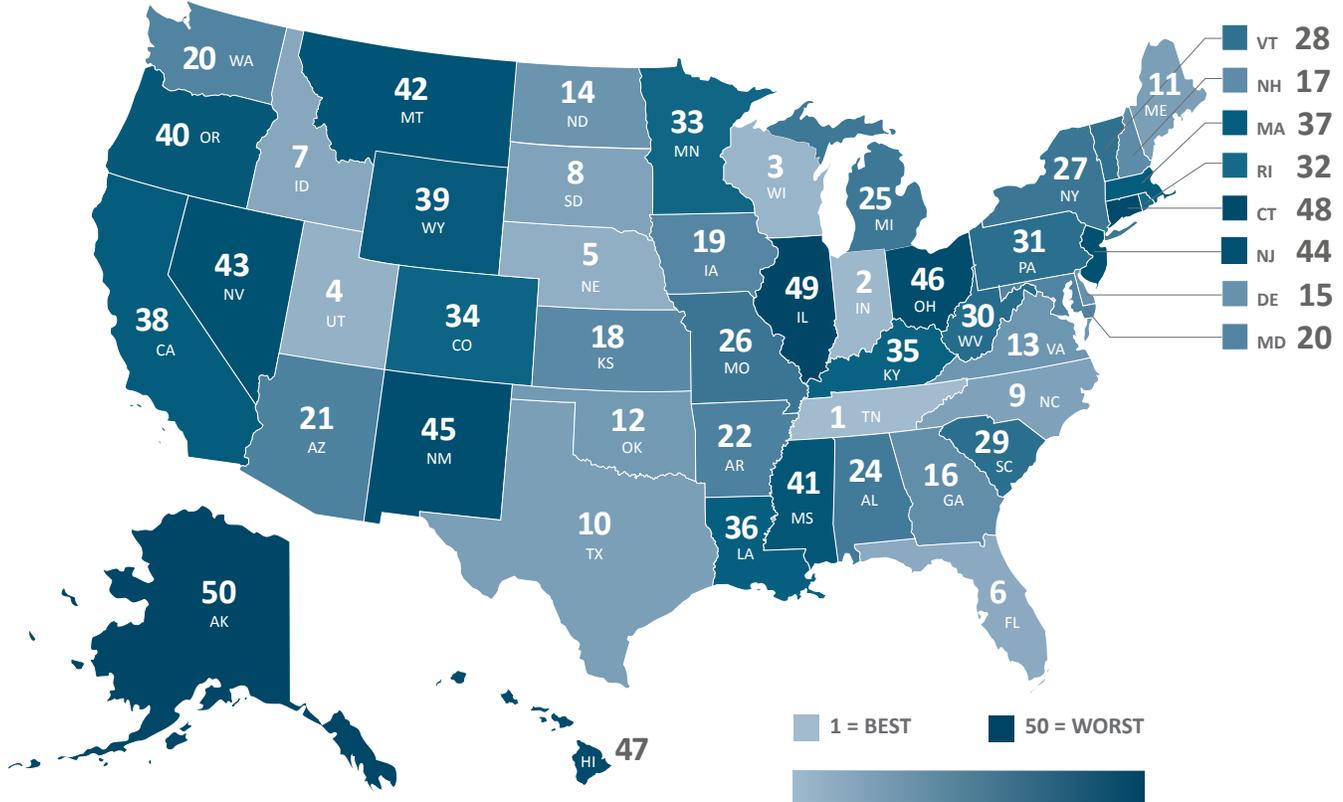
Because of the significant impact unfunded pension liabilities have on state budgets and individual taxpayers, the American Legislative Exchange Council (ALEC) produces publications to educate policymakers and the public about the danger unfunded pension liabilities pose to core services, workers and the economy. This report surveys more than 290 state-administered public pension plans, detailing assets and liabilities from FY 2011-2018. The unfunded liabilities are reported using three different calculations:

- States' own estimates
- 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 compares funding ratios and controls for changes in discount rate assumptions over time



Figure 2, Table 2

Total Unfunded Pension Liabilities Per Capita, 2019



Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Rank	State	Unfunded Liabilities Per Capita
1	Tennessee	\$5,454.11
2	Indiana	\$6,777.25
3	Wisconsin	\$7,345.97
4	Utah	\$7,681.19
5	Nebraska	\$8,169.99
6	Florida	\$8,221.96
7	Idaho	\$8,994.78
8	South Dakota	\$9,164.95
9	North Carolina	\$9,750.97
10	Texas	\$10,494.77
11	Maine	\$10,709.16
12	Oklahoma	\$11,216.99
13	Virginia	\$11,241.05
14	North Dakota	\$11,516.75
15	Delaware	\$11,590.04
16	Georgia	\$12,003.63
17	New Hampshire	\$12,134.17
18	Kansas	\$12,935.71
19	Iowa	\$12,948.33
20	Washington	\$13,019.31
21	Arizona	\$13,065.80
22	Arkansas	\$13,094.60
23	Maryland	\$13,694.30
24	Alabama	\$13,797.01
25	Michigan	\$13,922.42

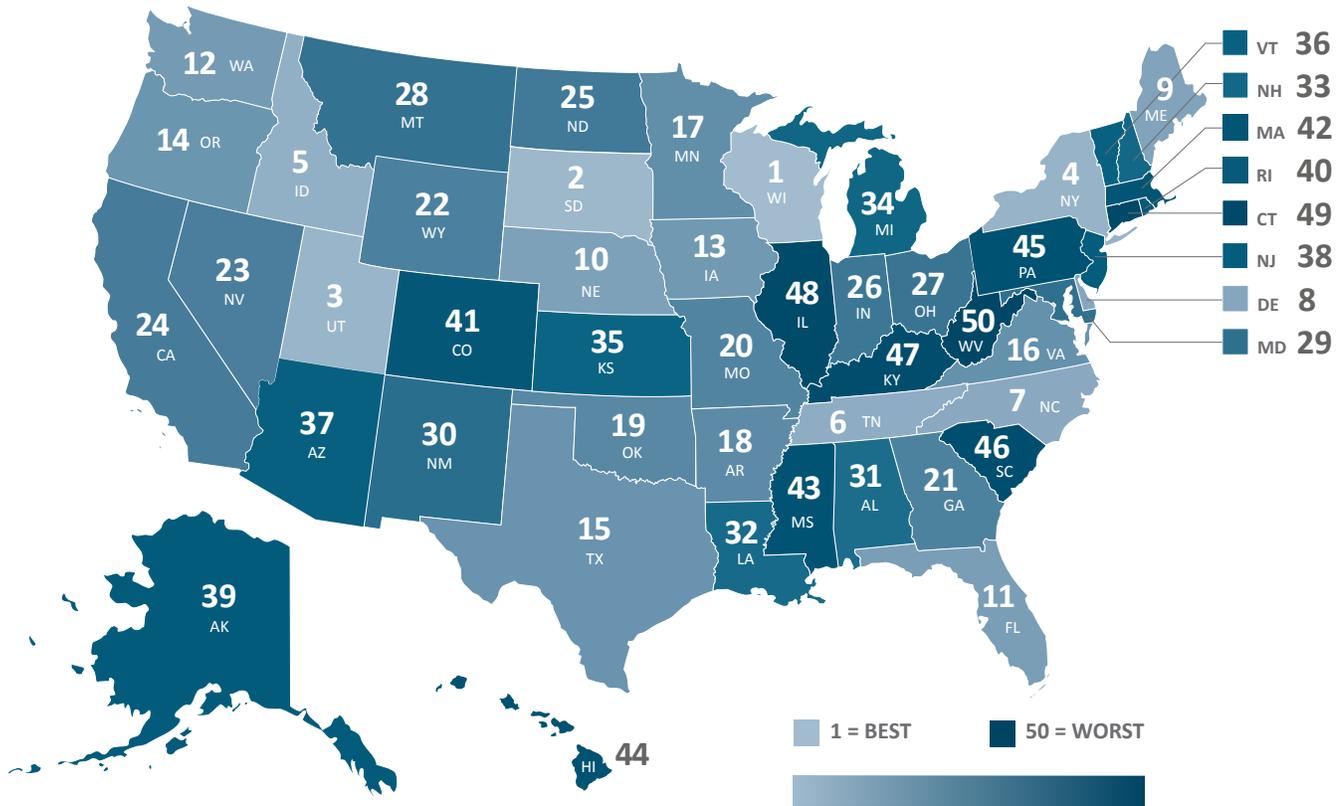
Rank	State	Unfunded Liabilities Per Capita
26	Missouri	\$14,183.83
27	New York	\$14,203.92
28	Vermont	\$14,296.87
29	South Carolina	\$14,374.43
30	West Virginia	\$15,284.31
31	Pennsylvania	\$15,656.76
32	Rhode Island	\$15,875.53
33	Minnesota	\$16,057.79
34	Colorado	\$17,482.42
35	Kentucky	\$17,625.42
36	Louisiana	\$17,743.69
37	Massachusetts	\$18,307.84
38	California	\$19,719.65
39	Wyoming	\$20,312.60
40	Oregon	\$20,383.51
41	Mississippi	\$20,602.96
42	Montana	\$20,737.26
43	Nevada	\$21,069.10
44	New Jersey	\$22,092.39
45	New Mexico	\$23,444.93
46	Ohio	\$24,886.22
47	Hawaii	\$25,830.81
48	Connecticut	\$26,552.73
49	Illinois	\$28,220.06
50	Alaska	\$39,948.86

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

# SECTION 1: KEY FINDINGS

Figure 3, Table 3

Pension Funding Ratios, 2019



Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

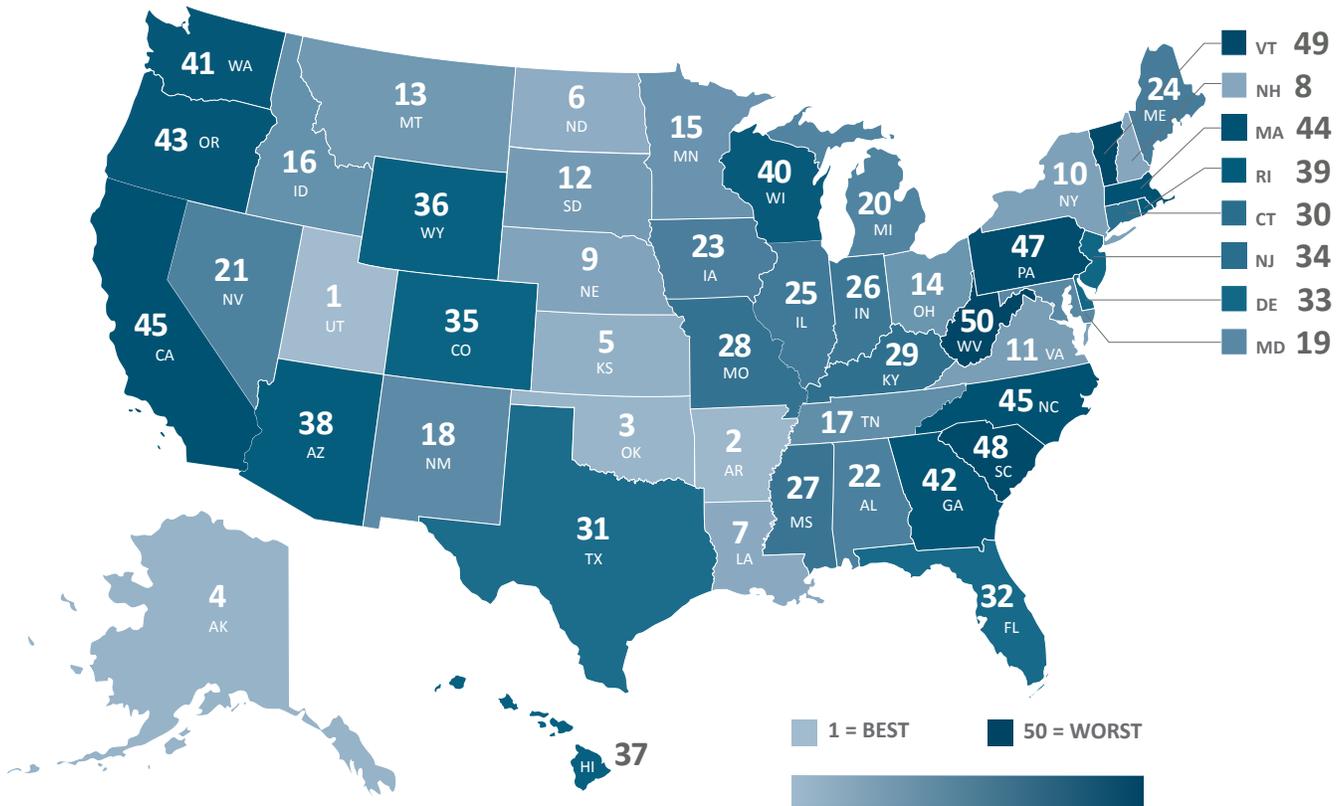
Rank	State	Funding Ratio
1	Wisconsin	70.37%
2	South Dakota	60.32%
3	Utah	56.71%
4	New York	54.54%
5	Idaho	51.50%
6	Tennessee	50.64%
7	North Carolina	49.74%
8	Delaware	48.21%
9	Maine	47.65%
10	Nebraska	47.41%
11	Florida	47.13%
12	Washington	47.01%
13	Iowa	46.55%
14	Oregon	44.80%
15	Texas	44.64%
16	Virginia	44.25%
17	Minnesota	42.80%
18	Arkansas	42.74%
19	Oklahoma	42.69%
20	Missouri	42.57%
21	Georgia	42.27%
22	Wyoming	41.94%
23	Nevada	39.39%
24	California	39.19%
25	North Dakota	38.84%

Rank	State	Funding Ratio
26	Indiana	38.65%
27	Ohio	38.64%
28	Montana	38.15%
29	Maryland	37.46%
30	New Mexico	36.70%
31	Alabama	36.63%
32	Louisiana	36.33%
33	New Hampshire	35.08%
34	Michigan	34.85%
35	Kansas	34.57%
36	Vermont	34.10%
37	Arizona	33.93%
38	New Jersey	33.78%
39	Alaska	33.66%
40	Rhode Island	32.76%
41	Colorado	32.73%
42	Massachusetts	31.72%
43	Mississippi	31.26%
44	Hawaii	31.15%
45	Pennsylvania	30.90%
46	South Carolina	30.39%
47	Kentucky	28.57%
48	Illinois	26.66%
49	Connecticut	26.08%
50	West Virginia	24.82%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Figure 4, Table 4

Percentage Change in Funding Ratios, 2012-2018



Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Rank	State	Percentage Change 2012-2018
1	Utah	40.55%
2	Arkansas	34.00%
3	Oklahoma	31.00%
4	Alaska	27.61%
5	Kansas	25.46%
6	North Dakota	25.34%
7	Louisiana	23.98%
8	New Hampshire	23.47%
9	Nebraska	23.40%
10	New York	21.13%
11	Virginia	20.60%
12	South Dakota	20.09%
13	Montana	18.11%
14	Ohio	17.37%
15	Minnesota	16.68%
16	Idaho	16.26%
17	Tennessee	16.05%
18	New Mexico	14.97%
19	Maryland	14.83%
20	Michigan	14.28%
21	Nevada	13.68%
22	Alabama	13.28%
23	Iowa	12.35%
24	Maine	11.69%
25	Illinois	11.21%

Rank	State	Percentage Change 2012-2018
26	Indiana	10.86%
27	Mississippi	10.58%
28	Missouri	10.48%
29	Kentucky	10.37%
30	Connecticut	9.07%
31	Texas	8.79%
32	Florida	7.29%
33	Delaware	4.48%
34	New Jersey	4.21%
35	Colorado	4.17%
36	Wyoming	4.15%
37	Hawaii	4.09%
38	Arizona	2.72%
39	Rhode Island	2.33%
40	Wisconsin	1.51%
41	Washington	-0.02%
42	Georgia	-0.73%
43	Oregon	-2.29%
44	Massachusetts	-2.39%
45	California	-2.96%
46	North Carolina	-3.86%
47	Pennsylvania	-8.61%
48	South Carolina	-11.20%
49	Vermont	-22.09%
50	West Virginia	-25.02%

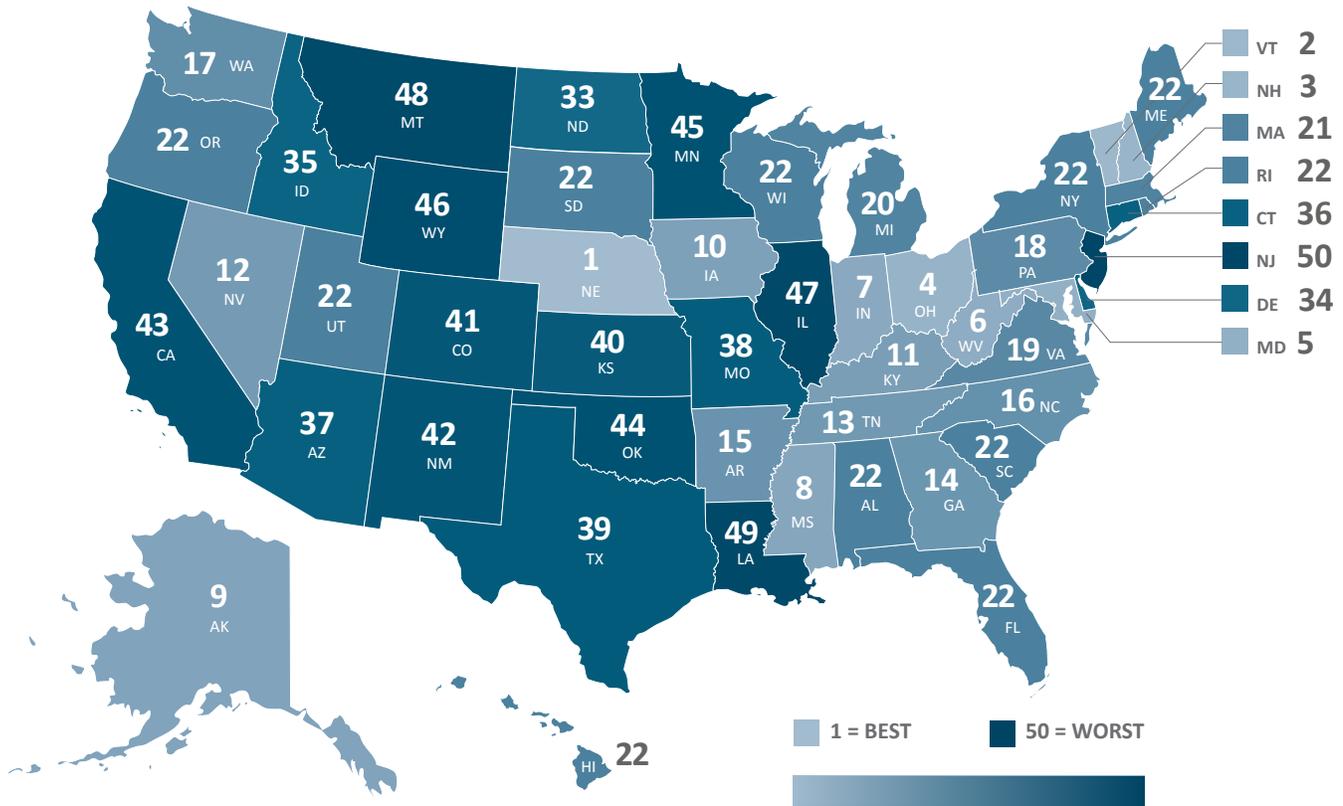
Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Note: Previous publications have examined differences in percentage points between years for funding ratios. This year's publication examines the percentage change in funding ratio from FY 2012-2018.

# SECTION 1: KEY FINDINGS

Figure 5, Table 5

Percent ARC Paid



Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

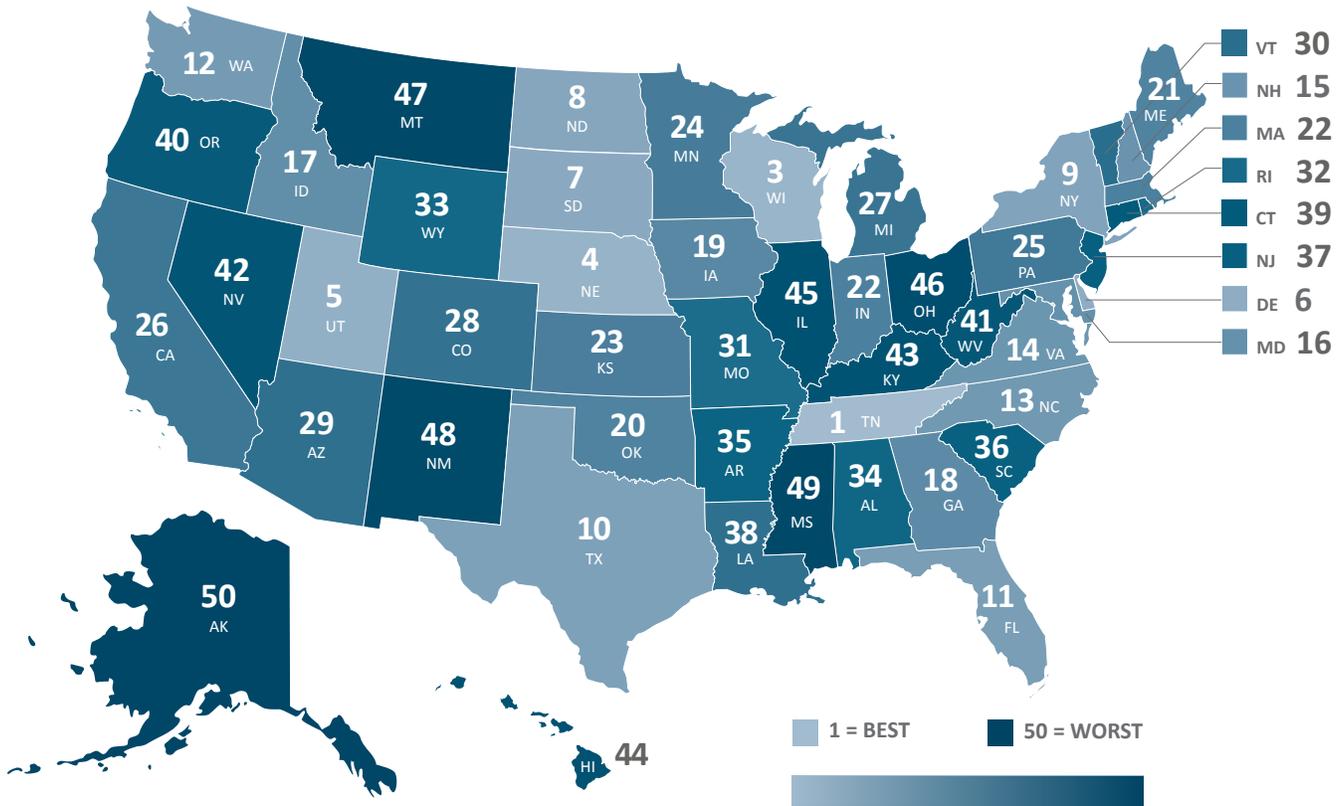
Rank	State	Percent ARC Paid
1	Nebraska	178.32%
2	Vermont	126.45%
3	New Hampshire	114.75%
4	Ohio	110.54%
5	Maryland	110.45%
6	West Virginia	110.27%
7	Indiana	109.77%
8	Mississippi	107.71%
9	Alaska	104.93%
10	Iowa	104.57%
11	Kentucky	104.06%
12	Nevada	102.55%
13	Tennessee	102.38%
14	Georgia	102.21%
15	Arkansas	100.910%
16	North Carolina	100.909%
17	Washington	100.26%
18	Pennsylvania	100.13%
19	Virginia	100.03%
20	Michigan	100.02%
21	Massachusetts	100.00%
22	Alabama	100.00%
22	Florida	100.00%
22	Hawaii	100.00%
22	Maine	100.00%

Rank	State	Percent ARC Paid
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	Utah	100.00%
22	Wisconsin	100.00%
33	North Dakota	99.25%
34	Delaware	98.94%
35	Idaho	98.06%
36	Connecticut	97.28%
37	Arizona	96.56%
38	Missouri	96.03%
39	Texas	95.38%
40	Kansas	87.20%
41	Colorado	82.23%
42	New Mexico	81.88%
43	California	81.86%
44	Oklahoma	78.94%
45	Minnesota	77.95%
46	Wyoming	73.73%
47	Illinois	65.76%
48	Montana	43.04%
49	Louisiana	31.50%
50	New Jersey	30.05%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Figure 6, Table 6

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



Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Rank	State	Unfunded Liabilities As A Percentage of GSP
1	Tennessee	10.14%
2	Indiana	12.36%
3	Wisconsin	12.70%
4	Nebraska	12.71%
5	Utah	13.63%
6	Delaware	15.25%
7	South Dakota	15.54%
8	North Dakota	15.62%
9	New York	16.63%
10	Texas	16.71%
11	Florida	16.85%
12	Washington	17.34%
13	North Carolina	17.96%
14	Virginia	17.97%
15	New Hampshire	19.49%
16	Maryland	20.06%
17	Idaho	20.48%
18	Georgia	21.32%
19	Iowa	21.54%
20	Oklahoma	21.84%
21	Maine	22.10%
22	Massachusetts	22.19%
23	Kansas	22.38%
24	Minnesota	24.43%
25	Pennsylvania	25.60%

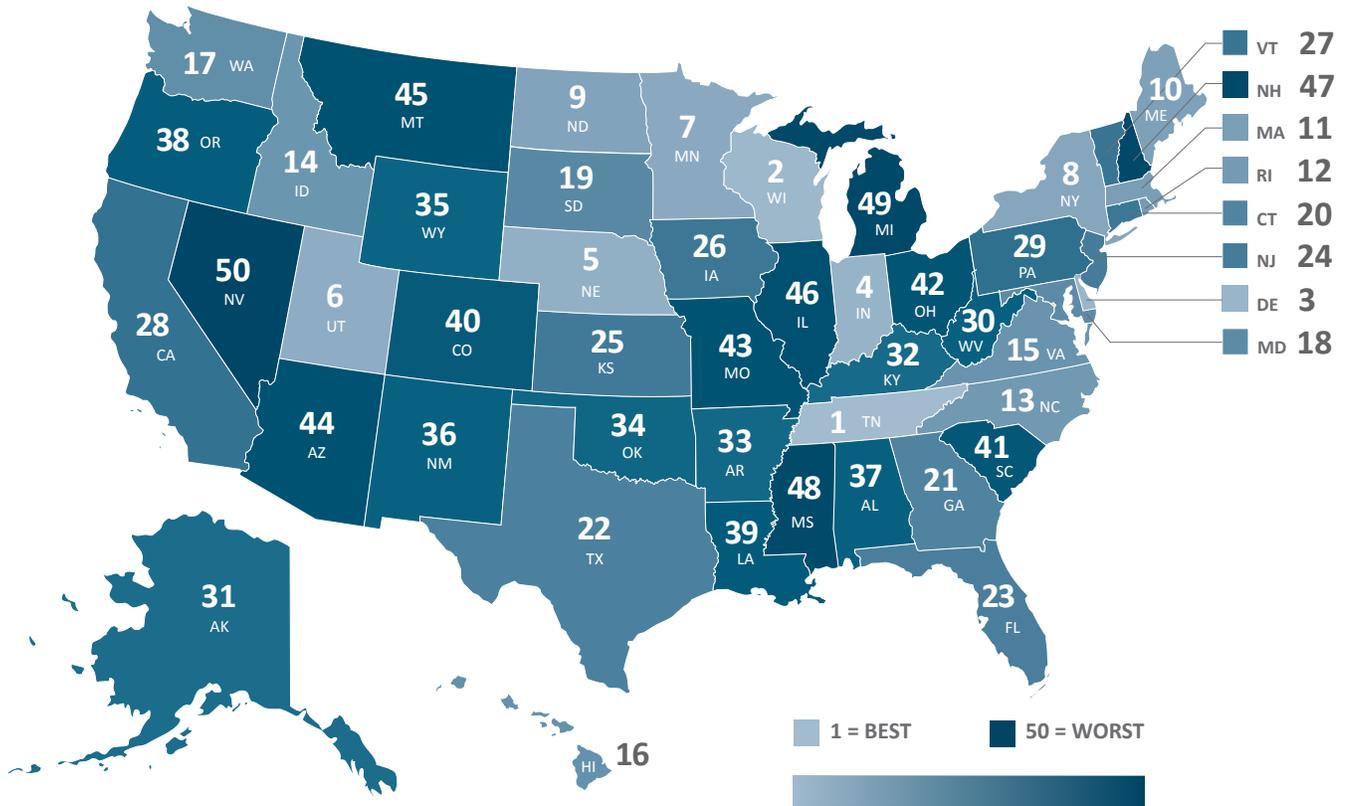
Rank	State	Unfunded Liabilities As A Percentage of GSP
26	California	26.02%
27	Michigan	26.40%
28	Colorado	26.78%
29	Arizona	26.90%
30	Vermont	26.92%
31	Missouri	27.25%
32	Rhode Island	27.70%
33	Wyoming	30.00%
34	Alabama	30.41%
35	Arkansas	30.73%
36	South Carolina	31.24%
37	New Jersey	31.64%
38	Louisiana	32.14%
39	Connecticut	34.41%
40	Oregon	35.62%
41	West Virginia	35.65%
42	Nevada	37.76%
43	Kentucky	37.85%
44	Hawaii	39.12%
45	Illinois	41.55%
46	Ohio	43.04%
47	Montana	43.77%
48	New Mexico	48.98%
49	Mississippi	53.58%
50	Alaska	53.82%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

# SECTION 1: KEY FINDINGS

Figure 7, Table 7

Unfunded Liabilities as a Percentage of 2018 State General Fund Expenditures



Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

Rank	State	Liabilities as a Percentage of Expenditures
1	Tennessee	233.40%
2	Wisconsin	259.39%
3	Delaware	272.21%
4	Indiana	284.82%
5	Nebraska	362.35%
6	Utah	369.35%
7	Minnesota	397.01%
8	New York	398.11%
9	North Dakota	416.63%
10	Maine	419.59%
11	Massachusetts	437.30%
12	Rhode Island	438.03%
13	North Carolina	445.13%
14	Idaho	455.37%
15	Virginia	458.47%
16	Hawaii	470.18%
17	Washington	477.76%
18	Maryland	483.05%
19	South Dakota	508.21%
20	Connecticut	510.02%
21	Georgia	528.27%
22	Texas	537.42%

Rank	State	Liabilities as a Percentage of Expenditures
26	Iowa	563.06%
27	Vermont	564.22%
28	California	613.99%
29	Pennsylvania	626.67%
30	West Virginia	636.42%
31	Alaska	649.60%
32	Kentucky	700.90%
33	Arkansas	734.59%
34	Oklahoma	755.54%
35	Wyoming	767.02%
36	New Mexico	800.06%
37	Alabama	828.68%
38	Oregon	839.09%
39	Louisiana	858.18%
40	Colorado	881.66%
41	South Carolina	908.97%
42	Ohio	918.24%
43	Missouri	938.10%
44	Arizona	954.11%
45	Montana	982.57%
46	Illinois	1025.38%
47	New Hampshire	1078.60%
48	Mississippi	1106.66%
49	Michigan	1360.25%
50	Nevada	1597.26%

Source: Data are based on ALEC Center for State Fiscal Reform calculations. To read the full report and methodology, see [ALEC.org/PensionDebt2019](http://ALEC.org/PensionDebt2019)

### SECTION 2: POOR ASSUMPTIONS MAKE POOR PENSIONS

State governments have experienced increased pressure in their balance sheets 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. GASB 67 focuses on how pension plans measure assets and liabilities.

The changes declared in GASB 67 require plan assets to be valued each year so pension trustees cannot engage in “asset smoothing.” Asset smoothing is a process by which pension investment performance is averaged over a five-year period to “smooth out” swings in market performance. As noted by pension scholars Eileen Norcross and Sheila Weinberg, asset smoothing evens out investment swings and provides plan sponsors with predictability in annual contributions, but simultaneously hides the volatility of pension asset portfolios.<sup>1</sup> Under GASB 67, pension plan officials must provide an actuarial value of assets (AVA) for that given year, putting an end to asset smoothing. This report’s analysis uses the AVA reported in state pension plan actuarial valuations each year.

Norcross and Weinberg also note under GASB 68, however, state governments can continue a form of asset smoothing. Governments are permitted to defer the recognition of the difference between the return expected on plan assets and the actual return, with this “deferred inflow of resources” occurring over a 5-year period. This is the same as asset smoothing, which permits the sponsor to gradually incorporate any changes to the market value of assets that differ from the expected value of assets over time. They note, “The consequences of this practice remain the same [as the consequences of asset smoothing]. Market declines and gains are only gradually recognized, likely increasing the riskiness of sponsor behavior.”<sup>2</sup>

The new information required by GASB 67 and 68 is reported in the “Required Supplementary Information” section at the end of each state’s comprehensive annual financial report (CAFR) and in actuarial valuation documents for each pension plan. These notes include a breakdown of the annual required contribution (ARC), asset valuations and fiduciary net position for all pension plans, how the pension plan discount rate is calculated and information about liability valuations.

Improved reporting and more accurate estimates of state obligations have shed light on the actual value of unfunded pension liabilities. Many of the changes in assumptions based on

actuarial experience studies conducted in 2016 are still in place today (i.e., inflation assumption remains at 2.25%), while other assumptions have changed. For example, some plans have lowered discount rates drastically (such as several Wyoming state pension plans lowering the discount rate from 7.75% to 7.00% in FY 2017), while other plans have incrementally decreased discount rates (such as the California Public Employee Retirement Multiemployer Fund, which gradually decreased its discount rate from 7.50% in FY 2016, to 7.25% in FY 2017, and then at 7.00% in FY 2018).<sup>3,4</sup>

Last year’s report (based on data from FY 2015-2017) estimated that unfunded liabilities totaled \$5.9 trillion.<sup>5</sup> To provide a more accurate picture of unfunded liabilities, in FY 2017 there was a total of \$5.5 trillion unfunded liabilities, \$500 billion more than the \$5 trillion amount in FY 2018. While the lower unfunded liabilities total may appear positive, states should not be too quick to celebrate. Increased pension contributions, changes to pension plans, and strong investment returns contributed to improved pension funds for FY 2018. However, the risk-free discount rate increased from 2.49% to 2.96% in FY 2018 (thus lowering the present value of liabilities), also contributing to the lower assessment of liabilities. Ultimately, the root causes of rapidly growing unfunded liabilities (such as states failing to contribute according to their ARC) were not addressed in FY 2018. This means unfunded liabilities will continue to grow, especially in years with poor investment returns.

Most pension plans use historical trends to estimate future conditions of assets and liabilities.<sup>6</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.

The rate at which employees are vested (meaning the employee becomes eligible to secure rights to employer-provided pension benefits) varies with the type of work and the length of the vesting period. Public school teachers, for example, have an extremely low vesting rate. Since FY 2011, the Michigan Public Schools Employees’ Retirement System (MPSERS), has had a vesting rate around 47%, with less than 33% of active employees fully vesting.<sup>7</sup> One reason for this low rate is that teachers often pay into a retirement system but leave the school district (usually to work as a teacher in another school district) before they become vested. When these teachers move districts before they become vested, the money their employers pay into the

## SECTION 2: POOR ASSUMPTIONS MAKE POOR PENSIONS

retirement system does not move with them, but employee contributions do.

In contrast, defined-contribution pension plans allow workers to keep their retirement savings if they change locations or even if they choose to change careers entirely. As younger workers change jobs more frequently, the defined-contribution model, which allows workers take their retirement savings wherever they go, is particularly valuable to them.

### Investment Rate of Return and Discount Rate

A plan's assumed investment rate of return is based on a pension plan's portfolio of investment assets and what those investments will earn. How much these investments will earn is subject to the interest rates and the risks associated with the assets. The assumed rate of return is thus a reflection of the risk of the plan's investment assets. The discount rate is the rate used to determine the value today of the amount a pension plan must pay retirees in the future. To make matters more confusing, investment rate of return and discount rate

are often used interchangeably in state financial documents.

In the case of public pensions, however, investment rate of return and discount rate should not be used interchangeably, because there are different risk levels associated with pension assets and pension liabilities. Over the past four decades, pension asset funds have changed from low-risk, fixed income investments (such as U.S. Treasury bonds) to an increasingly volatile portfolio of stocks, bonds, and alternative investments such as office buildings and golf courses.<sup>8</sup> This is the result of lower bond yields, the desire to chase higher returns, and politicians and plan managers using pension funds to advance their own economic development or political agendas — a perfect storm of bad incentives.

The figure below shows the disparity between assumed rates of return (noted by the dotted line) and the actual annual return on investment (noted by the solid line). As pension plans invest in riskier assets, meeting the assumed rate of return for that year becomes less likely. Some years this pays off, and returns exceed expectations, while other years fall far short of assumed returns.

Figure 8, Table 8

Average 1-Year Returns on Pension Investments Relative to Average Assumed Return for Pension Investments for All States, 2001-2018

Variable	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Average 1-Year Return on Pension Investments	-4.91%	-6.22%	8.95%	14.76%	10.55%	11.29%	15.25%	-9.49%	-9.42%	13.54%	15.31%	4.99%	13.05%	13.82%	2.32%	2.77%	13.06%	6.05%
Average Assumed Return on Pension Investments	7.99%	7.98%	7.95%	7.92%	7.92%	7.91%	7.90%	7.88%	7.85%	7.80%	7.74%	7.67%	7.63%	7.60%	7.54%	7.45%	7.33%	7.22%



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

Despite these bad incentives, the strong U.S. economy in 2019 led to strong investment performance, which increased the value of plan assets, resulting in lower unfunded liabilities. FY 2017 saw asset returns average 13.06%, (drastically increasing the value of assets) and FY 2018 saw returns average 6.05% (a positive return but still below the assumed return average of 7.22%).

Meanwhile, as stated previously, many states are still contractually and constitutionally obligated to pay pension liabilities, so there has been a major divergence between the risk premiums of pension assets and liabilities. As the Society of Actuaries' Blue-Ribbon Panel on Public Pension Plan funding recommends, "the rate of return assumption should be based primarily on the current risk-free rate plus explicit risk premium or on other similar forward-looking techniques."<sup>9</sup>

Because U.S. Treasury bonds are insured with the full faith and credit of the United States government, the rate of return for these bonds is the best proxy for a risk-free rate. A valuation of liabilities based on a risk-free rate contrasts sharply with the overly optimistic assumptions used by nearly every public sector pension plan. As economist and pension scholar 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>10</sup>

This report uses a more prudent discount rate calculated by averaging 10-year and 20-year U.S. Treasury bond yields to create a hypothetical 15-year bond yield to match the 15-year midpoint of paying pension liabilities. The discount rate calculated from these bond yields is the best proxy for a risk-free rate. The 15-year midpoint comes from GASB noting "the maximum acceptable amortization period [the length of time to pay liabilities] is 30 years."<sup>11</sup> In laymen's terms, GASB recommends that no pension plan take longer than 30 years to fully pay its liabilities. Thus, 15 years is the simple midpoint for paying off those liabilities.

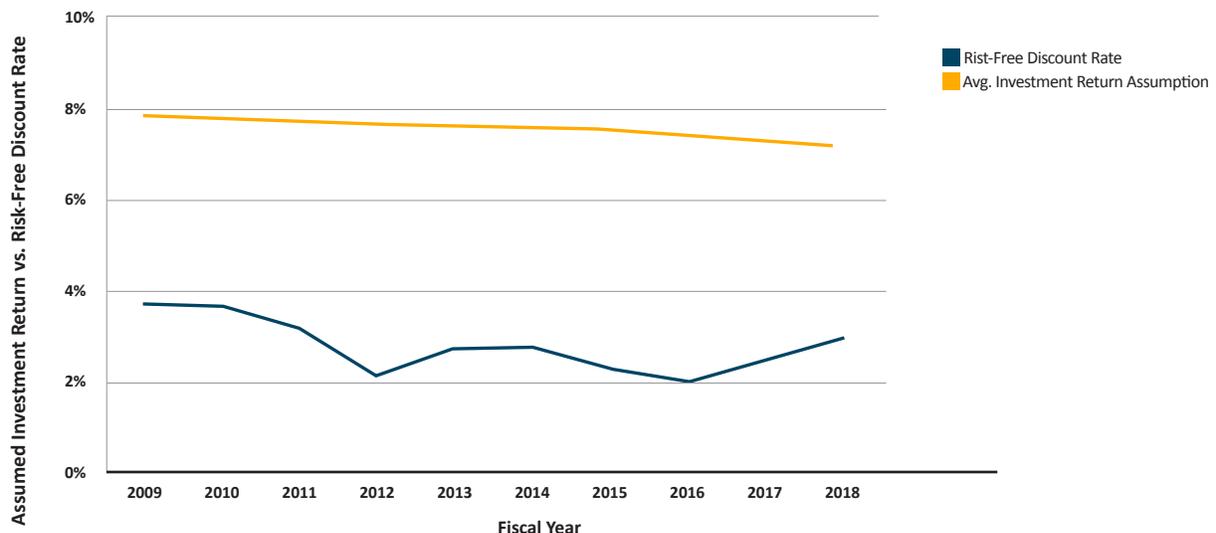
With the risk-free discount rate depending upon the average yield of the U.S. Treasury bonds, there have been changes to the discount rate each year. For 2019, the risk-free discount rate was 2.96% (an increase from 2.49% in 2018). This increase contributed to the smaller unfunded liabilities in this report.

In addition, the risk-free discount rate creates a standard for measuring the present value of pension liabilities for plans throughout the 50 states. Discount rates can vary depending on the plan, even for different plans in the same state. This standard means of measurement allows for an accurate comparison of the value of liabilities across pension plans. The risk-free discount rate used in this year's report also sharply contrasts with the overly optimistic assumptions used in state financial documents, providing a more prudent estimate of the value of liabilities across pension plans. The figure and table below show the average assumed rate of return (this is a variable from the Boston Center on Retirement Research and can be taken as a proxy for a plan's discount rate) and the risk-free discount rate.<sup>12</sup>

Figure 9, Table 9

Average Assumed Rate of Return vs. Risk-Free Discount Rate

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Risk-Free Discount Rate	3.69%	3.63%	3.20%	2.17%	2.74%	2.81%	2.35%	2.03%	2.49%	2.96%
Avg. Investment Return Assumption	7.85%	7.80%	7.74%	7.67%	7.63%	7.60%	7.54%	7.45%	7.33%	7.22%



Source: Public Plans Database, Boston College Center for Retirement Research; Federal Reserve Bank of St. Louis FRED Database

## SECTION 2: POOR ASSUMPTIONS MAKE POOR PENSIONS

### ACTUARIALLY RECOMMENDED CONTRIBUTION

The actuarially recommended contribution (ARC) refers to a cluster of terminology used by state plans in CAFRs, valuations and GASB notes and statements. Other terms include “actuarially determined contribution” and “annual required contribution,” but they refer to the same definition. This report uses the term “actuarially recommended contribution.”

An ARC is the amount of money state and local governments need to contribute every year to pension plans to meet accrued obligations to current and future retirees. The ARC is calculated based on certain parameters, including normal costs for the year and a component for amortization of the total unfunded actuarial accrued liabilities for a period no longer than 30 years. If a plan is consistently making ARC payments, it is better able to adjust to fluctuating variables (i.e., cost of living adjustments and life expectancy) and pay off its liabilities in a timely manner.

Illinois has the second largest unfunded pension liabilities in the country at \$359 billion (only California has greater unfunded liabilities) and the third largest unfunded liabilities per capita at \$28,220 per resident (after Connecticut and Alaska). This is, in part, due to Illinois’ pension contributions failing to meet the ARC due to state statutes Public Acts 100-0023 and 100-0340 using a methodology that does not conform with ARC calculation methods set by GASB. Illinois plans always make payments based upon the state statutes and not the ARC.<sup>13</sup> The one notable exception, the Illinois Municipal Retirement Fund (which uses ARC methodology to determine the required contribution), has the highest funding ratio of Illinois plans (a lowly 48.80%) and has nearly \$43 billion in unfunded liabilities. After years of not making the required contributions, liabilities have piled up, making Illinois’ plans some of the worst funded pension plans in the country with nearly \$360 billion in unfunded liabilities.

### Funding Ratios: Fiscal Responsibility and Pro-Growth Policies

The funding ratio is the actuarial value of assets (AVA) divided by the actuarially accrued liabilities (AAL). The AVA is the value of pension plan contributions and investment returns that go toward paying the AAL. The AVA is the measure used by actuaries for the purpose of valuation.

Plans often have overly optimistic actuarial assumptions regarding assets and liabilities (see the section on rates of return and discount rates). These optimistic assumptions lead to overly optimistic funding ratios as well. The risk-free funding ratios calculated in Section 1 provide a more realistic estimate of each state’s funded ratio. While this report uses the AVA, liabilities are valued using the risk-free discount rate. The risk-free funding ratio is the AVA divided by risk-free liabilities.

Wisconsin leads the states again this year in having the highest funding ratio, but under our methodology, Wisconsin’s plans are still only 70.37% funded. Wisconsin does, however, have several fail-safe options to prevent unfunded liabilities from accumulating.<sup>14</sup> The Wisconsin pension system is described further in Section 3 as a recommendation for other pension plans. As recommended by the American Academy of Actuaries, plans should strive for 100% funding ratio or greater. While often repeated as fact, an 80% funding ratio should not be the benchmark for a healthy pension plan.<sup>15</sup> After the implementation of GASB 67 and 68, funding ratios were shown to be dangerously low, with the average funding ratio for FY 2015 only at 38.77% according to the authors’ calculation of a weighted average.

Some of the states with better funding ratios (such as Wisconsin, South Dakota, and Utah) have increased their funding ratios

Table 10

ARC Payments to Illinois Pension Plans

Plan	ARC	ARC Paid	Percent of ARC Paid
Illinois General Assembly Retirement System	\$32,084,644.00	\$21,155,000.00	65.93%
Illinois Judges Retirement System	\$168,056,916.00	\$135,962,000.00	80.90%
Illinois Municipal Retirement Fund	\$947,568,823.00	\$947,568,823.00	100.00%
Illinois State Employees Retirement System	\$2,739,377,709.00	\$1,929,175,044.00	70.42%
Illinois Teachers Retirement System	\$7,080,756.00	\$4,178,650.00	59.01%
Illinois University Retirement System	\$1,862,033.00	\$1,607,880.00	86.35%

Source: Illinois State Treasurer and authors’ calculations

every year since FY 2016 and remained above average, while the three worst funding ratios (Connecticut, Illinois and West Virginia) have seen their funding ratios drop since FY 2016 and have remained below average.

This report does not normalize plan assumptions of mortality or demographics, and instead uses the assumptions provided in the plans. However, a recent mortality study found that public sector employees have longer life expectancies than the general population.<sup>16</sup> While it is great news that life expectancy has increased, this also means states must be prepared to pay out more pension benefits for longer periods of time than previously

anticipated. States will eventually need to address these rising costs or radically change the benefits new employees receive.

Overall, states with better economic outlooks also tend to have higher risk-free funding ratios. In the figure below, the average funding ratio of each state between 2012 and 2018 is displayed against the state's average *Rich States, Poor States* economic outlook ranking over the same period. A trend line highlights the direction of the relationship. States with a positive *Rich States, Poor States* economic outlook ranking tend to have higher pension funding ratios.

## SECTION 3: SOLUTIONS TO THE PENSION FUNDING CRISIS

### Making the Switch to Defined-Contribution

Ultimately, one of the best ways to solve the pension crisis is to change the way pension plans are structured. Changing from the current defined-benefit system toward a defined-contribution system for new employees will improve the health of state pension plans by giving employees full control over their retirement savings.

One reform most pension plans could immediately adopt is lowering their discount rate closer to the private sector average of 4%, or better yet, to a risk-free rate.<sup>17</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. The table below shows the risk-free discount rate by fiscal year:

**Table 11** Risk-Free Discount Rate by Fiscal Year

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
3.69%	3.63%	3.20%	2.17%	2.74%	2.81%	2.35%	2.03%	2.49%	2.96%

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

Given the variance in discount rates, the authors of last year's report incorporated a fixed discount rate of 4.50%.<sup>18</sup> The fixed discount rate provides a basis of comparison in years that see large changes to the risk-free discount rate.

A second reform is to vary benefit or contribution rates based on the funding of the plan. It is worth revisiting the cases of Wisconsin and Maine from last year's report. Wisconsin, as mentioned above, has the best funded pension system in the country with a funding ratio of 70.37% because it has a variable benefit rate, meaning the disbursement varies over time. State retirees are entitled to a low, guaranteed pension payment paired with a variable payment based on the pension system's funding ratio.<sup>19</sup> This means when tax revenue is lower during economic recessions, the fund lowers payments to retirees and allows the fund to recover rather than exhausting the fund or taking on debt to keep making payments.<sup>20</sup> While the plan has been criticized for diminishing benefits during economic downturns, it has succeeded in providing retirement security.<sup>21</sup>

In 2016, Maine pursued a series of reforms to implement variable contribution rates for their state pension system.<sup>22</sup> Due

to these reforms, Maine's unfunded pension liabilities have decreased by almost \$10 billion (about 50%) over the past two years. Normally, employer contribution rates fluctuate to meet the ARC or other contribution standards, whereas employee contributions are a fixed rate set by contract. Under a "risk-sharing" plan, changes in the ARC result in changes in contributions for both employer and employee.

The models share a key aspect: both Maine and Wisconsin have automatic "triggers," either on contribution rates, benefit rates, or cost of living adjustments. These triggers serve as an objective management tool to ensure pensions are funded. Automatic adjustments based on actuarial science are difficult to argue against, particularly when the potential deviation will underfund the pension system.

In addition, numerous states (e.g., Michigan, Pennsylvania, Wisconsin, and Tennessee) have introduced hybrid pension plans and options for full defined-contribution pensions. In most cases, a hybrid is a relatively small defined-benefit pension plan offered in tandem with a defined-contribution plan. The defined-benefit portion of these hybrids carries all the same risks as traditional pension plans. The risks, however, are mitigated by the smaller size and, often, better contract terms, such as benefit formulas that block spiking (where employees convert certain benefits such as unused sick time or saved vacation pay to boost their pension benefits) or higher employer contribution rates.

Tennessee currently offers a hybrid pension plan for all state and higher education employees hired on or after July 1, 2014. All state and higher education employees hired before that date have been incorporated in the defined-benefit legacy plan.<sup>23</sup> The hybrid plan incorporates both a defined-benefit plan and the option to set aside money in a 401(k) plan. Tennessee is consistently one of the states with the best funding ratios and the lowest unfunded liabilities per capita in the ALEC pension reports since 2016. Unfunded liabilities will continue to fall as more retirees participate in hybrid pension plans and the state pays off its legacy pension plan liabilities.

Similarly, Michigan transitioned its Public School Employees' Retirement System (MPSERS) to a hybrid pension plan for all new hires in 2017. The plan auto-enrolls new hires in a defined-contribution plan, but new teachers have the choice of opting into a hybrid plan with a mix of defined-contribution and defined-

benefit plans.<sup>24</sup> The defined-benefit plan splits all costs 50-50 between employers and employees, and uses a 10-year amortization schedule and 6% discount rate. In addition, if the hybrid plan's funding ratio falls below 85% for two consecutive years, the plan is closed to new hires until the funding ratio rises above the 85% threshold for two consecutive years.<sup>25</sup>

In 1996, Michigan was the first state in the nation to close its defined-benefit Michigan State Employee Retirement System (MSERS) and enroll new hires in a hybrid plan.<sup>26</sup> However, other state employee plans (such as MPSERS, the State Police Retirement System, State Judges Retirement System, Municipal Employees Retirement System and the Legislative Retirement System) kept the defined-benefit option open to new hires. Thus, unfunded liabilities continue to accumulate in the other Michigan pension plans.<sup>27</sup>

The case of Michigan demonstrates that a transition to defined-contribution plans does not mean unfunded liabilities will disappear overnight (or even in one fiscal year). Michigan still ranks 42nd in the nation on unfunded liabilities, but the counterfactual would be much worse. If these reforms were not in place, Michigan would resemble its neighbor to the south-east, Ohio, or nearby Illinois. Ohio (48th in the nation) has \$290 billion in unfunded liabilities, while Illinois (49th in the nation) has nearly \$360 billion in unfunded liabilities. A study conducted by Richard Dreyfuss for the Mackinac Center found that Michigan's unfunded liabilities would have been between \$2.3-\$4.5 billion greater if the reforms had not been made.<sup>28</sup> By continuing reforms to transition more pension plans to defined-contribution, Michigan can steadily improve its retirement plans and reduce its unfunded liabilities.

### **Transparency is Necessary for Accountable Government**

To keep government accountable, taxpayers, public sector employees and other stakeholders must be able to view government financial documents in an easy and accessible manner. The call for greater transparency in government documents has remained constant throughout the various iterations of ALEC

Center for State Fiscal Reform publications. Disclosing key financial information is required of publicly traded corporations — governments should be held to the same standard.

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 "The Open Financial Statement Act" model policy outlines how digital records could modernize this process. The act replaces PDF-formatted audited financial statements of state, county, municipal and special district filings with filings utilizing Interactive Extensible Business Reporting Language (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 and therefore reducing costs. The benefits of iXBRL are increased transparency, uniformity among state financial documents and ease of accessing information such as asset and liability valuations, discount rates and mortality rates across pension plans.<sup>29</sup>

### **Conclusion**

The strategies explained above illustrate ways states may limit the risks associated with pension mismanagement, but states can shed these risks entirely by switching to defined-contribution plans. For the government employee, all costs are realized in the present, taking away the possibility of employers underfunding employee benefits. Employees can control where they invest retirement savings. Rather than leaving retirement investments at the discretion of the political process, defined-contribution plans give employees the flexibility to choose how much they contribute. More importantly, defined-contribution plans allow employees to take retirement savings with them when they change positions, locations, or careers.

### APPENDIX: METHODOLOGY

This year's report features the most recently available data from FY 2017 and FY 2018. Since the previous edition of this report was published, states have improved their reporting of this data. As a result, this report also includes a more complete dataset from FY 2012 through FY 2018 that was not previously available.

Delaware, Indiana, North Carolina and Tennessee provided the most accessible and comprehensive data this year. The necessary information for each of these state pension plans could be found on a user-friendly website with easily accessible actuarial and financial document sections.<sup>30</sup> North Carolina has shown significant improvements in pension data reporting. Massachusetts also linked to its pension plan in the state CAFR — an excellent practice. However, data for some states — such as Alabama — required outreach to the state comptroller to acquire demographic information. This elongated process to acquire financial information (that Alabama is required to make public) is an unnecessary barrier to taxpayers who want to stay informed. It exemplifies how state reporting is critical to transparent and accountable pension policy.

This report uses each plan's actuarial value of assets (AVA) and actuarial accrued liability (AAL) to calculate unfunded liabilities. This report, however, makes several assumptions regarding the structure of state liabilities and the quality of the actuarial assumptions to present a different estimate of each state's liabilities than commonly is found in the state financial reports.

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

Another important aspect highlighted in this report is how the discount rate affects the value of liabilities. Generally, the higher the discount rate, the lower the liability (and vice versa). Also mentioned in Section 2, assuming higher assumed rates of return and discount rates creates perverse incentives for policymakers to overvalue the returns on investment and undervalue liabilities. When this occurs, pension plans become underfunded.

For this 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 2.96%. 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 states 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 in order to recalculate state liabilities under different discount rate.

The risk-free rate is also used in the ALEC *Other Post-Employment Benefit Liabilities* report. Applying the risk-free rate to both pension and OPEB liabilities allows for more accurate cross-state comparisons than simply comparing liability values 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 changes in inflation and mortality rates, for example) the value of those future liabilities can be estimated 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 value today of the amount a pension plan must pay retirees in the future.<sup>31</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 allow more accurate liability comparisons to be made between states.

Discount rates used for pension plans 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.

This 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  $FV = AAL \times (1+i)^{15}$ . The second step is to discount the future value to arrive at the present value of the more reasonably valued liability. That formula is  $PV = FV / (1+i)^{15}$ , in which "i" represents the risk-free discount rate.

This methodology was developed by Bob Williams and Andy Biggs when this report was created by State Budget Solutions, which is now a project of the Center State Fiscal Reform at ALEC. It normalizes the liability values across plans and presents a more prudent valuation of liabilities than many state benefits plans with more rosy assumptions (such as higher discount rates). The inclusion of the fixed discount rate of 4.5%, was added by Thurston Powers in *Unaccountable and Unaffordable, 2018*.<sup>32</sup>

Data quality has improved, which has yielded improvements for utilizing various discount rates for different types of plans (e.g., single employer, cost-sharing multiple employer and agent multiple employer). This reporting, however, is far from perfect, and there is much room for improvement. While some states did make clear distinctions between plan types, others aggregated pension liabilities and did not differentiate between plan types. For example, this year the California CalPERS plan was separated into the PERF A, PERF B, and PERF C plans, each with their own actuarial valuations instead of being aggregated into one CalPERS data entry.

Furthermore, the 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, problem-

atically, states with smaller plans that did not report investment rates of return.

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) ambiguously uses the term “inactive members” in its GASB 68 report but clarifies the figure in its GASB 67 report by parsing the total into retirees currently receiving benefits and inactive members entitled to benefits.

Actuarially recommended contributions (ARCs) and the percentage of actuarially recommended contributions made were collected primarily from pension CAFRs, usually from tables titled “Schedule of Employer Contributions.” Actuarially determined contributions, actuarially recommended contributions, and actuarially determined contributions net of taxes and fees are reported as ARC in this study. Figures were collected from most recent to least recent year, with the aim of selecting actuarially recommended contribution rates that reflect the most recent actuarial assumptions, except in cases where actuarially recommended contribution rates were retroactively replaced with contractually or legislatively required contribution rates.

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## **Appendix 2**

*Keeping the Promise: Getting Politics Out of Pensions*



**KEEPING THE PROMISE:**  
GETTING POLITICS OUT OF PENSIONS



*A*

Center for  
State Fiscal  
Reform

# **A**bout the American Legislative Exchange Council

Keeping the Promise: Getting Politics Out of Pensions was published by the American Legislative Exchange Council (ALEC) as part of its mission to discuss, develop and disseminate model public 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 country. ALEC is governed by a Board of Directors comprised of state legislators. Additionally, 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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# Executive Summary

Pensions are a valuable non-wage benefit that a large majority of state and local governments offer their employees as part of their compensation packages. With approximately \$3.8 trillion in total assets, millions of workers rely on the promises made by governments to provide a secure retirement through a lifelong pension. In order to keep these promises, pension funds should be managed for the exclusive purpose of providing retirement benefits to workers, with pension trustees doing their best to achieve the greatest possible return on investments.

Unfortunately, many lawmakers and pension plan officials have other priorities besides doing what is best for workers. They see the billions of pension fund dollars they manage as an opportunity to advance their own agendas. Rather than investing to earn the best return for workers, they use pension funds in a misguided attempt to boost their local economies, provide kickbacks to their political supporters, reward industries they like, punish those they don't and bully corporations into silence and behaving as they see fit.

As lawmakers and trustees knowingly make inferior investment decisions, sacrificing better returns in order to advance political agendas, pension funding declines, jeopardizing workers' retirement benefits and leaving taxpayers to pick up the tab. This reckless decision to place political agendas ahead of what's best for workers is known as pension fund cronyism, and it is happening every year in pension funds across the country. This report exposes these dishonest practices and shows state and local policymakers what they can do to get politics out of their pensions and focus on keeping the promise to workers and retirees alike.

# Chapter 1

## Background on Public Pension Systems

Before addressing the many forms of pension fund cronyism in detail, some background on the mechanics and current underfunded status of public pensions is necessary. While pension fund cronyism is always detrimental, the alarming and deteriorating state of public pension funds underscores the critical need to get politics out of pensions.

There are three main reasons why most public pension plans are in such trouble. The first relates to the actual funding of the plans. This includes both how the funding required from state and local governments is calculated each year and their commitment to making those payments. The second is related to the structure of the plans themselves, which permits state and local governments to get away with underfunding pension plans for political convenience. The third relates to weak fiduciary standards that enable pension board members and fund managers to use public pension funds to advance political agendas at the expense of securing the best returns on pension investments. An examination of these causes is crucial to understanding the depth and breadth of the problem, and the steps policymakers need to take in order to comprehensively fix public pensions going forward.

### Public Pension Plans in the United States

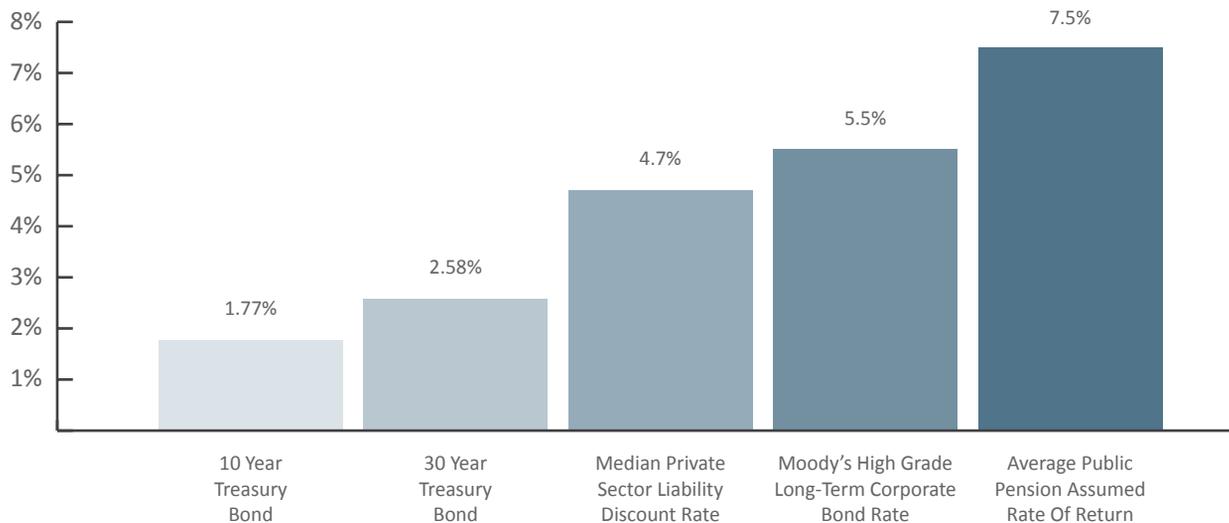
Nearly all state public pension plans operate on what is called a defined-benefit model. In defined-benefit plans, pension systems collect fund contributions from employees, their government employers (such as school districts) and the state or local government itself. The money is then invested on behalf of those participating in the pension system. That fund is then used to pay obligations to retirees. A defined-benefit pension plan guarantees, upon retirement, an employee will receive a specific benefit each period, regardless of market performance or contributions into the system.

While the amount that employees are required to contribute to a defined-benefit pension system is typically set through collective bargaining or other contractual negotiations, and the contribution from government employers is often derived from these negotiations or state law, the amount the state or local government directly contributes is calculated differently. Actuaries calculate the amount the government must contribute to the pension system every year, known as the “annual required contribution” (ARC), based on the number of people in the system, their expected work years, retirement duration and the expected rate of return on the fund’s investments. This last variable, the “discount rate,” has a significant effect on how large a government’s ARC payment will be. As states and cities increase the discount rate, their ARC payments decrease. This is because the higher the investment returns assumed by the plan, the less money the state or local government must contribute through the ARC payment to keep the plan well-funded.

Unfortunately, the vast majority of public pension plans rely on unrealistically high assumptions, often expecting a whopping seven percent or more return — in each and *every year*.<sup>1</sup> This is problematic because most financial experts believe assuming regular returns at these rates is unrealistic. Simply put, the expected return on investment state and local governments use to calculate ARC payments is far too high.

Lowering the expected rate of return on pension investments to a more reasonable level would serve to mitigate financial risks and help improve long-term plan solvency. In fact, these unrealistic assumptions led *The Economist* to declare in 2013 that “States need to wake up. The priority is to make taxpayers aware of the scale of the problem by accounting for it properly, rather than pretending the stock market fairy will magic it away.”<sup>2</sup>

FIGURE 1: COMPARISON OF POPULAR RATES OF RETURN



Source: Bloomberg, The Economist and California Policy Center<sup>3</sup>

What happens when a pension fund fails to achieve its expected rate of return? If market returns on a pension's investments fall below expectations, the state or local government is responsible for making up the difference with additional funding beyond the ARC payment. This usually means the state or municipality must raise taxes, cut the budget or borrow money to cover the pension fund's underperformance. Alternatively, some state and local governments simply decline to make this additional payment, or supply only part of the necessary funds. They opt to "kick the can down the road," leaving the pension system underfunded and with fewer assets to invest, setting the state or local government up to have to make even larger payments to fund pension liabilities in the future.

The failure of state and local governments to make these additional payments, or in many cases, even their baseline ARC payments, is one of the major reasons why public pensions' funded ratios have declined precipitously in the last several years. The assumed investment returns have not materialized and many state and local governments have failed to contribute what is required to maintain funding levels.

Part of the reason investment returns have fallen short is because state and local governments have failed to adequately police their pensions' trustees, both pension board members and pension fund managers. They have not reined in trustees who play politics when it

comes to pension investment decisions. By directing pension funds to inferior investments for their alleged local economic benefit, to reward their supporters or to attack various industries, many trustees have cost their pension systems billions of dollars in foregone returns and have left state and local governments, pensioners and ultimately the taxpayer with the bill.

### Public Pensions Significantly Underfunded

Although rarely in the spotlight, unfunded liabilities in state and municipal public pension systems are among the most significant financial challenges for lawmakers, government workers and taxpayers across the United States. Unlike one-time budget problems that result from natural disasters or a cycle of weak revenue collections, nearly all public pension systems carry long-term financial liabilities that are perpetually increasing as policymakers fail to take action.

The high-profile bankruptcies of Stockton and San Bernardino, California, followed by Detroit, Michigan, have increased public awareness around the issue of unfunded public pension liabilities and helped affirm that these problems will not simply disappear. These examples, along with many others, have highlighted the severe financial risk unfunded public pension liabilities present.

The scale of the unfunded liabilities public pensions now face is shocking. While estimates vary, largely depending on the investment rate of return one assumes, it is generally agreed many public pension funds are heading down the road to major financial problems, and eventually, insolvency. According to the ALEC Center for State Fiscal Reform report, *Unaccountable and Unaffordable 2016*, when a risk-free rate of return is used, the national funded ratio for state pension plans

is a meager 35.1 percent, with almost \$5.6 trillion in unfunded liabilities.<sup>4</sup> That staggering figure is more than 30 percent of the gross domestic product (GDP) of the United States.<sup>5</sup> The Society of Actuaries, in their *Report of the Blue Ribbon Panel on Public Pension Plan Funding*, recommends pension plans utilize a “risk-free” rate of return, like the ALEC report does, since benefits must be paid to retirees regardless of market returns.<sup>6</sup>

TABLE 1: 2016 STATE PENSION UNFUNDED LIABILITIES

STATE	FUNDED RATIO	UNFUNDED LIABILITIES	UNFUNDED LIABILITIES PER CAPITA
Alabama	30.3%	\$74,957,966,779	\$15,427
Alaska	31.4%	\$31,715,653,280	\$42,950
Arizona	31.2%	\$90,710,340,087	\$13,285
Arkansas	36.4%	\$43,976,220,971	\$14,766
California	35.6%	\$956,081,787,553	\$24,424
Colorado	30.3%	\$106,382,900,927	\$19,496
Connecticut	22.8%	\$99,299,024,840	\$27,653
Delaware	44.7%	\$11,262,866,330	\$11,907
Florida	40.5%	\$210,153,896,482	\$10,367
Georgia	38.8%	\$122,645,214,077	\$12,007
Hawaii	29.2%	\$35,136,593,006	\$24,544
Idaho	46.5%	\$16,572,789,476	\$10,014
Illinois	23.8%	\$362,646,966,724	\$28,200
Indiana	34.8%	\$56,748,217,042	\$8,573
Iowa	39.8%	\$46,424,775,242	\$14,861
Kansas	29.9%	\$40,737,986,356	\$13,991
Kentucky	23.4%	\$95,946,947,928	\$21,682
Louisiana	31.3%	\$94,320,807,435	\$20,194
Maine	42.1%	\$17,676,038,583	\$13,297
Maryland	33.1%	\$93,343,409,896	\$15,541
Massachusetts	27.7%	\$126,677,266,263	\$18,644
Michigan	27.5%	\$156,941,092,013	\$15,817
Minnesota	34.5%	\$110,474,025,601	\$20,124
Mississippi	27.9%	\$64,300,123,348	\$21,488
Missouri	36.9%	\$99,369,429,995	\$16,334
Montana	33.6%	\$19,496,700,717	\$18,875
Nebraska	40.3%	\$17,367,830,965	\$9,159
Nevada	32.7%	\$69,697,815,811	\$24,110
New Hampshire	28.0%	\$17,320,649,176	\$13,017
New Jersey	26.9%	\$235,489,469,324	\$26,288
New Mexico	32.1%	\$54,455,339,568	\$26,116
New York	44.9%	\$347,542,971,698	\$17,556
North Carolina	47.9%	\$96,402,637,555	\$9,599
North Dakota	28.9%	\$10,213,597,800	\$13,494
Ohio	34.3%	\$331,420,701,160	\$28,538
Oklahoma	34.9%	\$51,903,613,095	\$13,270
Oregon	36.3%	\$97,781,712,858	\$24,270
Pennsylvania	28.9%	\$211,586,194,586	\$16,527
Rhode Island	29.6%	\$18,636,960,291	\$17,644
South Carolina	30.1%	\$74,095,092,870	\$15,133
South Dakota	47.8%	\$11,286,522,172	\$13,147
Tennessee	47.3%	\$47,826,122,962	\$7,246
Texas	36.9%	\$360,396,676,526	\$13,120
Utah	41.7%	\$37,987,328,775	\$12,680
Vermont	30.4%	\$8,707,979,583	\$13,910
Virginia	37.4%	\$107,648,590,922	\$12,841
Washington	39.9%	\$107,740,838,715	\$15,026
West Virginia	35.5%	\$23,640,020,456	\$12,819
Wisconsin	63.4%	\$52,842,437,646	\$9,156
Wyoming	36.6%	\$13,642,969,825	\$23,277
<b>TOTAL</b>	<b>35.1%</b>	<b>\$5,589,633,115,291</b>	<b>\$17,427</b>

Source: Center for State Fiscal Reform, American Legislative Exchange Council

The magnitude of unfunded liabilities has been increasing for years. In order to turn things around for failing defined-benefit pension systems – that is if policymakers wish to continue with a defined-benefit model – lawmakers must begin setting more reasonable assumed rates of return and commit to making the larger ARC payments this would require. They must also commit to doing everything they can to meet their assumed rates of return. This means eliminating pension fund cronyism by insisting trustees invest solely in the interest of securing the best long-term, risk-adjusted returns and not allowing them to sacrifice portfolio performance in the pursuit of political agendas.

### The Defined-Contribution Alternative

It is worth noting that some states and municipalities have escaped the perils of defined-benefit plans by creating new defined-contribution plans for government workers. A defined-contribution plan sets up a personal account that is owned by the employee and is entirely theirs upon full retirement. The typical defined-contribution plan is very similar to the 401(k) retirement savings accounts that most private sector employees utilize. While defined-contribution plans usually include payments from both the employee and the employer into their account, the employer (state or local government) makes no guarantee on what the eventual payout will be. Most private sector companies have realized the unsustainability of the defined-benefit model and switched to the 401(k) defined-contribution model years ago.

One of the key benefits of public defined-contribution plans is stability for state and local finances. Governments can budget knowing, within a certain predictable range, what contributions they will need to make to employees' retirement accounts. The variation is a result of factors such as provisions to match employee contributions and changes in the number of government workers. These variables are far more predictable than the ups and downs of global markets that determine defined-benefit plans' investment returns, and consequently, the contributions required by state and local governments to keep their pension plans well-funded.

Defined-contribution plans also provide improved accountability for state and local governments. With defined-contribution plans, employees have a legal cause of action if the government fails to make its required

contribution. In addition, they provide greater transparency through personal account statements, wherein an employee may see the value of their pension and whether or not the government is making their proper payments. This stands in stark contrast to defined-benefit plans, where employees, and the taxpayers who are ultimately liable, can only hope state and local governments will faithfully make their "required" contributions to the pension fund.

This cause of action, combined with transparency, serves as an enforcement mechanism that ensures defined-contribution plans will be run as pay-as-you-go systems. So long as state and local governments make their reasonably predictable payments to pensioners' accounts, no unfunded liabilities accrue at all. Defined-contribution plans avoid the risk endemic to defined-benefit plans, where fiscally irresponsible lawmakers can make politically-beneficial promises today, but pass down a mountain of unfunded liabilities to future generations – and future lawmakers.

Finally, defined-contribution plans also have the benefit of essentially eliminating pension fund cronyism. Since employees in defined-contribution plans own their personal retirement accounts, they decide how their money is invested, often by choosing from a set of mutual funds managed by large, professional investment firms. The investment policies of these funds are clearly described in their prospectus and most are solely focused on achieving the greatest return within certain parameters of risk. If an employee chooses to invest in a socially-driven fund, they may do so without risking any other employee's investment returns or exposing the government, and taxpayers, to any additional liability.

While few states have adopted defined-contribution plans, one area of the public sector where defined-contribution systems have taken root is academia. Many higher education faculty and administrative employees currently utilize defined-contribution plans, such as those offered by the financial services company, TIAA. These plans have proven highly successful. In Illinois, a state that is on the verge of having its bond rating reduced to junk level, the TIAA defined-contribution plans have recently enjoyed the highest possible credit rating from all four credit rating agencies.<sup>7</sup>

Keeping promises to current retirees and workers is of paramount concern, but this can best be accomplished by changing public pension plans for future employees. Moving away from a defined-benefit pension system

caps new liabilities that a state or local government is accruing. Once these pension liabilities are capped, the state or city can then begin the process of paying down debts while still providing sustainable retirement assistance to government workers.

### The Importance of Proper Plan Management

Even if reforms are made and public pension systems are put on the path toward long-term financial solvency, there remains the crucial task of ensuring pension systems are managed properly. This means getting politics out of pension policymaking. Switching from a defined-benefit model to a defined-contribution model is one of the most effective ways state and local governments can safeguard pension plans from political manipulation. For those that stop short of a full transition to defined-contribution plans, state and local governments must carefully police state pension systems to protect against cronyism.

This publication explains the many forms of pension fund cronyism and provides academic research and case studies that demonstrate the magnitude of the resulting financial losses. It then discusses several reforms states and cities can make to get politics out of pensions. These reforms include stronger fiduciary standards, increased financial transparency and reforms to pension board composition and governance.

No state is unaffected by the public pension crisis. Unfunded liabilities are mounting and the problems are becoming more difficult to ignore. This is no time for pension trustees to be sacrificing investment returns for politics. State and local officials must examine the

management of their pension funds for cronyism and enact the reforms necessary to stop it. By putting an end to pension fund cronyism, policymakers can help their public pensions begin the process of financial recovery.

### Weak Fiduciary Standards Enable Pension Fund Cronyism

Trustees of both public and private pension funds must adhere to fiduciary standards that require prudent management of pension funds. In the private sector, pension plans must conform to the strict fiduciary responsibilities outlined in the Employee Retirement Income Security Act of 1974, better known as ERISA. However, public plans are not subject to ERISA. Instead, public pension trustees derive their fiduciary responsibilities from multiple sources, including state constitutions, statutes, judicial opinions and pension board by-laws. These fiduciary responsibilities vary considerably from state to state and tend to be far less rigorous than what ERISA requires of private-sector trustees.<sup>8</sup> It is these weak fiduciary standards governing public pension trustees that have enabled pension fund cronyism to become widespread in America today.

Perhaps the most important fiduciary provision governing public pension trustees is the prudence standard, the level of care a fiduciary must demonstrate as they manage the pension fund. Most states have adopted a “prudent person” standard, while others have adopted a “prudent investor” standard.<sup>9</sup> The specific language adopted by states varies, but generally the former requires the prudence exercised by an ordinary citizen investing in his own account, while the



For additional information regarding the many benefits of adopting a defined-contribution pension model, the authors recommend the ALEC publication, *Keeping the Promise: State Solutions for Government Pension Reform*. In the study, former Utah Senator Dan Liljenquist lays out many possible solutions for the structural problems facing state pension systems. At its core, however, any solution must honor the promises that have already been made to current retirees and employees; changes should only apply to future employees, with an option for current employees to enter the new system voluntarily.

Download your free copy at <https://www.alec.org/publication/keeping-the-promise-state-solutions-for-government-pension-reform/>

TABLE 2: STATE OVERVIEW OF SELECT FIDUCIARY PROVISIONS

FIDUCIARY ELEMENT	STATES ADOPTING
Prudence requirement	50
Exclusive purpose of providing benefits	27
Solely in the interest of participants	26
Reasonable administrative expenses	22
Diversification of investments	27
Economically targeted investments, first prudent	8

Source: The Pew Charitable Trusts

latter requires the prudence exercised by an investment professional.<sup>10</sup> The prudent investor standard is tougher and expects a greater level of prudence from the fiduciary when making plan investment and management decisions. Considering the number of workers relying on their investment decisions and the interest of all taxpayers in seeing their money wisely managed, states should adopt the prudent investor standard for public pension trustees to offer workers, retirees and taxpayers the most protection.

Fiduciaries are also subject to other provisions. Examples include the duty to act in the sole interest of plan participants, diversify the investment portfolio and incur only reasonable administrative expenses. States should enact these additional requirements as each of these provisions strengthens a state's fiduciary standards. When adopted, each should be written in a way that leaves no doubt about what is expected of a trustee as they invest and manage the fund.

The Pew Charitable Trusts recently surveyed states' fiduciary provisions, comparing them to the Uniform Law Commission's Uniform Management of Public Employee Retirement Systems Act (UMPERSA). UMPERSA is a model law that seeks to modernize, clarify and make uniform the rules governing the investment and management of public retirement systems' assets. It contains several model fiduciary provisions that may improve a state's existing fiduciary provisions for pension trustees.

Pew's research included six of the most important fiduciary provisions for pension trustees. The table shows how many states have statutorily-codified fiduciary provisions for pension trustees that meet UMPERSA's standards.<sup>11</sup>

Strong fiduciary standards are important because when fiduciary standards are weak, trustees have latitude to engage in pension fund cronyism. In effect, they are put on a "long leash," permitted to invest in local pet projects, reward supporters with pension fund investments and pursue political agendas by investing in industries they like and divesting from those they don't, regardless of losses to fund performance. On the other hand, when fiduciary standards are strong, trustees have clear and specific directions to control them. They are put on a "short leash," required to invest in a manner that secures the best returns for plan participants. Similar to the Uniform Law Commission's UMPERSA, The ALEC Task Force on Tax and Fiscal Policy has developed its own recommendations to strengthen states' fiduciary provisions for public pension funds in its Retirement System Board of Trustees and Employees Prudent Investor Act.<sup>12</sup> More information on this key model policy can be found in Appendix B.

Finally, accountability mechanisms should be established by states to ensure compliance with fiduciary responsibilities. First, states should require transparency in financial reporting for public pension plans that allows lawmakers, pensions boards and average citizens to see all plan investments and evaluate their performance. In addition, states should reform pension boards to serve as better watchdogs of pension funds. Research suggests certain types of pension board members are more likely to overweight local investment and provide political kickbacks.<sup>13</sup> Therefore, states should consider reforming the composition of pension boards and adopt board procedures to eliminate opportunities for cronyism. These transparency and pension board reforms will help to hold board members accountable.

## Chapter 2

# Economically Targeted Investments

Economically targeted investments (ETIs) are local investments “that have been selected for their economic or social benefits in addition to the investment return to the employee benefit plan.”<sup>14</sup> ETIs are a type of cronyism because they favor local investments over broad-based investing, even if it produces inferior returns. They seek to serve government-defined economic and social goals at the expense of pension fund performance. ETIs may be pursued by individual fund managers or pension boards who support them, acting under weak fiduciary standards that permit them to do so, or endorsed by state and local governments as official policy for pension investments. It is worth noting that some of the states that permit ETIs have specific limits on the percentage of the total portfolio that can be invested in ETIs, indicating recognition of the harm they do to pension performance.<sup>15</sup>

To be clear, not all local investments are ETIs. If a public pension fund, looking at the entire universe of investment options determines a given investment offers the best risk-adjusted return ratio, and that investment happens to be local, this is not an ETI, and is an appropriate investment. However, given the relatively small percentage of global investment opportunities that exist within any particular state or municipality, local investments should make up a very small percentage of a pension fund’s total portfolio if a fund manager is acting solely in the interest of securing the best possible long-term, risk-adjusted returns. Unfortunately, when fund managers, pension boards and governments consistently favor local investments, pension returns suffer, and taxpayers must pay the bill.

### ETIs Lead to Significant Lost Returns

The theory behind ETIs is that pension funds should favor local investments, even at the cost of investment returns, because doing so will allegedly help the local

economy thrive or provide some social benefit. Governments and local initiatives that subscribe to this theory often pressure pension funds to try to stimulate local economic development or pursue social goals by financing major projects with pension fund investments – projects they may not wish to fund with taxpayer dollars. Since trustees have little to lose if the fiduciary standards governing them permit or encourage ETIs, most of the risk is squarely upon pensioners, whose retirement benefits are put at risk, and taxpayers, who may have to ultimately make up the loss of returns caused by inferior investments.

While some may believe this is an acceptable trade-off, the loss of investment returns can be dramatic. Research indicates that ETIs consistently underperform broad-based investments. Regression analysis of the effects of various types of investments on pension fund performance has found underperformance is especially significant among two common forms of ETIs, local real estate and venture capital investments. Local real estate investments are predicted to deliver returns 7.90 percentage points lower compared to real estate investments generally. Local investments in venture capital are predicted to deliver returns 3.55 percentage points lower relative to venture capital investments generally.<sup>16</sup> These are significant losses for any pension fund to sustain and are only compounded over time as any foregone returns in the present could be reinvested to gain further returns down the road.

Another study utilizing regression analysis to evaluate the performance of ETIs was conducted by Yale Professor Roberta Romano. She found, “Even when such investments have not been a total loss, they have often significantly underperformed alternative projects with far less risk. Accordingly, such investments do not meet prudential fiduciary standards.”<sup>17</sup> The study cites some specific examples which highlight the failure of these investments. One such instance was the loss of more than \$100 million after Kansas’ pension fund invested

heavily in local businesses, including a steel mill that shut down and a savings and loan corporation that failed. Another example cited in the study was a GAO evaluation of five local housing investments undertaken by public pension funds that found each of those projects' returns were "either lower than comparable benchmarks, or the GAO could not determine the project's risk level."<sup>18</sup>

This significant underperformance in ETIs means the more pension funds invest in ETIs, the lower their returns are likely to be, making it less likely these funds will meet their assumed rate of return. State and local governments put their pensioners and taxpayers at risk by trying to spur the local economy or pursue social goals at the expense of pension investment returns.

### Alabama Bets Big on ETIs

To further examine the effects ETIs can have on public pension funds, the case study of Alabama is instructive, since the state may have the highest allocation of ETIs in the nation.<sup>19</sup> The Retirement Systems of Alabama (RSA) manages a variety of local and state funds, including three statewide government defined-benefit pension plans: The Teachers' Retirement System (TRS),

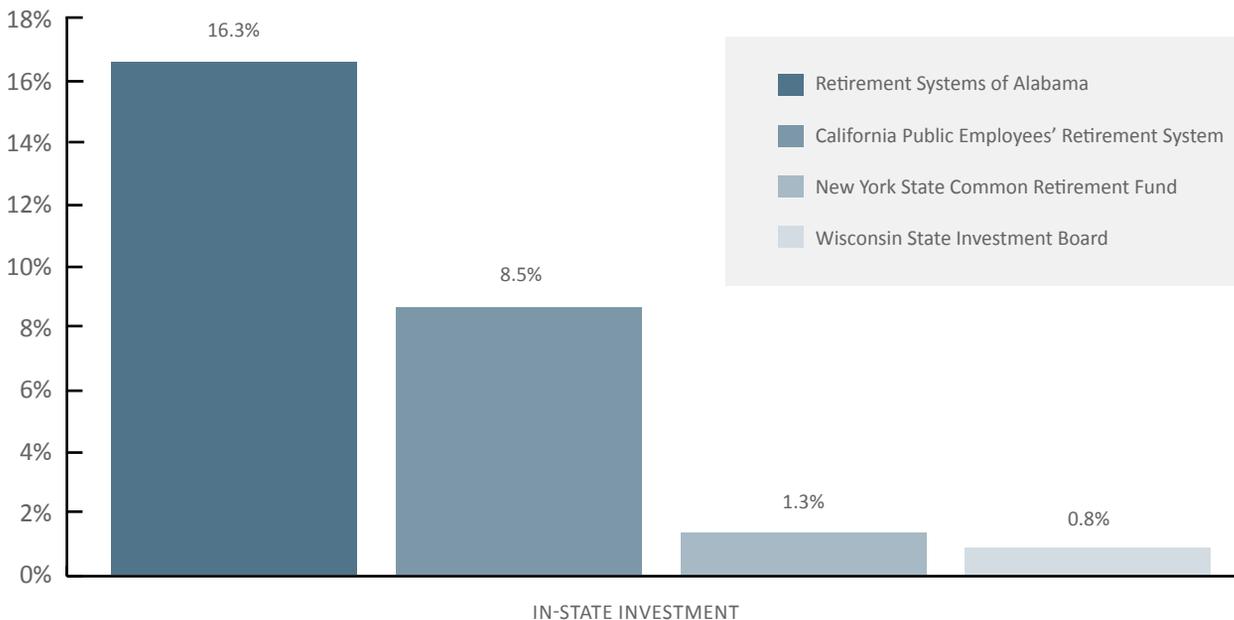
the Employees' Retirement System (ERS) and the Judicial Retirement Fund (JRF).<sup>20</sup>

All of these plans face fiscal challenges. This appears to be due in part to the RSA's policy of allocating a significant share of its portfolio to ETIs and the dramatically inferior returns these investments tend to generate compared to other investments. This investment practice has continued for many years, in part, due to Alabama's weak fiduciary standards for public pension trustees, combined with RSA's lack of financial transparency and poor oversight from RSA's pension boards.<sup>21</sup>

### Overview of Alabama's ETIs

According to The Pew Charitable Trusts, Alabama has "arguably the largest ETI allocation in the country."<sup>22</sup> At the end of fiscal year 2014, an estimated 11.5 percent of the RSA portfolio was invested in private equity or private placement investments with Alabama headquartered businesses, while 4.8 percent of RSA's portfolio was invested in Alabama real estate.<sup>23</sup> Together, this represented approximately 16 percent of RSA's total portfolio being invested in in-state interests. Since almost all in-state investments are ETIs, in-state investments can be used as a proxy for measuring ETIs.

FIGURE 2: 2014 IN-STATE INVESTMENT AS PERCENT OF TOTAL INVESTMENT



Source: The Pew Charitable Trusts; State Street Investment Analytics Summary of Performance ending September 30, 2014, as provided by RSA; CalPERS for California Annual Report 2014; Investing in New York State, September 2014; and State of Wisconsin Investment Board

Figure 2 demonstrates the dramatic disparity between Alabama’s in-state pension investments and those of other states. State pension programs with public data available on their ETIs include the California Public Employees’ Retirement System (CalPERS), New York State Common Retirement Fund and Wisconsin State Investment Board. Although CalPERS also has significant in-state investment at 8.5 percent of assets, Pew notes that the large amount of in-state investments for CalPERS are “driven by the size and volume of business activity in the state.”<sup>24</sup>

### Poor Performance of ETIs in Alabama

RSA’s ETIs are concerning, due to their large volume and poor performance. RSA publishes limited information regarding the performance of its ETIs. However, what is available indicates RSA’s ETIs have not performed well and are a major contributor to the state’s pension funds significantly underperforming the national average return for similar funds over the last 10 and 20-year time horizons. Table 3 shows how RSA’s portfolio has performed compared to the State Street and Wilshire Trust Universe Comparison Service’s (TUCS) medians. Both are considered industry benchmarks for the performance of pension assets. RSA’s investment underperformance is part of the reason the funding level of the state’s pensions has been on the decline.

**TABLE 3: TEN-YEAR AND TWENTY-YEAR RETURNS AS OF SEPTEMBER 30, 2014**

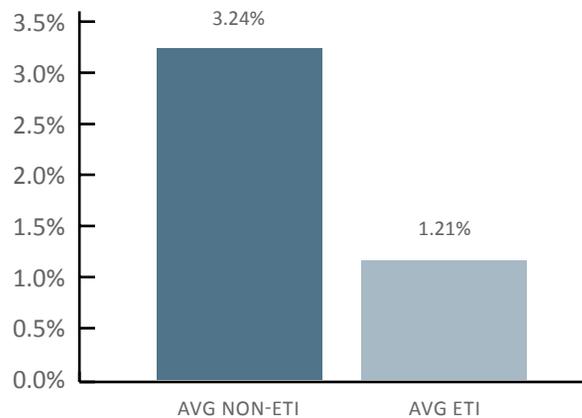
	10-YEAR GROSS OF FEES	20-YEAR GROSS OF FEES
TRS	6.43%	7.51%
ERS	6.15%	7.32%
TOTAL RSA	6.32%	7.43%
STATE STREET MEDIAN	7.28%	
TUCS MEDIAN	7.35%	8.48%
STATE STREET 75TH PERCENTILE (BOTTOM QUARTILE)	6.71%	
TUCS 75TH PERCENTILE (BOTTOM QUARTILE)	6.87%	8.06%

Source: The Pew Charitable Trusts; State Street Investment Analytics Summary of Performance ending September 30, 2014, as provided by RSA; Wilshire TUCS

### ETIs Weigh Down RSA Investment Returns

RSA financial documents for the year ending September 30, 2014, the only year where public data is currently available for individual asset performance, show that Alabama’s ETIs have significantly underperformed their non-ETI counterparts. Unfortunately, RSA does not provide any longer-term performance data for these individual assets. Still, comparing the performance of ETIs with non-ETIs demonstrates their dramatic difference in performance and suggests ETI returns are unlikely to match non-ETI returns in the long term.

**FIGURE 3: ALABAMA ETI VS. NON-ETI ONE-YEAR PERFORMANCE, YEAR ENDING SEPTEMBER 30, 2014**



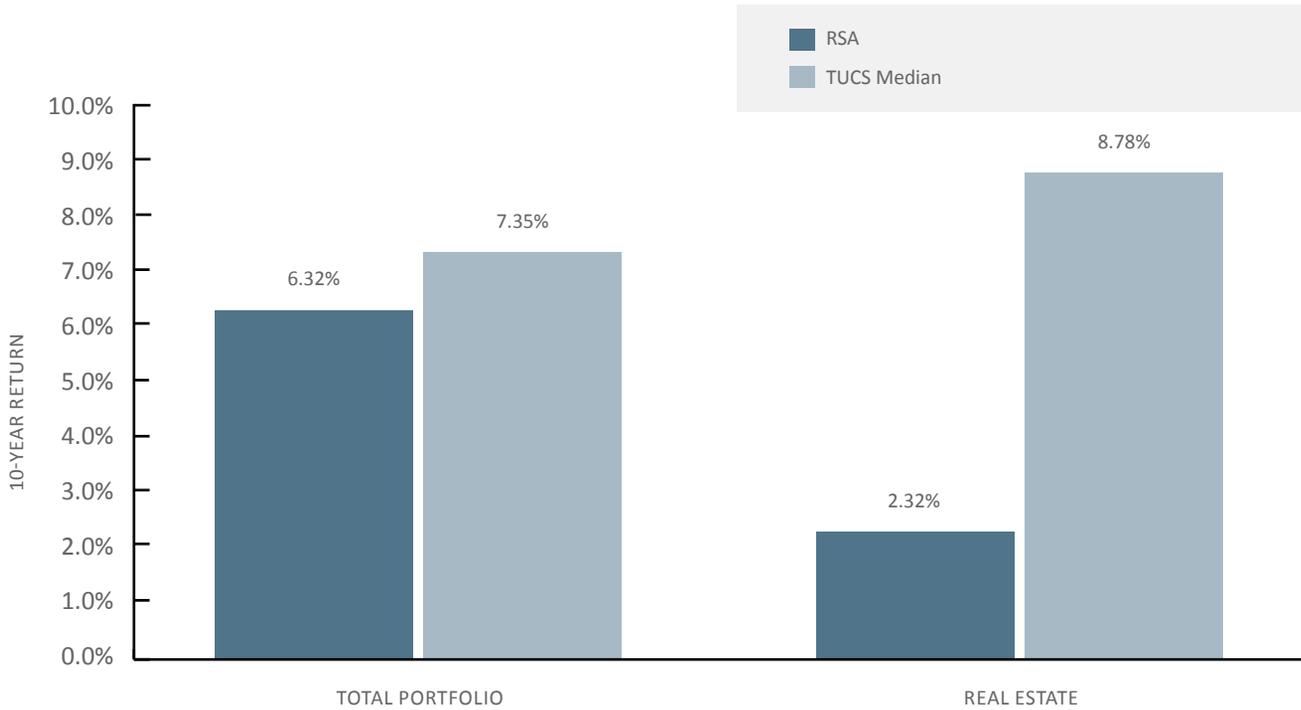
Source: Authors’ calculations, based on RSA data for preferred and private equity, private placements and real estate

As Figure 3 demonstrates, Alabama’s ETIs returned 1.21 percent for the year ending September 30th, 2014, while their non-ETIs returned 3.24 percent. In other words, RSA’s ETIs returned less than half of what their non-ETI counterparts returned. While it is only one year’s performance, the dramatic difference in returns indicates just how much RSA is losing by investing in ETIs.

### RSA’s Real Estate Investments: A Key Contributor to Poor Performance

While many factors influence RSA’s poor performance, RSA’s local real estate portfolio is a key contributor. About half of RSA’s total real estate portfolio consists of in-state properties. A recent news article from an

FIGURE 4: 10-YEAR PERFORMANCE GROSS OF FEES, YEAR ENDING SEPTEMBER 30, 2014



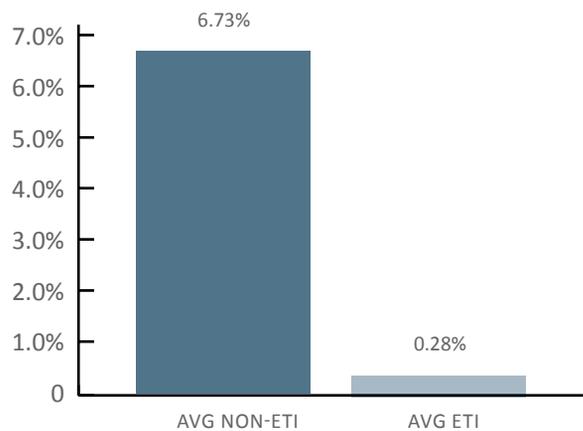
Source: The Pew Charitable Trusts; State Street Investment Analytics Summary of Performance ending September 30, 2014, as provided by RSA; Wilshire TUCS

Alabama investigative reporter citing data from September 2014 for ERS and TRS indicates that RSA’s Alabama real estate properties performed well below the RSA’s targeted eight percent rate of return over the past three years.<sup>25</sup>

Figure 4 illustrates the poor performance of RSA’s real estate investments and how they have affected total portfolio performance.<sup>26</sup> The figure compares RSA’s 10-year performance, gross of fees, with the TUCS median. While the 10-year TUCS median for real estate was 8.78 percent, RSA’s real estate investments only achieved a disappointing 2.32 percent rate of return.<sup>27</sup>

While these are disappointing returns for RSA’s total real estate portfolio, the 10-year performance for RSA’s local real estate alone may be far worse. The overall real estate portfolio is buoyed by strong returns from a New York City office building RSA invests in.<sup>28</sup> This single property makes up about half of RSA’s total real estate portfolio. Comparing the in-state (ETI) to out-of-state (non-ETI) real estate returns for the past year, the only time horizon for individual asset returns RSA provides, shows how poorly RSA’s local real estate investments have fared.

FIGURE 5: ALABAMA ETI REAL ESTATE VS. NON-ETI REAL ESTATE ONE-YEAR PERFORMANCE, YEAR ENDING SEPTEMBER 30, 2014



Source: Authors’ calculations, based on RSA real estate data

RSA’s non-ETI real estate, which appears to consist solely of the New York property, returned a reasonable 6.73 percent, while RSA’s ETI real estate, consisting of

multiple local investments, returned a dismal 0.28 percent. This means that for the year ending September 30, 2014, RSA's non-ETI real estate provided a return more than 24 times greater than RSA's ETI real estate.

RSA's poor real estate performance contrasts with the expectations set by Alabama Finance Director Bill Newton. According to Newton, meeting the target eight percent rate of return is, "the most important function of our investing approach. Everything else is not as important."<sup>29</sup> When RSA investments, such as real estate, fail to meet their own investment benchmarks, the financial wellbeing of retirees is on the line. As Dr. Henry Mabry, former Executive Secretary of the Alabama Education Association, explained:

*"The facts point to losses caused by alternative investments such as real estate. Over the past five years, almost \$700 million have gone down a rat hole thanks to these 'investments.' To put it in perspective, \$700 million is more than twice what is spent on school transportation for the whole state or over 12,000 teacher units a year...Economic development of the state is great and wonderful, but economic development at the expense of active and retired TRS members does not pass muster."<sup>30</sup>*

### RSA's Other ETIs Lead to Significant Losses

Not only has RSA's ETI real estate performed poorly, but RSA's other risky ETIs have put workers, retirees and taxpayers at risk. One example of a less than prudent ETI is the troubled firm Signal International. The Alabama-based oil repair and shipbuilding firm engaged in labor trafficking in 2006. The company enticed Indian guest workers to come to the United States to repair oil rigs, promising them they could receive green cards. In reality, workers had to pay \$1,050 per month to live in guarded labor camps.<sup>31</sup>

In 2008, RSA started investing in Signal, eventually owning up to 47 percent of the troubled company.<sup>32</sup> According to September 2014 data, both ERS and TRS invested \$21 million in Signal, but these investments suffered a loss of 11 percent over the past three years.<sup>33</sup> Regardless of the poor rate of return, ERS subsequently loaned Signal \$24 million and TRS loaned Signal \$49 million.<sup>34</sup>

In 2015, Signal agreed to pay \$20 million to settle lawsuits over labor trafficking that occurred in 2006. Bradley Myles, chief executive of the anti-human trafficking nonprofit, the Polaris Project, called the Signal lawsuits "one of the largest cases of labor trafficking in modern times."<sup>35</sup> Shortly after settling the lawsuits, Signal filed for Chapter 11 bankruptcy. According to the bankruptcy filing, Signal had, at that time, more than \$100 million in debt and less than \$50 million in assets.<sup>36</sup> In November of 2015, RSA purchased the bankrupt company for an estimated \$90 million.<sup>37</sup> RSA used the assets to start a new company, called World Marine.<sup>38</sup>

In another case, RSA lost millions of dollars in a deal with National Alabama, a subsidiary of National Steel Car. In 2007, RSA loaned \$350 million to National Steel Car in a deal with its Chairman and CEO, Gregory Aziz. Aziz promised to build a railcar manufacturing facility in the state that would employ more than 1,800 Alabama citizens.<sup>39</sup> Instead, the results were quite different, as a Business Alabama article explains:

*"Just before the recession hit in 2007, National Alabama — subsidiary of a Canadian rail car maker — built the plant to make rail cars for the U.S. freight market. When the bust came, those who helped finance the plant in support of jobs for the Shoals — chiefly the Retirement Systems of Alabama — were left with a plant instead of their expected return on investment."<sup>40</sup>*

Under Aziz, employment at the manufacturing facility never reached even 200 employees.<sup>41</sup> Furthermore, Aziz later claimed that he would need an additional estimated \$400 million to complete the facility.<sup>42</sup> RSA went on to spend another \$215 million to complete the project and took ownership of 100 percent of the stock in the facility from Aziz. The Alabama Securities Commission charged Aziz with 11 counts of securities fraud and arrested him.<sup>43</sup> Eventually the commission dropped the charges after Aziz agreed to pay RSA back \$21 million. Currently, RSA owns the property, with an estimated 1,150 citizens working at the facility.<sup>44</sup>

### Alabama's Weak Fiduciary Standards Enable ETIs

Alabama's weak fiduciary standards are one of the main reasons RSA has been able to dedicate such a

**TABLE 4: COMPARISON OF ALABAMA FIDUCIARY PROVISIONS WITH UMPERSA FIDUCIARY PROVISIONS**

FIDUCIARY ELEMENT	STATES ADOPTING	ALABAMA STATUS
Prudence requirement	50	Yes
Exclusive purpose of providing benefits	27	Yes
Solely in the interest of participants	26	No
Reasonable administrative expenses	22	No
Diversification of investments	27	No
Economically targeted investments, first prudent	8	No

*Source: The Pew Charitable Trusts*

large percentage of its portfolio to ETIs over the years. The Pew Charitable Trusts recently reviewed Alabama’s fiduciary provisions and compared them to the fiduciary provisions recommended in the aforementioned Uniform Law Commission’s Uniform Management of Public Employee Retirement Systems Act (UMPERSA). Pew compared Alabama’s fiduciary provisions for pension trustees to six of the most relevant fiduciary provisions contained in UMPERSA. As the table shows, they found only two of Alabama’s statutorily-codified fiduciary provisions meet the standards set by UMPERSA.<sup>45</sup>

While Alabama has adopted a prudence requirement, it is the weaker prudent person standard as opposed to the stronger prudent investor standard, subjecting the investment decisions of the state’s pension trustees to less scrutiny. To its credit, Alabama’s Constitution requires that RSA funds are held for the “exclusive purpose of providing benefits.” However, this has not stopped RSA’s pension boards from investing in ETIs, the purpose of which is not exclusively to provide retirement benefits, but instead to encourage economic development and pursue social goals.

Regarding the management of pension funds for the sole interest of plan participants, Alabama has some Constitutional and statutory language requiring pension funds are held “as in trust” and the Secretary-Treasurer is required to invest in the best interest of the funds. In addition, the Alabama Supreme Court has ruled the trust must be held “solely in the interest of the beneficiaries.” However, Pew research indicates that this provision is not explicit within Alabama statute and the state’s Supreme Court has not rigorously enforced this fiduciary provision found in its ruling.

Furthermore, language requiring the Secretary-Treasurer to invest in the fund’s best interest is ambiguous and has not stopped extensive investment in ETIs.

When it comes to administrative expenses, Alabama’s Constitution provides pension funds may be used only for benefits, refunds and expenses that are “diligently and honestly” deemed to be “current and necessary.” This vague language falls short of UMPERSA’s standards in regards to reasonable administrative expenses.

The state has some statutory requirements for a diversified portfolio and RSA investment policies call for this as well. However, Pew research indicates Alabama’s statutory requirements do not meet UMPERSA’s standards for diversification, and to the extent RSA’s own investment policies do, these are not properly codified in state statute.

Particularly relevant for Alabama, the state has not adopted UMPERSA’s standard for economically targeted investments. This standard allows fiduciaries to consider collateral benefits created by an investment in addition to the investment’s returns only if the trustee determines the investment providing these benefits would be prudent even without the collateral benefits. The state has no specific statutory language regarding ETIs, and RSA investment policies only mandate that ETIs have comparable returns to similar investments. While this language may seem reasonable, RSA is responsible for adhering to its own investment policies and, as has been demonstrated, the underperformance of ETIs has not stopped RSA from continuing to invest heavily in them.

## Opaque Pension Reporting Conceals Performance of RSA's ETIs

Obtaining the full picture of RSA's ETIs is difficult, due to the lack of detailed reporting and transparency. RSA does not report individual asset returns for all of its investments, and provides only one year of returns for those they do. The fact that none of RSA's financial documents report ETIs as a distinct category and give their cumulative performance means the only way to get a picture of how ETIs have fared in RSA's portfolio is to piece together the limited reporting on individual investment returns across multiple categories, isolating the Alabama-based investments and aggregating their performance. While comparisons of ETI and non-ETI performance are possible, reporting ETIs as a distinct category would allow easier comparisons of their performance with the rest of the portfolio.

RSA could also improve its transparency by reporting longer time horizons for investment returns. This goes for both individual assets and asset classes. While RSA only reports one year returns for individual assets, RSA typically reports time horizons for asset classes between one month and 10 years. Reporting performance over longer time horizons for both would align with the long-term nature of pension liabilities and allow for greater perspective of how various investments have performed over the years. This would also allow more comprehensive comparisons between ETI and non-ETI performance. The fact that RSA provides only one year returns for individual assets may indicate a deliberate effort to obscure the long-term underperformance of ETIs in the portfolio.

RSA's lackluster pension reporting was noted by a recent Mercatus Center study, *Alabama at the Crossroads: An Economic Guide to a Fiscally Sustainable Future*, which explains,

*"There is a stark difference between investment reports from private companies, such as TIAA-CREF, and those coming from the RSA. In addition, little information is provided to the public on the performance of the RSA's private placement portfolio year to year or on the types of investments undertaken."*<sup>46</sup>

Even with public information requests, the RSA has not been transparent. Since RSA comprehensive annual financial reports (CAFRs) state that more information is available to the public upon request, researchers from the Mercatus Center at George Mason University reached out to RSA on September 8th, 2015 and requested information. When RSA did not respond, the Mercatus Center then filed a formal Alabama Public Records Request on November 9th, 2015.<sup>47</sup> As of the time of this publication, RSA has still not responded.

## Alabama's Poor Pension Board Composition and Governance Enables ETIs

Cronyism within the RSA may be due to its poor pension board composition. The RSA's two Boards of Control lack diversity in their representation and primarily consist of plan participants. Furthermore, board members are not statutorily required to have any financial expertise. The TRS Board of Control consists of three ex-officio members and 12 elected plan participants, including 10 current employees and two retired employees.<sup>48</sup> The ERS/JRF Board of Control consists of four ex-officio members and nine plan participants, including three appointees from the governor and six elected plan participants.<sup>49</sup> Notably, unlike many other states' pension boards, Alabama's Boards of Control have no public representatives.<sup>50</sup>

Some may believe this does not represent a problem. After all, shouldn't plan participants, whose own retirement is tied to the pension plan, want to see the highest investment return possible to provide for a better funded pension? Unfortunately, evidence indicates board members, including plan participants, often have other priorities. Statistical analysis of pension investments indicates plan participant representatives tend to overinvest in local investments as a share of their total portfolio, despite their tendency to underperform.

According to a recent Hoover Institution study, a 10 percentage point increase in the proportion of participant-elected board members leads to a 1.34 percentage point higher predicted allocation to in-state investments. Further, a 10 percentage point increase in the proportion of state-appointed board members leads to a 2.48 percentage point higher predicted allocation to in-state investments. Lastly, a 10 percentage point increase in the proportion of state ex-officio board

**TABLE 5: ALABAMA PENSION BOARDS' COMPOSITION COMPARED TO THE AVERAGE PENSION BOARD**

	TOTAL NUMBER OF BOARD MEMBERS	SHARE OF BOARD THAT IS			
		EX OFFICIO	APPOINTED	MEMBER ELECTED	PUBLIC REPRESENTATIVE
ERS	13	31%	23%	46%	0%
TRS	15	20%	0%	80%	0%
AVERAGE PLAN	9.1	17%	20%	35%	28%

Source: *The Pew Charitable Trusts; Andonov, Bauer, Cremers, Pension Fund Asset Allocation and Liability Discount Rates, June 2015*

members leads to a 1.31 percentage point higher predicted allocation to in-state investments. This analysis also finds that in-state overweighting by participant-elected, state-appointed and state ex-officio board members is even stronger for real estate and venture capital investments.<sup>51</sup>

So why would these types of board members support so much local investment, given the poor returns, relative to other investments? One possible explanation could be they lack the financial expertise or information necessary to appreciate the negative effect these investments have on overall pension fund performance. As previously discussed, states like Alabama do not report the performance of in-state investments as a distinct category, making it difficult to isolate exactly how these investments perform relative to the rest of the portfolio. Another possible explanation is that these types of board members are motivated to invest pension dollars in local businesses and other interests that have supported them. Yet another explanation may be that some board members are politically motivated to invest in local projects that promise to create jobs and generate economic growth for which the board member can take credit.

Whatever their motivations are, the Alabama Boards of Control have continued to permit a large share of the state's pension funds to go to ETIs. The boards have elected Dr. David Bronner Secretary-Treasurer for the past four decades and granted him essentially unchecked authority over all investment decisions, power he has used to direct a dramatic share of pension funds to ETIs.

While all members of the Boards of Control serve as trustees, the Secretary-Treasurer submits formal recommendations on pension investments.<sup>52</sup> These recommendations need not be approved by the full board. Instead, a three person Investment Committee, elected by and composed of board members in each Board of Control, reviews all investment recommendations made by the Secretary-Treasurer.<sup>53</sup> In order for a proposal to move forward, the Secretary-Treasurer only needs approval from two of the three Investment Committee members.<sup>54</sup> Worse still, for years Bronner cast two of the three Investment Committee votes needed to approve his own investment recommendations.<sup>55</sup> This was done through proxy voting, where at least two Investment Committee members delegated their vote to Bronner.

After years of unchecked authority, the ERS/JRF Board of Control voted in 2013 to stop the proxy vote practice by requiring Investment Committee members to personally sign off on every investment recommendation from Bronner.<sup>56</sup> However, the board still relies on the Investment Committee to approve all investment recommendations. It is unclear if the TRS Board of Control permits proxy voting.

Repeated investment decisions that failed to pay off have led to increased scrutiny by state officials. Nonetheless, Bronner has remained Secretary-Treasurer for nearly half a century. Bronner himself attributes his survival to favorable board composition as reported in a recent *Governing* magazine article:

*“80 percent of the board members for the teacher’s fund are elected by participants in the system. As long as Bronner keeps retirees and current workers happy, elected officials have limited options for telling him what to do. When asked why he’s never been fired with so many people after him, Bronner is frank: ‘Because,’ he says, ‘I’d snuggle up to the teacher board. [Otherwise], the politicians would have nailed me decades ago.’”<sup>57</sup>*

### The Results of Alabama’s Pension Investment Model

Economically targeted investments have negatively impacted Alabama’s pension fund performance. For several years, the RSA has had a target of eight percent rate of return for ERS, TRS and JRF. However, according to the RSA’s CAFR for the period ending September 30, 2015, ERS only achieved a 5.43 percent rate of return, TRS, 5.41 percent, and JRF, 5.47 percent over the past decade.<sup>58</sup>

These lower than expected returns have led to a precipitous decline in the plans’ funded ratios. According to official RSA accounting, based on RSA’s assumed rate of investment return, from 1997 to 2014, the ERS plan has declined from 111 percent funded to 63 percent funded. Meanwhile, the TRS plan has plummeted from 105 percent to 68 percent.<sup>59</sup> Together, these plans represent \$15 billion in unfunded liabilities, assuming RSA manages to meet its high predicted rate of investment return every year.

However, most financial professionals believe such high assumed rates of return are unlikely to be realized in the coming years. The ALEC Center for State Fiscal Reform study, *Unaccountable and Unaffordable 2016*, examines state pensions through the lens of a risk-free rate of return, as is recommended by the Society of Actuaries’ Blue Ribbon Panel. When Alabama’s pensions are examined through this more realistic valuation, the pension funding gap is much larger than reported in official state documents. In fact, Alabama’s pensions are merely 30 percent funded, while the state’s unfunded pension liabilities total an estimated \$75 billion.<sup>60</sup> For comparison, the state only collects an estimated \$10 billion per year in taxes.<sup>61</sup> Divided evenly among all citizens, the price tag for Alabama’s unfunded liabilities is \$15,427 for every man, woman and child in the state.

### ETIs Put Workers and Taxpayers at Risk

As the Alabama case study demonstrates, ETIs lead to lower returns for a state’s overall portfolio and put pensioners and taxpayers at risk. States should invest pension funds with the sole purpose of maximizing returns, rather than pursuing state economic and social benefits at the expense of worker’s retirement security. By adopting reforms to strengthen fiduciary responsibilities, enhance transparency and improve pension board diversity and management, lawmakers can keep their pension promises to retirees and workers without the need for difficult budget cuts or economically damaging tax increases.

## Solutions for Fighting ETI Cronyism

- Trustees should manage the pension fund for the exclusive purpose of providing pension and other post-employment benefits to plan participants and beneficiaries. Other post-employment benefits should be defined to include healthcare and other benefits outlined in the pension plan and not the limited, tangential benefits local economic development and social projects may provide.
- 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.
- All investments, whether in-state or out-of-state, should be evaluated equally, being held to the same risk-return standards, without favoritism for local investments. States should not use pension investment funds to make in-state investments in a misguided attempt to give special preference to certain companies or industries based on political agendas.
- States and municipalities should dispense with any statutory language encouraging or permitting economically targeted investments which invariably reduce pension fund returns and increase investment risk.
- Reporting of investments should be done separately by asset class and by individual assets so it can be easily determined how investments are performing and increase accountability for fund managers.<sup>62</sup>
- Pensions should report the fund's overall performance, asset class performance and individual asset performance over a 20 or more-year time horizon to show how assets have performed over time and allow stakeholders to see how actual performance has compared with the assumed rate of return.<sup>63</sup>
- Pension boards should be diversified to provide representation for all stakeholders, including taxpayers. This will prevent any special interest group from gaining too much power on the board and using pension funds to overweight local investments.
- Pension boards should have a certain number of seats dedicated to independent financial professionals that serve as public representatives.

## Chapter 3

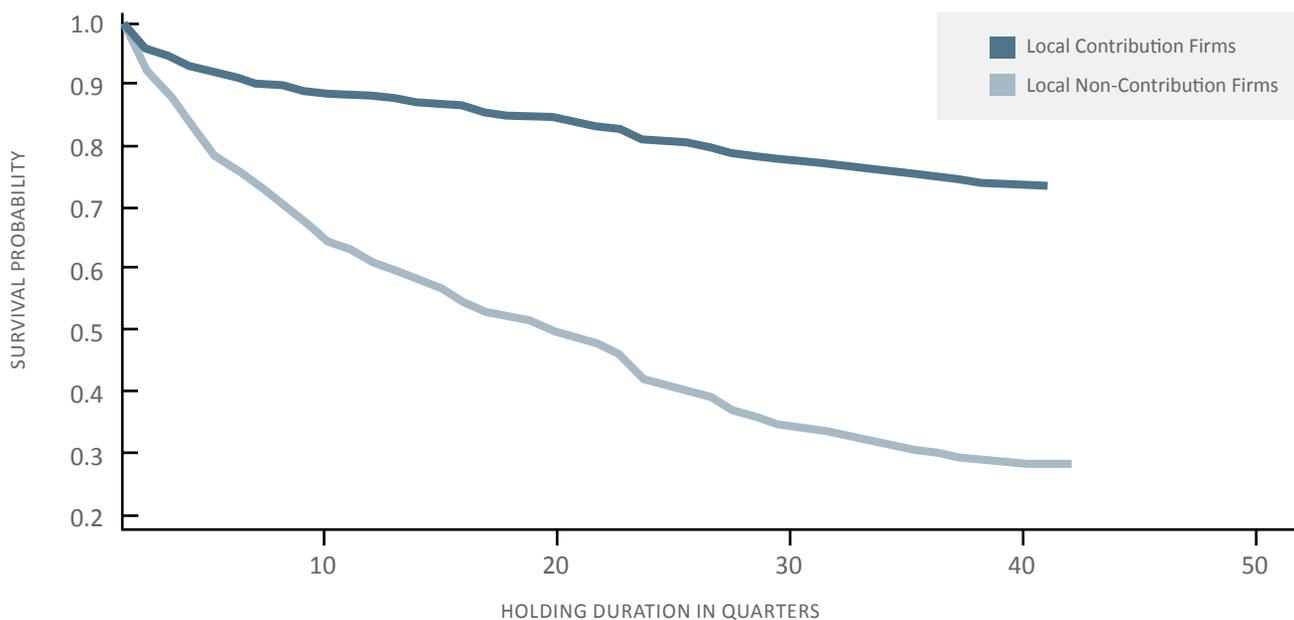
### Political Kickbacks

Another common variety of pension fund cronyism occurs when kickbacks, in the form of pension investment funds, are directed to politically connected businesses and other interests. Sometimes, these political kickbacks come from elected board members who reward campaign supporters by investing pension funds in their businesses or other interests. Other times, ex officio and appointed members may feel there are political gains to be had by investing pension funds in popular local businesses to create or retain jobs and have a local, visible accomplishment for which they can take credit. Whatever the motivation, making investment decisions for personal political gain lowers pension returns, resulting in pensions that are less secure and taxpayers facing a greater risk of having to bail out pension funds in the future.

### Political Bias in Public Pension Funds

While pension trustees should be considering all investment opportunities equally and impartially, they are frequently confronted by local businesses lobbying for pension fund investments. Research indicates this lobbying has significantly affected trustees' investment decisions. In a paper forthcoming in the *Journal of Financial Economics*, the authors find public pension funds overweight local firms in their portfolio by 26 percent, relative to a diversified, market portfolio. Further, estimates indicate public pension funds overweight local firms that make political contributions to local politicians by 23 percent, and overweight local firms that have significant lobbying expenditures by 17 percent.<sup>64</sup>

FIGURE 6: PANEL A - POLITICAL CONTRIBUTIONS



Source: Bradley, Daniel, Pantzalis, Christos and Yuan, Xiaojing, *The Influence of Political Bias in State Pension Funds*

In addition, regression analysis indicates, other factors held constant, local contribution bias and local lobbying bias have statistically significant and negative effects on fund performance.<sup>65</sup> For example, a typical amount of political bias in a \$21 billion state pension fund (the average size based on their sample), is predicted to cost the fund between \$210 million and \$269 million per year in lower investment returns. Of course, funds with larger portfolios would experience even greater losses, as would those with a higher level of political bias. Simply put, the more that pension funds make investment decisions under the influence of political contributions and lobbying from local firms, the lower their returns will be.

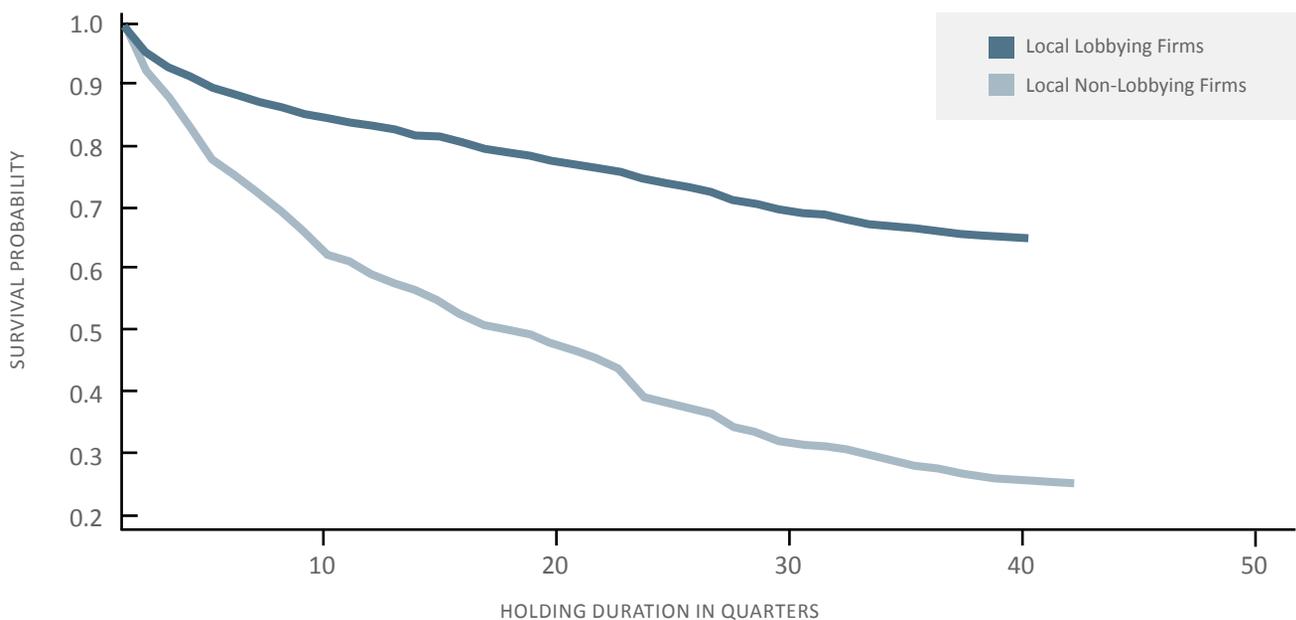
Furthermore, the same study found pension funds tend to retain investments for a far longer period of time for firms that engage in political contributions and lobbying compared to those firms that do not. As Figures 6 and 7 indicate, the difference is shocking. Figure 6 shows that after five years, funds were nearly twice as likely to retain investments in firms that gave political contributions than in those that did not. After 10

years, the local firms that gave political contributions had nearly three times better odds of being retained by the fund than those that did not.

The results were similar for lobbying. As Figure 7 shows, after five years, pension funds were nearly twice as likely to retain investments in local firms that engaged in lobbying efforts than in those that did not. After 10 years, investments in local firms engaging in lobbying were nearly three times as likely to be retained.<sup>66</sup> This demonstrates the significant influence that political contributions and lobbying from local firms have on pension fund investment decisions.

The negative effects of political bias on pension fund portfolios are thus twofold. Political contributions and lobbying efforts by local firms reduce fund performance by overweighting riskier local investments. They also raise the probability that pension funds retain these poorly performing assets for longer periods, compounding the effect of lower returns year after year.

FIGURE 7: PANEL B - LOBBYING



Source: Bradley, Daniel, Pantzalis, Christos and Yuan, Xiaojing, *The Influence of Political Bias in State Pension Funds*

## CalPERS Kickbacks

The California Public Employees' Retirement System (CalPERS) is the nation's largest state-administered pension system and has been criticized for cronyist kickbacks over the years. As Steven Malanga explains in a *City Journal* article, CalPERS has made poor investment decisions:

*"CalPERS has also steered billions of dollars into politically connected firms. And it has ventured into 'socially responsible' investment strategies, making bad bets that have lost hundreds of millions of dollars. Such dubious practices have piled up a crushing amount of pension debt, which California residents—and their children—will somehow have to repay."*<sup>67</sup>

Some of this occurred when union leader Charles Valdes, who had no investing experience and twice filed for personal bankruptcy, served as chair of CalPERS's Investment Committee. Valdes made several poor financial decisions, some of which appear to have been politically motivated. During his time as Investment Committee chair, CalPERS consistently granted investment contracts to some of the state's biggest political givers. In addition, Valdes accepted gifts from a fellow board member, Alfred Villalobos, who allegedly spent thousands of dollars trying to influence pension investments. When questioned about his relationship with Villalobos, Valdes invoked the Fifth Amendment 126 times.<sup>68</sup>

One reason Valdes was not replaced as Investment Committee chair sooner was the board's composition, where 6 of the 13 board members were selected by government workers, an arrangement that led to an

increasingly strong union presence on the board.<sup>69</sup> This allowed Valdes to continue to serve despite his cronyist investments and the loss of returns for CalPERS. Malanga explains, "CalPERS's members, who elect representatives to the fund's board of directors, ignored concerns over Valdes's suitability because they liked how he fought for those plusher benefits."<sup>70</sup> Even *The New York Times*, usually sympathetic to union causes, noted critics worried the board had become increasingly partisan and doubted CalPERS's ability "to provide for the 1.3 million public employees whose pensions it guarantees."<sup>71</sup>

Despite the cronyism, Valdes was allowed to serve on the CalPERS board for 25 years, 13 of which he spent as Investment Committee chair. During his tenure as Investment Committee chair, CalPERS had one of the worst investment records of any public pension fund.<sup>72</sup> The takeover of CalPERS board serves as a compelling example of the need for accountability in pension investment decisions.

## Political Kickbacks Cost Pension Funds

Using pension funds to reward politically connected businesses and interest groups lowers investment returns and jeopardizes pensioner's retirement security. Pension trustees have an obligation to act in the best interest of pensioners and should never use pension funds to give political kickbacks to their supporters. Strong fiduciary standards defining how pension funds are to be managed can help prevent this. In addition, transparency in the investment process and a board with a greater diversity of ex officio, appointed and elected members, along with board seats for designated public representatives, would ensure public pensions cannot be hijacked by special interests willing to tolerate such cronyism so long as their interests are served.

## Solutions for Fighting Political Kickback Cronyism

- States should adopt fiduciary duty of loyalty provisions which require pension trustees to act in the sole interest of beneficiaries as a whole, impartially, not just certain interest groups participating in the plan. Fulfilling this provision should require pursuing the best long-term, risk-adjusted returns for the pension fund.
- Trustees should be required to fully disclose any conflicts of interest, including money and gifts given to trustees that may influence their investment decisions, as well as affiliation with special interest groups.
- Before making any investment, trustees should be required to attest they have no conflict of interest with the investment. If they do, they should be required to recuse themselves from the decision-making process for that investment and any related votes.
- Trustees should be required to fully disclose campaign contributions they have received and recuse themselves from the decision-making process and any votes related to investing in those companies or interests.
- Pension boards should be diversified to provide representation for all stakeholders, including taxpayers. This will prevent any special interest group from gaining too much power on the board and using pension funds irresponsibly.
- Pension boards should have a certain number of seats dedicated to independent financial professionals that serve as public representatives.

## Chapter 4

### Political Crusades

One type of pension fund cronyism that has proliferated recently is the use of pension funds to advance certain political viewpoints or causes. These political crusades regarding such issues as the environment, political speech and income inequality are frequently waged through divestment initiatives and by promoting shareholder resolutions at publicly-traded companies. When pension funds pick a side in political disputes and decide they are going to use the pension fund as a weapon, investment returns decline and many citizens find their hard-earned retirement funds used to support political positions antithetical to their beliefs.

#### The Pension Divestment Movement Harms Pension Funds

One of the greatest threats to pension investment returns comes in the form of divestment from certain companies or industries. Pension divestment initiatives have been gaining traction recently, with many on the Left viewing them as a tool to advance their political agenda. By requiring pension funds to remove all investments from certain companies or industries, they hope to increase firms' cost of capital in an effort to put them out of business or change their behavior in some way. In order to examine this issue further, this report considers one of the most notable divestment efforts, fossil fuel divestment, and what it means for pensions.

#### Fossil Fuel Divestment

In recent years, various environmental organizations have been encouraging pension funds to divest from fossil fuel companies and other businesses that they believe are contributing to environmental harm. They have had some limited success, with several municipal-

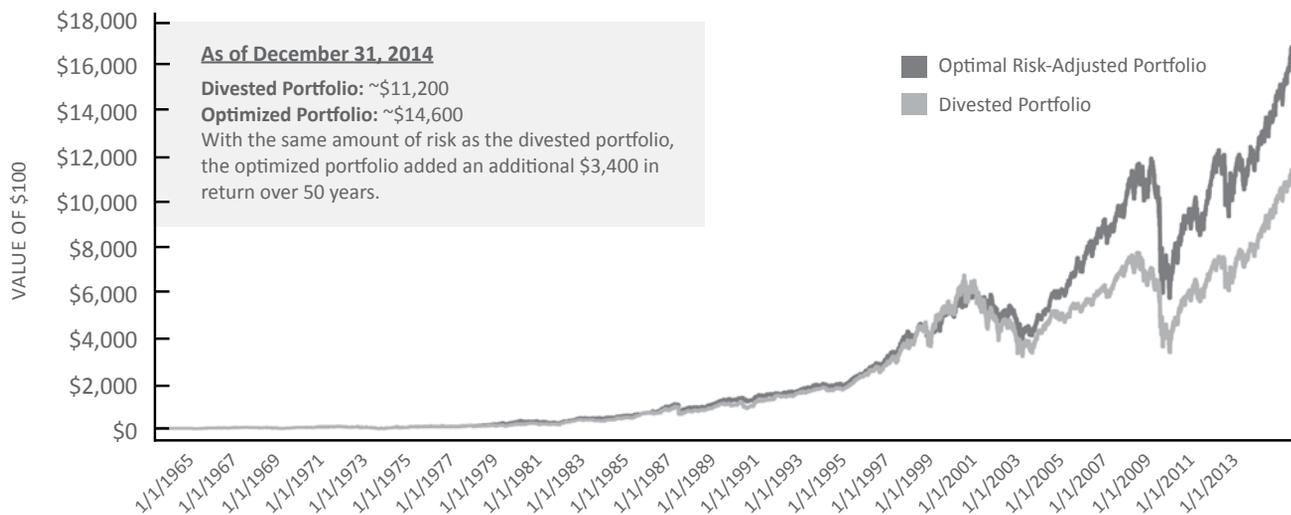
ities enacting plans over the years to divest from fossil fuel companies and other businesses calculated to have a large carbon footprint. Recently, California became the first state to pass a law requiring the state's public pension funds to divest from fossil fuel, specifically coal companies. While it remains the only state to enact such legislation, several governors have publicly called for their state's pension funds to divest from fossil fuel companies as well.

The financial losses from divestment are significant. A study conducted by University of Chicago Law School Professor Daniel Fischel found that a hypothetical portfolio diversified across all industries outperforms a hypothetical portfolio divested from energy stocks over the past 50 years.<sup>73</sup> The divested portfolio produced returns 0.7 percentage points lower on average per year than the optimal risk-adjusted portfolio that did not divest from energy, representing a massive 23 percent decline in investment returns over five decades.<sup>74</sup>

Lower returns are not the only price of divestment. The initial cost of divestment should also be considered. This includes the costs of the initial review of existing investments, along with the commission fees to brokers and other trade costs accompanying every trade necessary to fully divest the portfolio. This is money that could be going to the pension system to improve its funding level and provide greater retirement security for workers and retirees in the future.

The ongoing administrative cost of complying with divestment rules is also significant.<sup>75</sup> Pension plans that divest must continually investigate prospective investments to see if they meet their state's ecological standards, while also monitoring their existing portfolio of investments to ensure none of those companies have begun to engage in business activity that necessitates divestment. This requires significant work on the part of the pension fund's managers, resulting in higher management fees. It also means additional trading

FIGURE 8: OPTIMAL RISK-ADJUSTED PORTFOLIO VS. DIVESTED PORTFOLIO 1965-2014

**Notes:**

- [1] The indices are value-weighted by market capitalization.  
 [2] The Optimal Risk-Adjusted Portfolio is comprised of the energy index and 1-month Treasury bill, optimized by matching the standard deviation of the Divested Portfolio.  
 [3] The Divested Portfolio is comprised of only the non-energy index.

Source: Fischel, Daniel, *Fossil Fuel Divestment: A Costly and Ineffective Investment Strategy*; Center for Research in Security Prices; French, Kenneth

fees from all the trades necessary to remain compliant with the divestment requirements.

Professor Hendrik Bessembinder of Arizona State University recently studied these “frictional” costs that college and university endowments incur when divesting from fossil fuel industries. Frictional costs in this case include the costs of ongoing monitoring, as well as the transaction costs associated with the trades and actions of the management strategy. Bessembinder writes, “Selling and buying assets, as fossil fuel divestment requires, involves transaction costs, which depend on the type of asset, the size of requisite trades, and the market institutes that facilitate trading.”<sup>76</sup>

Bessembinder’s research suggests divesting funds means dramatically higher management fees. His study compared the net expense ratios of various investment funds and found a significant difference between the net expense ratios of “socially-conscious” funds and those of standard funds. The net expense ratio is a charge assessed to investors to cover the fund’s total annual operating expenses, often expressed as a percentage of a fund’s average net assets. While active, socially-conscious funds averaged a prospectus net expense ratio of 0.795 percent, passive standard funds averaged only 0.061 percent.<sup>77</sup> The additional expense of active management would be paid annually by funds choosing to divest from fossil fuels. This is money that could have been invested and gained additional

returns. Compounded over a 20-year term, the costs of actively managing a portfolio to keep it divested add up to significant losses.

Other frictional costs of divestment are transaction costs, which include fees and commissions paid to brokers and exchanges, as well as the implicit costs of the “bid-ask spread and the price impact of trades.” The bid-ask spread is the difference between the highest bid price and the lowest ask price in a market for a given security. This difference is “an implicit payment to the market-maker or other liquidity supplier” for providing the liquidity to execute the trade and is especially relevant to small trades like those that would be necessary to micro-manage a fossil fuel-free account.<sup>78</sup>

The price impact is any additional cost traders may incur when executing very large orders. Just as the Laws of Supply and Demand teach us - when the quantity demanded of a given good increases, the price goes up, and similarly, when the quantity supplied of a given good increases, its price falls. In this case, it is the higher price paid when executing a large purchase, or the lower price received when executing a large sale, such as the trades that would be necessary upon the implementation of a fossil-fuel-free portfolio strategy.

In his regression analysis, Bessembinder finds these frictional costs would reduce the value of a large university endowment by 2 to 12 percent over the next 20

years. Results like these are one reason many universities have been hesitant to divest from fossil fuel and other industries despite pressure, often from their own students, to do so.

### Fossil Fuel Divestment Fails to Achieve Its Goals

Climate activists often cite four main benefits to encourage funds to divest. The first holds that companies that allegedly contribute to climate change can be punished by reducing their stock prices through divestment, thereby reducing their access to sources of capital and increasing their costs. However, divestment is unlikely to accomplish this goal, and to the extent the effort is successful, the costs are often borne by the very investors choosing to divest. As was noted earlier, sales of large asset blocks typically occur at a discount to the market prices. Much of this discount is temporary, as it basically represents a wealth transfer from the divesting investors to the market liquidity providers who are “buying” the securities.<sup>79</sup> Little historical evidence would indicate any permanent price effect resulting from divestment.

Another argument from activists is that fossil fuel securities are overpriced, and thus likely to underperform in the long run. This too is not supported by the facts. According to Bessembinder, “Such claims are particularly prevalent at times when these stocks have recently performed poorly – even though price declines over the past several months actually appear to be associated with increased production of fossil fuels.”<sup>80</sup>

Yet another common claim by activists is divestment can help stigmatize firms engaging in allegedly harmful activities, hopefully motivating a change in behavior. The channels by which this change would occur, however, are unclear. Research of past divestment behavior has found that divestment efforts have little to no effect.<sup>81</sup> In addition, the Fischell study notes that there is no evidence of any discernable impact on the companies targeted by fossil fuel divestment supporters.<sup>82</sup>

Finally, proponents of fossil fuel divestment claim that divestment will raise awareness of the issue of climate change. In examining this claim, Fischell conducted an empirical review of the amount of news coverage dedicated to the climate change issue and found evidence it is one of the most commonly reported topics in the United States today, indicating a divestment campaign is not necessary to raise public awareness of the matter.<sup>83</sup>

The evidence indicates claims that divestment will reduce reliance on fossil fuels or spur institutions to change allegedly bad behavior are speculative at best, while the costs associated with divestment are real and significant. Nonetheless, the fossil fuel divestment effort continues to target public pension funds. Some of the most notable cases demonstrate that while divestment leads to foregone investment returns, this politically-motivated campaign is still gaining momentum.

### California

On October 8, 2015, Governor Jerry Brown signed into law Senate Bill 185, entitled “Investing with Values and Responsibility.”<sup>84</sup> This signing was a noteworthy event, as according to California State Senate President Pro Tempore Kevin De León, it marked the first time a state had divested its pensions from coal.<sup>85</sup> This divestment had added significance because California manages the two largest state pension funds in the country by asset value, the California Public Employees’ Retirement System (CalPERS) and the California State Teachers’ Retirement System (CalSTRS), with \$293 billion and \$184 billion in assets, respectively.<sup>86</sup>

Senate Bill 185 prohibits CalPERS and CalSTRS from renewing existing investments or making new investments in thermal coal companies. In regard to existing investments, the two funds must engage with these companies to determine if the companies are transitioning their business model to clean energy. They must liquidate their investments with thermal coal companies on or before July 1, 2017. Finally, the funds must file a report with the Legislature, listing which thermal coal companies they divested from and which current thermal coal companies have agreed to transition to clean energy. This report must be filed on or before January 1, 2018.<sup>87</sup>

Senator De León, who authored the law, remarked upon its signing, “Coal is a losing bet for California retirees and it’s also incredibly harmful to our health and the health of our environment,” emphasizing that environmentalism was the primary motive for the divestment.<sup>88</sup> Assemblyman Rob Bonta, who presented the bill in the California Assembly, stated upon its passage in the Senate, “coal is the fuel of the past...it’s time to move on from this dirty energy source,” and “the law aligns investment policies with our values.”<sup>89</sup> Unsurprisingly, the signing of the law was applauded by leaders of several prominent environmentalist interest groups.<sup>90</sup>

The bill's final vote of 43-27 was "mostly along party lines with some Democrats abstaining."<sup>91</sup> This, combined with Governor Brown's strong support, indicates this may not be the last climate related divestment legislation California will enact.<sup>92</sup> Before divestment, CalPERS had approximately \$167 million invested in 30 coal companies, while CalSTRS had an estimated \$40 million invested in the industry.<sup>93</sup>

Despite the best intentions of supporters, divestment puts California's pensioners at financial risk. Chris Ailman, chief investment officer for CalSTRS, expressed misgivings over the economic and social consequences of divestment in California. Ailman explained:

*"I've been involved in five divestments for our fund. All five of them we've lost money, and all five of them have not brought about social change."<sup>94</sup>*

Furthermore, many pensioners are concerned about the financial costs of divestment. A recent survey commissioned by the Independent Petroleum Association of America reveals that California pensioners are uneasy about divestment. The survey found that 54 percent of California pensioners thought divestment would decrease performance of the pension funds. Additionally, 64 percent of California pensioners stated that they would not recommend divestment from oil and gas to their fund managers.<sup>95</sup>

California legislators should listen to the concerns of their constituents. The research suggests they are correct in believing divestment will adversely affect the state's pension funds' performance. Lawmakers should be directing their pension fund trustees to invest in a way that achieves the best returns for pensioners, not trying to use state pension funds to promote a political agenda.

## New York

Similar to California, divestment is also a heated issue in New York. After California's CalPERS and CalSTRS pension funds, New York has the third largest public pension fund in the country. Oil and natural gas investments represented 5 percent of the total assets of New York's two largest pension plans from fiscal years 2005 to 2013. Furthermore, during that time frame, oil and

natural gas investments contributed 9.8 percent of the plans' total gains.<sup>96</sup>

Despite this, State Senator Liz Krueger recently introduced Senate Bill S5873, the Fossil Fuel Divestment Act. This Act would "require the fund to sell off its stocks in the top 200 largest fossil fuel companies by 2020."<sup>97</sup> However, the Act does permit New York's Comptroller to cease divestment, as long as the Comptroller can convincingly demonstrate divestment has caused the fund to lose significant value.<sup>98</sup> If the Act became law, New York would be the second state in the nation to enact fossil fuel divestment.

The Fossil Fuel Divestment Act was first introduced and referred to the Rules Committee on June 9, 2015.<sup>99</sup> After seven months, the bill was referred to the Civil Service and Pensions Committee in January 2016 where it was approved. On April 11, 2016, the bill moved on to the Senate Finance Committee, where it stayed for the remainder of the 2016 legislative session.

During debate over the Act, State Comptroller Thomas DiNapoli expressed misgivings. He was concerned divestment could conflict with his fiduciary duty. As manager of New York State's pension funds, the Comptroller is required to generate the best possible returns for pensioners. In a December 2015 letter to Senator Krueger, Comptroller DiNapoli explained:

*"My fiduciary duty requires me to focus on the long term value of the Fund. To achieve that objective, the Fund works to maximize returns and minimize risks. Key to accomplishing this objective is diversifying the Fund's investments across sectors and asset classes—including the energy sector, where fossil fuels continue to play an integral role in powering the world's electricity generators, industry, transportation, and infrastructure."<sup>100</sup>*

Hopefully, Comptroller DiNapoli's concerns will be taken seriously. Pursuing a political agenda through divestment would hinder the Comptroller's ability to wisely steward pension investments. New York pensioners deserve a well-managed, diversified portfolio that achieves the best possible returns to provide a secure retirement.

## Vermont

Governor Peter Shumlin, who is leaving office in January 2017, has also called for pension divestment of coal companies. Beyond this, he has singled out ExxonMobil as a specific company the state's pension funds should target for divestment. The governor is not alone. He is joined in his demands by several environmental activists in the Green Mountain State.

Governor Shumlin argues Vermont has a "moral responsibility" to fight climate change and, as such, the state should divest its pension funds from fossil fuel companies.<sup>101</sup> When it comes to ExxonMobil, the governor claims the company "hid what it knew about the dangers of climate change for decades."<sup>102</sup> However, this statement is merely an unsubstantiated allegation, part of the broader bullying campaign by some state attorneys general to discourage investment in the fossil fuel industry.<sup>103</sup> For its part, ExxonMobil has fervently denied obstructing such information from the public.<sup>104</sup>

Interestingly, one of the governor's most prominent opponents in regards to divestment is State Treasurer Beth Pearce, a fellow Democrat, who was appointed by Governor Shumlin six years ago.<sup>105</sup> Pearce opposes divestment, explaining:

*"We have a fiduciary responsibility of stewardship of those taxpayer dollars, and the dollars for the members of the system. When those dollars go into a trust we are obliged to maximum return for those individuals," she says. "So ... I'm going to be guided by facts not by politics."*<sup>106</sup>

Despite the treasurer's strong opposition, she agreed to at least review the divestment issue.<sup>107</sup> However, it appears Pearce still believes that the foremost obligation of the state's pension funds should be to provide financial security for retirees, considering her recent statement that her "zeal on behalf of retirees' pension funds hasn't diminished as a result of her consideration of divestment."<sup>108</sup>

Pearce's concerns are well-founded. According to the Vermont Treasury, divestment would cost state pension funds \$10 million per year in lost returns. Furthermore, the state pension funds would have to pay \$8.5 million to implement the divestment process.<sup>109</sup> Thomas Golonka, chair of the Vermont Pension Investment

Committee, agrees that divestment is a complex and costly process.<sup>110</sup>

Despite the significant costs of divestment, Pearce still drew an ardently pro-divestment primary challenger, financial analyst Richard Dunne. This demonstrates how contentious fossil fuel divestment has become in Vermont politics. However, Pearce soundly beat Dunne in the 2016 Democratic primary.<sup>111</sup>

For now, at least, Vermonters are protected from the costs of fossil fuel divestment. As the state's own treasury estimate indicates, there are significant costs to divestment, costs ultimately borne by pensioners and taxpayers.

## Pension Divestment at the Municipal Level

In December of 2012, Seattle became the first major city to announce it would divest from fossil fuels.<sup>112</sup> By April 2013, it was joined by nine other cities, including Madison, Wisconsin and San Francisco, California.<sup>113</sup>

As part of Seattle's divestment process, then Mayor Mike McGinn personally issued a letter to Seattle City Employees' Retirement System (SCERS) and the City of Seattle Voluntary Deferred Compensation Plan Committee, the city's two major pension funds.<sup>114</sup> In the letter to SCERS, Mayor McGinn wrote "divesting the pension fund from these companies is one way" the city of Seattle can "discourage" them from extracting fossil fuel.<sup>115</sup>

On April 26, 2013, San Francisco's Board of Supervisors voted unanimously to urge its \$16 billion pension fund to divest over \$583 million from the fossil fuel industry.<sup>116</sup> However, less than six months later, the board of the San Francisco Employees' Retirement System (SFERS), which manages the pension fund, voted to reject the city's call for divestment. On December 9, 2015, the SFERS board adopted a more limited proposal to divest from thermal coal companies, which amounted to about \$21 million of its portfolio.<sup>117</sup>

These examples demonstrate fossil fuel divestment is not just a state issue, but one that municipalities also face. However, as demonstrated by the relatively few cities that have enacted divestment, most local lawmakers and pension board members realize that using pension funds to advance political causes is a costly decision that jeopardizes workers' retirement security.

## Fossil Fuel Divestment Threatens Pensioners' Retirement

As the case studies in California, New York, Vermont and various cities demonstrate, fossil fuel divestment is a major initiative that several states and municipalities are considering. However, using public pension funds to advance a political agenda comes at the price of investment returns. With the current underfunded status of so many public pension systems, state and local governments cannot afford to play politics with pension funds.

## Divestment from Individuals Based on Personal Beliefs

Another form of divestment is the effort by some interest groups to pressure pension funds to divest from certain fund managers on account of their personal beliefs. Perhaps the most notable example of this effort has been led by the American Federation of Teachers (AFT). In recent years, the AFT has promoted a divestment campaign targeting hedge-fund managers who have supported initiatives with which they disagree. The AFT has targeted some hedge-fund managers for their actions supporting school choice and favoring defined-contribution public pension systems. This is particularly threatening given AFT's influence over an estimated \$1 trillion in public defined-benefit plans, many

of which hold investments in hedge-funds as part of their portfolio.<sup>118</sup>

By thoroughly examining financial reports and the charitable deductions of hedge-fund managers, AFT created a "blacklist" of roughly three dozen individuals.<sup>119</sup> Individuals earned a spot on the dubious list by personally supporting causes and organizations disapproved of by AFT. Union pension funds then used the AFT blacklist as a guide to divest from the hedge-funds managed by these individuals. As Figure 9 shows, state pension funds in California, Illinois, New Jersey, New York, Oklahoma, Rhode Island and Washington state have all divested from hedge-funds to some degree.<sup>120</sup>

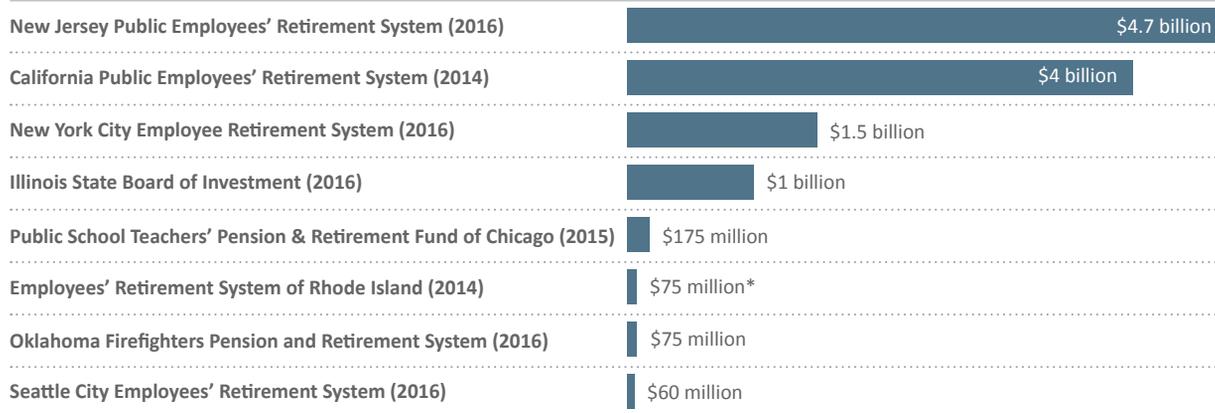
Not only have state pension funds succumbed to divestment pressure, but fund managers have been personally targeted to try to change their behavior. For example, a recent *Wall Street Journal* article detailed what happened when a hedge-fund manager, Cliff Asness, recently found himself on the blacklist.

Asness appears to have been originally blacklisted for serving on the board of the Manhattan Institute for Policy Research, an organization that promotes economic choice and individual responsibility and which supports, among other things, state and local governments moving from defined-benefit public pension plans to defined-contribution plans. Shortly after his firm paid \$25,000 to help found a pension policy group with AFT President Randi Weingarten, Asness was removed from the list.<sup>121</sup> However, Asness continued to

FIGURE 9: PUBLIC-EMPLOYEE PENSION FUND DIVESTMENT FROM HEDGE-FUNDS

### Getting Out of Hedge-Funds

Public-employee pension funds have pulled billions of dollars from hedge-funds in recent years, sometimes with the encouragement of the American Federation of Teachers.



\*voted to divest from Third Point LLC

Source: *The Wall Street Journal*; pension officials; published reports

serve on the Manhattan Institute board, and when CalSTRS later considered increasing their hedge-fund investments, Weingarten saw an opportunity to apply pressure. Her aide spoke with a CalSTRS official about Cliff Asness's service as a Manhattan Institute board member and shortly after, a CalSTRS official spoke with Asness. Later that year, Asness announced that he would step down from the Manhattan Institute's board. While his spokesperson said Asness already made the decision at the time of the call, the timing is certainly interesting. In a letter to *The Wall Street Journal*, Asness claimed that his decision was not made on account of pressure from AFT.<sup>122</sup> In any case, the fact that such a powerful organization is able and willing to threaten an individual's personal livelihood through divestment is concerning.

Regrettably, AFT's intimidation campaign comes at a great cost—the security of retirees. Pension funds should be managed to generate the best investment returns for pensioners, not target political enemies. By picking and choosing funds based on fund managers' personal beliefs, rather than their funds' investment performance, pension fund returns will likely decline and the financial stability of the fund could be at risk. As a recent *Wall Street Journal* article aptly explains:

*"Sander Read, chief executive officer of Lyons Wealth Management, which hasn't been targeted, likened what Ms. Weingarten is doing to 'hiring a dentist because of their political beliefs. You may see eye to eye on politics, but you may not have great, straight teeth.'"*<sup>123</sup>

State and local governments should adopt fiduciary standards that prevent this type of personal divestment and put pensioners first by requiring investment decisions be made based on financial considerations, not on political agendas.

### Rhode Island Trades Investment Returns for Politics

Another example of targeting individuals for divestment comes from Rhode Island, where an apparently politically-driven decision to divest from a high performing hedge-fund cost the state access to some of the best returns its pension portfolio had earned in re-

cent years. It is perhaps worse considering the decision makers in this case were financially-savvy professionals who should know better than to sacrifice substantial pension fund gains for political capital.

The Employees' Retirement System of Rhode Island (ERSRI) is significantly underfunded. ALEC, in its most recent pension liabilities report, *Unaccountable and Unaffordable 2016*, found Rhode Island's total pension funding ratio was a mere 29.6 percent, with a total unfunded pension liability of more than \$18.6 billion.<sup>124</sup> This unfunded liability is equivalent to \$17,644 for every man, woman and child in Rhode Island.<sup>125</sup> Knowing that ERSRI is already significantly underfunded makes any further losses from politically-motivated decisions all the more serious.

Rhode Island Governor Gina Raimondo is a key figure in the story. Raimondo was once a strong ally of pension reform. A former venture capitalist, Raimondo seemed to understand the limitations of the market, and why assuming unrealistically high investment returns was not in the best interest of the people of Rhode Island. Before she was elected to the state's highest office, Raimondo served as Rhode Island's General Treasurer, championing reform and a shift toward a hybrid pension model that incorporated elements of managing the pre-existing defined-benefit system with elements of a 401(k)-style defined-contribution system, as well as reforms to cost-of-living-adjustments (COLAs). As observed by former Utah State Senator Dan Liljenquist in the 2013 ALEC publication, *Keeping the Promise: State Solutions for Government Pension Reform*:

*"Gina Raimondo, the state's treasurer and a Democrat, led pension reform in the state and defended it as a moral imperative. After declaring that Rhode Island had to choose between maintaining the pension system as it was and reducing other spending priorities, she said to a disgruntled public employee, 'I would ask you, is it morally right to do nothing [on pension reform], and not provide services to the state's most vulnerable citizens? Yes, sir, I think this [reform] is moral.'"*<sup>126</sup>

In 2012, *The Wall Street Journal* ran a feature, "The Democrat Who Took on the Unions," cataloguing the reform processes Raimondo spearheaded and the Rhode Island General Assembly eventually implemented.<sup>127</sup> Another

2012 *Wall Street Journal* article, “Rhode Island Miracle Explained,” described Raimondo’s visit with the Manhattan Institute:

*“The plan enacted in November cuts \$3 billion of the state’s \$7 billion unfunded liability by raising the retirement age, suspending cost-of-living increases until the pension system is 80% funded, and even moving workers into a hybrid plan that has a smaller guaranteed annuity along with a 401(k)-style defined-contribution plan.”<sup>128</sup>*

These efforts demonstrate how Raimondo and Rhode Island officials put in the hard work to start reforming the state’s pension system. However, after years of give-and-take with state employee unions, Raimondo seemed to cave under political pressure when it came to one critical decision, leaving doubts about how Rhode Island’s public pensions are governed.

Among Raimondo’s duties while serving as Rhode Island’s General Treasurer was leading the Rhode Island State Investment Commission. During her tenure, Third Point Partners’ Dan Loeb was tasked by the Commission to manage \$74.3 million of Rhode Island’s \$8 billion pension fund, an amount that was small considering the size of Third Point’s \$14 billion portfolio.<sup>129</sup> Loeb had the reputation of being a strong hedge-fund manager, capable of providing better returns than many of his peers. In 2013, Loeb was recognized as one of the elites of his industry, making *Institutional Investor’s Alpha’s* “Rich List,” a ranking of the hedge-fund industry’s 25 highest earners.<sup>130</sup> Loeb earned Rhode Island “a 24.71 percent return that ranked Third Point as the state’s best performing hedge-fund in 2013, according to state documents.”<sup>131</sup> That nearly doubled the pension fund’s overall 14.01 percent return for the year.<sup>132</sup> According to a Third Point spokesperson, “Rhode Island’s pensioners earned 49 percent, net of fees, over the two years they invested with us,” and Third Point’s fund had earned “a net annualized rate of return of 21.3 percent since 1995.”<sup>133</sup>

In a role unrelated to his management of Rhode Island pension assets, Loeb was an advocate for government reform, and served as director for a New York City-based non-profit, Success Academy Charter Schools.<sup>134</sup> He also sat on the board of StudentsFirst, an organization that advocates for teacher accountability.<sup>135</sup> In

a June 2013 *Bloomberg* article, Loeb was described as “escalating a battle between hedge-fund managers and American Federation of Teachers (AFT) President Randi Weingarten over public-worker pensions.”<sup>136</sup> A part of his personal activism was having “donated an extra \$1 million to a group of charter schools to show his opposition to the head of the second-biggest U.S. teachers union.” These actions earned him a distinction from the AFT for being “hostile to traditional public pensions.”<sup>137</sup>

AFT began to pressure Rhode Island to divest from Loeb’s fund. Alarming, “AFT wanted pension trustees to consider fund managers’ ties to groups that oppose defined-benefit retirement systems as a reason when hiring or firing them.”<sup>138</sup> Ultimately, the Rhode Island State Investment Commission, chaired by Raimondo, unanimously decided to divest from hedge-funds, claiming hedge-funds were not a sound investment.

The Commission cited fees paid to the hedge-fund managers as part of the justification for their decision. They noted that, for three hedge-funds alone, Rhode Island paid a collective \$2.6 million in fees in 2012. However, given that Third Point was the best performing hedge-fund in 2013, and the outstanding investment returns they provided, questions persist about the reasoning behind Third Point’s dismissal.

An informative *Wall Street Journal* editorial, “The Education of Gina Raimondo,” stated:

*“It’s hard to avoid the conclusion that Ms. Raimondo is trying to neutralize union opposition by throwing Mr. Loeb over the side. But Ms. Raimondo is fooling herself if she thinks that divesting from Third Point will atone for her pension-reform heresy. The unions will still try to end her political career. Ms. Weingarten wants to make an example of Ms. Raimondo by showing other Democrats that favoring pension reform is politically fatal.”<sup>139</sup>*

When politics enters the policy equation, pension officials can find themselves pressured to make poor investment decisions. Raimondo found herself in such a situation and appears to have been willing to sacrifice the state’s pension performance for political considerations.

The Manhattan Institute and Dan Loeb once honored Raimondo for her work reforming the Rhode Island pension system, but even after a successful reform process had begun, AFT was able to apply political pressure to get state officials to punish Loeb for his support of school choice and public pension reform. So long as pension officials are subject to political pressure, there exists a risk that pension funds will be governed with politics, not pensioners, in mind. As noted by *The Wall Street Journal*, “Ms. Raimondo is a politician, and politicians do what they feel they must to get elected.”<sup>140</sup> Regardless of whether Raimondo acted on questionable motives, the fact that questions can be so easily and reasonably raised is enough to provide a case study of the potential harm politics can have on proper pension fund governance.

### Shareholder Activism in Pension Fund Management

Another startling misuse of pension fund assets occurs when managers use their large equity holdings to promote shareholder resolutions that advance particular political agendas. This is inconsistent with what should be pension fund managers’ fiduciary duty to pursue the best investment returns possible for plan participants.

Engagement in politically-driven shareholder activism does not relate to this mandate and wastes valuable time which trustees should be using to seek better fund performance. It also subjects important decisions on how to vote on shareholder resolutions to political concerns, as opposed to basing these decisions on what is best for investment returns. When a pension board considers introducing or supporting a resolution, it should only be considering one thing: what is best for plan participants, in other words, what will help the company achieve the best performance. Finally, politically-driven shareholder activism is unfair to plan participants and taxpayers because it appropriates the pension fund, made up of employee contributions, employer contributions and taxpayer dollars to advance a political agenda with which many of these stakeholders may disagree.

### Public Pension Funds Advance Political Shareholder Resolutions

Recently, there has been an increase in public pensions attempting to use shareholder resolutions to advance political agendas. The number of these resolutions is cause for concern. The Manhattan Institute’s Proxy Monitor tracks shareholder activism for the Fortune 250 companies and provides a good barometer for what is happening with shareholder resolutions across the country.

Proxy Monitor reports that resolutions to modify corporate activities affecting the environment, to disclose political spending and lobbying activity and to alter executive compensation packages are some of the most common types of shareholder proposals. According to their research, of the 301 shareholder proposals for Fortune 250 companies in 2016, 58 related to environmental concerns, 54 to political spending or lobbying, 11 to equity compensation and 6 to other executive compensation.<sup>141</sup>

For the Fortune 250, labor-affiliated investors constituted 53 percent of those proposing political spending or lobbying related shareholder resolutions from 2006 to 2016.<sup>142</sup> Labor-affiliated investors generally include state or municipal pension funds or multiemployer pension funds for private labor unions. The New York Common Retirement System, New York City Pension Funds and the American Federation of State, County and Municipal Employees (AFSCME) have been the shareholders most frequently sponsoring political spending and lobbying-related resolutions, with a combined 89 proposals from 2006 to 2016.<sup>143</sup>

Environmental activists continue to step up their efforts as well, submitting 459 environment-related shareholder proposals to Fortune 250 companies in just the last 10 years.<sup>144</sup> Of those, 135 were resolutions relating to corporate policy on climate change or greenhouse gas emissions and 82 related to environmental sustainability.<sup>145</sup> Further, social investing, religious and public policy-related institutional shareholders sponsored 74 percent of the 10-year total for environment-related proposals, with 38 percent attributed solely to social investing institutions.<sup>146</sup> Typically, these resolutions ask the company to create a report on the financial risks of climate change, set targets for reducing greenhouse gas emissions or create plans for more “sustainable” operations. Public pensions have also played a signifi-

cant role in environment related shareholder activism, collectively issuing the second largest number of proposals over the last 10 years. The New York State Common Retirement Fund and New York City Pension funds sponsored 16 and seven, respectively.<sup>147</sup>

## Shareholder Activism to Silence Free Speech

In her recent book, *The Intimidation Game*, *Wall Street Journal* columnist Kimberley Strassel details organized efforts to chill free speech. “In June 2011, California state treasurer Bill Lockyer and New York City public advocate Bill de Blasio – both die-hard Democrats and both charged with overseeing the investment of pension-fund money – wrote letters to their respective pension funds calling on them to use their heft to demand corporate political spending disclosure. Both CalPERS and CalSTRS quickly moved to formally adopt policies to do just that.”<sup>148</sup> New York’s Bill de Blasio was recently quoted in a Media Matters memo about the political Left’s real goals regarding corporate disclosure of political activity. In the memo, de Blasio was quoted as saying, “We will use every tool, whether it is actions among consumers up to boycotts, whether it’s shareholder actions, whether it’s work from pension funds – to use the pension funds to direct Corporate America to change its ways—legal action, you name it, it’s on the table.”<sup>149</sup>

This is unsettling because it shows some pension fund managers are more interested in using the fund to silence political views they disagree with than managing the fund to get the best returns possible for workers. Pension trustees should not be using public pension funds to advance their own political crusades and should instead be focused on diligently managing the fund they have been entrusted with to earn the best returns possible and provide a secure retirement for plan participants.

## Shareholder Activism and Executive Compensation

Another issue where pension funds are pushing political agendas through shareholder resolutions is executive and CEO compensation. Shareholder proposals relating to stock option compensation or other executive compensation are increasingly prevalent, with 17

being introduced among Fortune 250 companies in 2016 alone.<sup>150</sup>

One notable example of these efforts comes from Washington state. In his 2016 State of the State Address, Governor Jay Inslee directed the State Investment Board to vote against executive compensation packages deemed too high. As a large shareholder in many companies, the Board may already vote against the salary of any executive if they believe it does not represent the financial health of the company. However, Governor Inslee wants the State Investment Board to go further by using their voting power to “reduce the widening pay gap between CEOs and their workers,” and encouraged the board to “promote this policy with other states and institutional investors.”<sup>151</sup> This is not the first time executive compensation has been politicized. Large institutional shareholders such as CalPERS, CalSTRS and AFSCME have regularly demanded decision rights on executive pay at the annual meetings of companies, both domestic and multinational.<sup>152</sup>

Attempts to influence compensation decisions, or any other significant financial actions of private companies, by public pension funds or government for political reasons, are a grave misuse of the time that pension managers should be spending to perform their fiduciary duties. They are an abuse of employee contributions, employer contributions and taxpayer dollars for the politicization of private issues.

## Political Crusades Put Pensioners at Risk

As these examples have shown, when pension trustees place their own political agendas ahead of their responsibility to achieve the best returns for the pension fund, pension returns often decline, placing pensioners’ retirements in jeopardy. This activism is also unfair to both pensioners and taxpayers because it uses public funds to speak in their name, even when pension trustees take political positions contrary to their deeply-held views. Pension trustees should not be spending their time, and risking other people’s money, on political crusades. Rather, they should use their time to research new investment opportunities and provide the best returns for the pension fund. Individuals serve on pension boards as trustees, not political activists.

## Solutions for Fighting Political Crusade Cronyism

- 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.

## Conclusion

While significantly underfunded, public pension funds represent the retirement future of millions of American workers. As such, lawmakers have an obligation to public employees to ensure these funds are managed in workers' best interest. When pension trustees misuse public pension funds to promote local economic development and social goals, reward supporters or promote political agendas, it endangers investment returns and jeopardizes the future of pensioners.

Workers deserve better. Policymakers have the opportunity to secure the promises made to pensioners and their families by keeping politics out of pension policymaking. This can be achieved by adopting strong fiduciary standards for pension trustees, transparency rules that allow the public to see how pension funds are being managed and smart pension board reforms that hold trustees accountable. These reforms will guarantee proper pension fund management, which in turn will help state and local governments keep the pension promises they have made.

## Appendices

### APPENDIX A: SOLUTIONS FOR PRUDENT PENSION INVESTMENT AND GOVERNANCE

States can keep their pension promises to workers and retirees through wise pension investment and governance. These solutions fall into three important categories: fiduciary standards, transparency rules and pension board governance reforms.

#### **States should adopt strong fiduciary standards for public pension trustees that require:**

- Trustees should manage the pension fund for the exclusive purpose of providing pension and other post-employment benefits to plan participants and beneficiaries. Other post-employment benefits should be defined to include healthcare and other benefits outlined in the pension plan and not the limited, tangential benefits local economic development and social projects may provide.
- 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.
- Dispensing with any economically targeted investments and industry divestment requirements which invariably reduce pension fund returns and increase investment risk.
- Adopting the prudent investor standard for pension fiduciaries.
- 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.
- Trustees may only incur administrative costs and fees that are appropriate and reasonable in relation to the assets of the retirement system.
- Trustees should diversify the investments of the retirement system, unless it is reasonably determined that, because of special circumstances, the purposes of the retirement system are better served without diversifying.
- Trustees should be held personally liable for losses deriving from failure to adhere to fiduciary standards.

#### **State should adopt transparency rules that allow lawmakers, board members, pensioners and the public to see how pension funds are being managed, including:**

- Reporting of investments should be done separately by asset class and by individual assets so it can be easily determined how investments are performing and increase accountability for trustees.<sup>153</sup>
- Pensions should report the fund's overall performance, asset class performance and individual asset performance over a 20 or more-year time horizon to show how assets have performed over time and allow stakeholders to see how actual performance has compared with the assumed rate of return.<sup>154</sup>
- Require a comprehensive report from an independent financial consultant before any divestment action is approved detailing the estimated short-term and long-term costs of the proposed divestment.
- Require reporting each year of how a pension fund voted on each shareholder resolution and the justification for their decision.
- Pension board meetings should be live-streamed, recorded and easily accessible to the public.
- All pension related documents should be readily available to the public with necessary exceptions for confidentiality.
- Trustees should be required to disclose all personal investments, gifts, affiliations and other interests that may influence their investment decisions to allow the public to evaluate any potential conflicts of interest.

**States should adopt board reforms that require and enable trustees to serve as watchdogs, ensuring that fiduciary provisions are being followed and that pension funds are wisely managed:**

**Board composition:**

- Pension boards should be diversified to provide representation for all stakeholders, including taxpayers. This will prevent any special interest group from gaining too much power on the board and using pension funds to overweight local investments, grant political kickbacks or advance political crusades.
- Pension boards should have a certain number of seats dedicated to independent financial professionals that serve as public representatives.

**Trustee responsibilities:**

- Trustees should be required to report any failure by other trustees, including board members and pension fund managers, to adhere to fiduciary standards and other applicable law.
- Before making any investment, trustees should be required to attest they have no conflict of interest with the investment. If they do, they should be required to recuse themselves from the decision-making process for that investment and any related votes.
- Trustees should be required to fully disclose campaign contributions they have received and recuse themselves from the decision-making process and any votes related to investing in those companies or interests.
- While trustees may represent a specific group's interests, they should be expected to act impartially to achieve the best returns for the fund.<sup>155</sup>
- Trustees should not be allowed to delegate their voting authority by proxy voting.
- Trustees dealing with day-to-day investment decisions, such as those serving on investment committees, should:
  - Be required to have a minimal amount of financial experience and some form of industry certification.
  - Not be allowed to change the bylaws governing pension investments without approval from the full pension board.<sup>156</sup>

**Board management and operations:**

- All trustees should be regularly apprised of investment performance, with specific details of how all individual assets have performed.
- Require all introductions of and votes on shareholder resolutions to be made in consultation with the whole pension board.
- Pension boards should be required to consult with outside, independent financial advisors regarding their investment strategy and investment decisions.
- States and municipalities should consider creating an independent investment board, apart from the pension board, made up of financial professionals to manage day-to-day investment decisions. Working with a pension fund's chief investment officer, this independent board would work to achieve the pension board's investment objectives with far less risk of political influence.
- Boards should provide education and training to all trustees to develop necessary core competencies for their service:
  - All new trustees should be evaluated to determine their education needs in regards to fulfilling their fiduciary and financial responsibilities.
  - All new trustees should be provided with and required to complete pension investment and finance training to assist them in making investment decisions and improve their ability to understand the effect certain investments have on overall portfolio performance.
  - Periodic educational opportunities should be provided that help to improve core competencies and apprise trustees of any changes in their obligations as fiduciaries.

## APPENDIX B: ALEC MODEL POLICIES

### Model Policies: Wise Pension Investment and Governance

ALEC offers several model policies that states can reference as they refine their policies toward wise pension stewardship. These documents have the goals of promoting best practices for pension investment and governance. All ALEC model policies can be obtained by visiting [www.alec.org](http://www.alec.org).

### ALEC Statement of Principles on Sound Pension Practices

- **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.

## Retirement System Board of Trustees and Employees Prudent Investor Act

### Summary

This Act promotes security, stability, and accountability in state retirement systems. A trustee or director of a state retirement system must comply with a series of prudent investor guidelines. These guidelines include risk and return objectives, diversification, loyalty, investment costs, compliance, and delegation of management functions. This Act shall be known and may be cited as the “{insert state} Retirement System Board of Trustees and Retirement System Employees Prudent Investor Act.”

### Model Policy

#### Section 1. {Prudent Investor Rule}

(A) Except as otherwise provided in subsection B of this section, a trustee or director of any {insert state} retirement system who invests and manages, or delegates the approval of the investment or management of retirement system assets owes a duty to the beneficiaries of the system to comply with the prudent investor rule set forth in the “{insert state} Retirement System Board of Trustees and Retirement System Employees Prudent Investor Act.”

(B) A trustee or director or retirement system employee is not liable to a beneficiary or state taxpayer to the extent that the trustee, director or retirement system employee acted in reasonable reliance on the statutory provisions and rules of the retirement system. A trustee or director or retirement system employee who exercises reasonable care, skill, and caution in performance of actions as a trustee or director or retirement system employee is not liable to a beneficiary for the actual investment return results or retirement system operational results.

#### Section 2. {Standard of Care - Portfolio Strategy - Risk and Return Objectives}

(A) A trustee or director or retirement system employee shall invest and manage or approve the investment and management of retirement system assets as a prudent investor would, by considering the purposes, terms, distribution requirements, and other circumstances of the retirement system. In satisfying this standard, the trustee or director or retirement system employee shall exercise reasonable care, skill, and caution.

(B) A trustee or director or retirement system employee’s investment and management decisions or approval of investment and management decisions respecting individual assets of the retirement system must be evaluated not in isolation, but in the context of the retirement system’s portfolio as a whole and as a part of an overall investment strategy having risk and return objectives reasonably suited to the statutory and rules governing the system. Investment and management decisions shall be made on an impartial basis.

(C) Among circumstances that a trustee or director or retirement system employee shall consider in investing and managing retirement system assets or the delegation of approval of investing and managing retirement system assets are those of the following as are relevant to the retirement system or its beneficiaries:

- (1) General economic conditions;
- (2) The possible effect of inflation or deflation;
- (3) The expected tax consequences of investment decisions or strategies;
- (4) The role that each investment or course of action plays within the overall retirement system portfolio, which may include financial assets, interests in closely held enterprises, tangible and intangible personal property, and real property;

- (5) The expected total return from income and the appreciation of capital;
- (6) Other resources of the retirement system on behalf of beneficiaries;
- (7) Needs for liquidity, regularity of income, and preservation or appreciation of capital; and
- (8) An asset's special relationship or special value, if any, to the purposes of the retirement system or to the beneficiaries.

(D) A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets shall make a reasonable effort to verify facts relevant to the investment and management of retirement system assets.

(E) A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets may invest in any kind of property or type of investment consistent with the standards of the “[insert state] Retirement System Board of Trustees and Retirement System Employees Prudent Investor Act.”

(F) A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets shall not make a determination to invest or increase the investment of retirement system assets based on ideological or non-financial related criteria for or against specific industries. A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets shall not make a determination to avoid investment of or reduce the investment of retirement system assets based on ideological or non-financial related criteria for or against specific industries. A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets shall not make a determination to employ or terminate employment of an investment manager or consultant based on ideological or non-financial related criteria. Prior to a determination by a trustee or director or retirement system employee to avoid investment of or reduce the investment of retirement system assets in a specific industry, or employ or terminate employment of an investment manager or consultant, external expertise from an independent third-party must be consulted. The results and recommendation of the consulted expertise shall be made available for public review.

### **Section 3. {Diversification}**

A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets shall diversify the investments of the retirement system unless it is reasonably determined that, because of special circumstances, the purposes of the retirement system are better served without diversifying.

### **Section 4. {Loyalty}**

A trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets shall invest and manage the retirement assets solely in the interest of the beneficiaries.

### **Section 5. {Investment Costs}**

In investing and managing retirement system assets, a trustee or director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets may only incur costs that are appropriate and reasonable in relation to the assets of the retirement system.

**Section 6. {Reviewing Compliance}**

Compliance with the prudent investor rule is determined in light of the facts and circumstances existing at the time of a trustee director or retirement system employee or a trustee or director or retirement system employee who delegates approval of investing and managing retirement system assets' decision or action and not by hindsight.

**Section 7. {Delegation of Investment and Management Functions}**

(A) A trustee or director or retirement system employee may delegate investment and management functions. The trustee shall exercise reasonable care, skill, and caution in:

- (1) Selecting an agent;
- (2) Establishing the scope and terms of the delegation, consistent with the purposes and terms of the retirement system; and
- (3) Periodically reviewing the agent's actions in order to monitor the agent's performance and compliance with the terms of the delegation.

(B) In performing a delegated function, an agent owes a duty to the retirement system to exercise reasonable care to comply with the terms of the delegation.

(C) A trustee or director or retirement system employee of a retirement system who complies with the requirements of subsection A of this section is not liable to the beneficiaries or to the retirement system for the decisions or actions of the agent to whom the function was delegated.

(D) By accepting the delegation of a retirement system function from the trustee or director or retirement system employee of a retirement system that is subject to the laws of this state, an agent submits to the jurisdiction of the courts of this state.

**Section 8. {Severability clause.}****Section 9. {Repealer clause.}****Section 10. {Effective date.}**

## Other ALEC Model Policies:

The summaries of other relevant ALEC model policies are provided below in the interest of space. The full text of all ALEC model policies can be accessed at [www.alec.org](http://www.alec.org).

**The Promoting Transparency in State Unfunded Liabilities** statement of principles says that each retirement plan should report, in full, both its obligations and assets. It says, in part, “It is clear that citizens are demanding greater transparency in accounting for the costs of state and local government. Given the large and growing unfunded liabilities in pension and other post-employment benefit plans, it is crucial for state and local governments to meet accounting standards for these plans established by the Governmental Accounting Standards Board (GASB).”

**The Resolution Calling for Enhanced Integrity in Public Employee Pension Plan Reporting** calls upon the relevant standard-setting body, the Government Accounting Standards Board (GASB), to adopt reporting standards that require reporting as a liability on a governmental entity’s balance sheet any unfunded pension plan obligation for which it is responsible; reporting as a current expense the cost of any changes in benefits awarded on the basis of past service; clear disclosure of discount rates used in the calculation of pension liabilities; why such discount rates were selected; and the liabilities which would result if alternative discount rates were applied. It also requests GASB to send an official representative to present information and answer inquiries at a public hearing to be held by the relevant committee or committees.

**The Unfunded Pension Liabilities Accounting and Transparency Act** would require state retirement boards or other responsible entities to issue reports to the legislature on the funds they oversee. The reports would give the legislature several different ways of understanding the liabilities of each fund, including the outcomes of several “what if” scenarios. The act’s summary statement declares the following: “The legislature finds that the future liabilities of the state’s several post-retirement pension and benefits plans may exceed the ability of these plans to fully pay future claims, possibly requiring taxpayers to make unforeseen future contributions to ensure the solvency of these plans or the reduction or elimination of benefits to future and current retirees. Believing both of these alternatives to be unacceptable, the legislature seeks to identify the extent to which the several pension plans lack the necessary capital to pay all future obligations.”

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## **Appendix 3**

*Fischel, "Fossil Fuel Divestment"*

## **Fossil Fuel Divestment: A Costly and Ineffective Investment Strategy**

Prof. Daniel R. Fischel<sup>1</sup>

President and Chairman,  
Compass Lexecon

### **I. Introduction**

1. In recent years, certain groups concerned with the potential effects of global climate change have urged institutions and other investors to divest from securities associated with companies that explore for, produce, market and/or exploit fossil fuels. Advocacy for fossil fuel divestment began in 2011 on college campuses like Swarthmore College in Pennsylvania and Hampshire College in Massachusetts, and in 2012, Seattle became the first municipal entity to commit to fossil fuel divestiture goals.<sup>2</sup>

2. Since then, varying degrees of divestment have been adopted by some other institutions, while being rejected by others. For instance, in May 2014, Stanford University's Board of Trustees announced that it would undertake a limited divestment, focused exclusively on coal mining companies, and in September 2014, the Rockefeller Brothers Fund announced that it planned to substantially reduce its investments in fossil fuel companies.<sup>3</sup> Fossil Free, a project of the environmental group 350.org and a leading advocate of divestment, claims that, during 2014, 181 institutions and local governments, along with 656 individuals, divested a total

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1. My qualifications are described in Appendix A. I have been assisted in preparing this report by members of Compass Lexecon's professional staff. This study has been commissioned and financed by the Independent Petroleum Association of America (IPAA).
  2. Michelle Y. Raji (2014) "Timeline: Fossil Fuels Divestment," *Harvard Crimson*, October 2, 2014.
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of \$50 billion worth of assets.<sup>4</sup> Divestments by government entities, educational institutions, and philanthropic foundations constitute approximately 95 percent of these assets.<sup>5</sup>

3. By contrast, other institutions have resisted activists' calls for divestment. Trustees at American University voted in November 2014 to keep fossil fuel-related investments held in their endowment fund, indicating that divestment would double its annual management fees.<sup>6</sup> Harvard University, which holds the largest university endowment valued at more than \$32 billion, has also opposed divestment. Harvard's President, Drew Faust, commented:

“Divestment is likely to have negligible financial impact on the affected companies. And such a strategy would diminish the influence or voice we might have with this industry. Divestment pits concerned citizens and institutions against companies that have enormous capacity and responsibility to promote progress toward a more sustainable future.”<sup>7</sup>

4. Public commentary about divestment has also increased substantially. A recent opinion piece in the *New York Times* advocated greater debate about divestment on college campuses. It suggested that the costs of divestment to investors would be “not much,” and the potential benefits large, pointing to a divestiture campaign in the 1980s focused on Apartheid-era South African companies.<sup>8</sup>

5. Certainly, before divesting, investors and institutional fund managers should consider the costs of divestiture and the likelihood that divestiture will contribute meaningfully

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4. Fossil Free (2014) “Fossil Fuel Divestment: 2014 Accomplishments and Next Steps,” <http://gofossilfree.org/usa/wp-content/uploads/sites/6/2014/12/Divestment-Accomplishments-October-2014-Public.pdf>.
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  7. Drew Faust, Harvard University Office of the President (2013) “Fossil Fuel Divestment Statement,” October 3, 2013, <http://www.harvard.edu/president/fossil-fuels>.
  8. Evan J. Mandery (2014) “The Missing Campus Climate Debate,” *New York Times*, November 2, 2014.

to desirable environmental goals. In this report, I address these issues from the perspective of financial economics, relying on widely-accepted principles of the field, as well as the large literature on prior divestiture campaigns, including the South African case. I conclude that the costs to investors of fossil fuel divestiture are highly likely and substantial, while the potential benefits – to the extent there are any – are ill-defined and uncertain at best. Fossil fuel divestiture is therefore unlikely to pass a cost-benefit test, particularly compared with alternative ways investors who so desire can promote environmental goals.

## **II. Divestiture involves substantial costs for investors and others.**

6. Investors seeking to comply with the goals of fossil fuel divestiture potentially incur three key types of costs, described here and discussed more fully below:

- Trading costs. Divestiture involves selling certain securities and presumably buying others, both of which involve payment of broker commissions and bid-ask spreads.
- Diversification costs. By restricting the securities that can be included in a portfolio, it is widely recognized that an investor loses the benefits of diversification, suffering lower investment returns for a given level of portfolio risk.
- Compliance costs. Investors must identify the specific securities to be divested from an existing portfolio. Moreover, because firms evolve over time and new investment opportunities arise, there will be ongoing compliance costs to ensure that the portfolio continues to meet the desired standards.

7. These costs reduce the returns of an institution's investments and thereby reduce the institution's ability to achieve its goals. As one article on university endowment spending by the Association of American Universities noted, “[b]y far the most common categories of endowment expenditures are scholarships and financial aid, faculty chairs and salaries and

academic support programs.”<sup>9</sup> The article also states that “[m]any institutions with significant endowments are making college free for thousands of low- and moderate-income students.”<sup>10</sup> According to one study, higher education operating budgets receive 8.8 percent of their funding annually from endowments.<sup>11</sup> A recent economic study of 24 years of university endowment data found that negative endowment returns lead to substantially lower payouts to fund university operations: “a 10 percent negative endowment return is associated with an 8.2 percent reduction in payouts.”<sup>12</sup> The same study further found that “[a] negative endowment shock equivalent to 10 percent of a university’s budget leads to a 4.9 percent reduction in the number of tenure-system faculty during the following year ... In addition to reducing tenure-system faculty, universities react to negative shocks by also cutting support employees (e.g., secretaries) and to some extent maintenance employees.”<sup>13</sup> The costs imposed by divestment therefore have real impacts on institutions and those who rely upon them. I discuss each of these costs in detail below.

### **A. Trading Costs**

8. Divestment generates trading costs for investors, including processing and execution costs. Trade processing costs include payments to investment professionals to manage and facilitate trades, as well as exchange fees and taxes involved in trading securities. These costs vary across traders, depending on the types of securities they hold and whether they have

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9. “Myths About College and University Endowments,” Association of American Universities, January 2009 (<https://www.aau.edu/WorkArea/DownloadAsset.aspx?id=7792>).

10. *Id.*

11. NACUBO (2013) “Educational Endowments’ Investment Returns Averaged 11.7% in FY2013; Strong Improvement Over FY2012’s -0.3%,” Press Release, January 28, 2014, <http://www.nacubo.org/Documents/EndowmentFiles/2013NCSEPressReleaseFinal.pdf>.

12. Jeffrey R. Brown, Stephen G. Dimmock, Jun-Koo Kang, & Scott J. Weisbenner (2014) “How University Endowments Respond to Financial Market Shocks: Evidence and Implications,” *American Economic Review* 104(3):931-62, at 949.

13. *Id.*, at 933-34.

investment professionals in-house, but they are often substantial, with a recent study finding that institutional separate account fees for a large-cap domestic equity portfolio average 0.53 percent of assets.<sup>14</sup>

9. Execution costs include the payment of an effective bid-ask spread and any price impacts from a trade. The bid-ask spread is the difference between the price to sell a security and the price to buy the same security, with the latter typically being higher.<sup>15</sup> Financial economists typically recognize the bid-ask spread as the fee security dealers earn for supplying liquidity to traders.<sup>16</sup> An investor incurs costs relating to the bid-ask spread both on the sale of securities targeted for divestment (which would be sold at the relatively low bid price) and on the purchase of replacement securities (which would be bought at the relatively high ask price).

10. The price impact component of execution is “the price concession an investor may be forced to make for trading in quantities greater than those associated with the posted bid or ask price.”<sup>17</sup> In other words, to sell a large quantity of securities, an investor must offer a lower price, and to buy a large quantity of securities, an investor must pay a higher price. An academic study of large investment management firms indicates that the average price impact of trading for institutional investors is -0.35 percent of the price for sells and 1.0 percent for buys.<sup>18</sup>

11. A recent estimate from a widely-used source indicates that average processing and execution costs for an institutional equity investor are approximately \$0.18 per \$100 of

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14. Investment Company Institute (2006) “Mutual Funds and Institutional Accounts: A Comparison,” at p. 2.
  15. Zvi Bodie, Alex Kane, and Alan J. Marcus (2014) *Investments, Tenth Edition*, McGraw-Hill Irwin, at p. 64.
  16. John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay (1997) *The Econometrics of Financial Markets*, Princeton University Press, at p. 100.
  17. Zvi Bodie, Alex Kane, and Alan J. Marcus (2014) *Investments, Tenth Edition*, McGraw-Hill Irwin, at p. 76.
  18. Louis K.C. Chan & Josef Lakonishok (1995) “The Behavior of Stock Prices Around Institutional Trades,” *Journal of Finance*, (4):1147-1174, at p. 1148.

trading activity.<sup>19</sup> The National Association of College and University Business Officers reports that university endowments hold approximately \$23 billion in energy-related assets.<sup>20</sup> If all of these assets were divested, the benchmark described above would indicate a total cost for processing and execution alone of \$40.2 million. If as described above, divestiture generated a 0.35 percent price impact for stock sales and a 1.0 percent impact for stock purchases, this additional price impact would add \$308 million in trading costs.

## **B. Diversification Costs**

12. Investors typically want returns that are both high and steady from period to period. However, there is a tradeoff between investment risk and return, with higher returns usually available only by taking on more risk. However, when an investor diversifies their portfolio by spreading their investment across more assets, it is widely recognized that the investor can avoid this tradeoff and achieve a higher average return without an increase in risk.<sup>21</sup> For the same reasons, restricting certain assets from a portfolio, as is required by a divestment policy, reduces the average expected return from the portfolio at a given level of risk.

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19. Elkins/McSherry Bundled VWAP Global Universe 4Q12 Estimates. This analysis is based on a survey of major institutional traders, and is commonly used in the financial economics literature. It includes a price impact of 0.04 percent. See, e.g., Thomas, C.P., Warnock, F.E., & Wongswan, J. (2004) "The Performance of International Equity Portfolios," Board of Governors of the Federal Reserve System International Finance Discussion Papers, Number 817; Domowitz, I., Glen, J., & Madhavan, A., (2001) "Liquidity, Volatility, and Equity Trading Costs across Countries and Over Time," *International Finance*, 4(2):221-255.

20. According to 2013 NACUBO reports, the value of college endowments totaled more than \$456,000,000,000 and endowments held approximately 5% of their assets in energy. Therefore, the value of energy assets was approximately \$22,800,000,000. See, NACUBO, (2014) "U.S. and Canadian Institutions Listed by Fiscal Year 2013 Endowment Market Value and Change in Endowment Market Value from FY 2012 to FY 2013," Revised February 2014 and the 2013 NACUBO – Commonfund Study of Endowments.

21. Burton G. Malkiel (2011) *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing*, W.W. Norton & Co., at pp. 202-214. This result requires that the assets not be perfectly positively correlated with each other, as I describe below.

13. A standard way to evaluate the potential diversification benefits of any security or set of securities is to calculate the correlation of that security with the rest of the portfolio. The more uncorrelated a security is with the rest of the portfolio, the greater the diversification benefit it generates (and, by the same principle, the greater the cost associated with divesting that security). We analyzed the correlations between stocks in the energy sector – *i.e.*, those stocks most likely to be targets for divestment – and stocks in other sectors over the 50-year time frame 1965-2014. Claims that the performance costs of divestment are low typically focus on shorter time frames which can generate misleading results.<sup>22</sup>

14. Our data source on historical equity returns is the CRSP US Stock database, which is widely used in the academic community to study stock returns. In particular, this database contains all securities whose primary listings are on the NYSE, NYSE MKT (formerly known as Amex), NASDAQ, and ARCA exchanges. We included in our analysis all such securities that are assigned an SIC industry code by CRSP, using the most recent SIC code assigned to the security.

15. We identified each SIC code with one of 10 industry sectors, including the energy sector, based on the classification used in Fama and French (1997), updated to the current stock listings.<sup>23</sup> For each of the 10 sectors, we constructed a value-weighted index of all the stocks in our data and tracked those indices each day during the 50-year period 1965-2014.

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22. For example, in the aforementioned New York Times editorial, the author claims that “[s]ome research suggests that endowments would have performed better over the past decade had they excluded fossil-fuel companies.” Evan J. Mandery (2014) “The Missing Campus Climate Debate,” *New York Times*, November 2, 2014.

23. Eugene F. Fama and Kenneth R. French (1997) “Industry Costs of Equity,” *Journal of Financial Economics*, 43(2):153-93. An update of this classification is provided at [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).

16. The standard measure of correlation is the correlation coefficient, which ranges between -1.0 and +1.0.<sup>24</sup> A correlation coefficient of -1.0 indicates a security that is perfectly negatively correlated with the portfolio, such that whenever the portfolio's value increases, the security in question declines proportionally in value (and vice-versa). A correlation coefficient of +1.0 indicates a security that is perfectly positively correlated with the portfolio, such that whenever the portfolio's value increases, the security in question also increases proportionally in value (and vice-versa). A correlation coefficient of 0.0 means there is no statistical relationship between the portfolio's return and the return of the security in question.

17. For each of the ten sectors, we created a value-weighted stock price index for stocks in that sector and another value-weighted index of all stocks in the other nine sectors, and calculated the correlation between the returns of these two indices over the 1965-2014 period. Exhibit A shows the correlations between each sector and the rest of the market. Of the ten sectors, the energy sector has the lowest correlation with all other sectors, and therefore the largest potential diversification benefits relative to the other nine sectors. Moreover, the sector with the second lowest correlation with other sectors is the utility sector, another sector that includes many likely fossil fuel divestment targets. These results indicate the potential for substantial diversification costs associated with fossil fuel divestment.

18. To further quantify these costs, we also undertook an analysis of the reduction in the average return an investor who divested from the energy sector would have received over the 1965-2014 period, relative to the average return received by an investor who did not divest. Obviously, investors hold many different portfolios, and as discussed in the following section,

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24. Burton G. Malkiel (2011) *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing*, W.W. Norton & Co., at p. 206.

there are numerous ways an investor could implement fossil fuel divestment. It would be impossible to precisely quantify the value of diversification for every possible investor and every possible divestment strategy. However, as a rough gauge of the overall magnitude of diversification costs, we estimated the reduction in returns to an investor who held the “market portfolio” – *i.e.*, the average equity investor in the market.

19. We also considered what is likely among the simplest and lowest compliance-cost strategies for divestment, namely excluding from the portfolio any stock of a company in the energy sector, as defined above. It is possible (although far from certain) that a more fine-tuned divestment strategy that distinguished between different companies within this sector, or which also identified select companies from other sectors like the auto industry, could have lower diversification losses, but, as discussed in the following section, compliance costs for such a strategy would also be higher.

20. Because returns on equities vary substantially over short periods of time, we analyzed the effect of divestiture over a very long historical period – as noted above, the fifty years from 1965 to 2014. It is possible that the future benefits of diversification will be larger or smaller than past effects, and moreover, the impact of divestiture can vary substantially depending on whether an investor happens to make trades during a downswing or upswing in the market or energy sector. Recent changes in global energy markets have exerted significant downward pressure on fossil fuel prices. For example, the Brent Crude Oil Index declined by nearly 50 percent from June 2014 to December 2014. As would be expected, these declines in underlying commodity prices have also been associated with declines in the share prices for many public companies engaged in the exploration and production of fossil fuels (the S&P 500 Energy Index declined by approximately 15% from June 2014 to December 2014). The fifty

year historical time period we examine as part of this analysis also captures other declines in crude oil markets including two where the price declined by 60 percent or more in a calendar year (1986 and 2008). Regardless of recent events, there is no way to reliably predict future returns in advance, and therefore, the best guide to the potential effects of diversification – and the standard approach of financial scholars and analysts to such questions – is to examine long-term averages.

21. Appendix B describes our methodology, which is summarized briefly here. We first constructed a value-weighted index of energy stock prices using the energy sector SIC codes, as discussed above. Separately, we also constructed a single value-weighted index of all non-energy stock prices across the other nine sectors. We then identified, based on the fifty year history for all of these stocks, the optimal portfolio ratio for the energy and non-energy indices that maximizes the overall average return, relative to the standard deviation – a standard measure of portfolio risk.

22. This optimal portfolio experienced an average annualized excess return over the 1965-2014 period of 6.5 percent, while the similarly-calculated return for the non-energy stock index was only 5.8 percent. This indicates a gross reduction in return of 0.7 percent per year due to divestment. However, this calculation is incomplete because it does not account for differences in risk between the two portfolios. Indeed, the optimal portfolio's standard deviation is higher, 16.2 percent, indicating greater volatility relative to the non-energy stock index's standard deviation of 15.7 percent.

23. Therefore, an investor who chose to divest would experience a lower return, but would also see the relative volatility of his portfolio decline. However, there is no reason why

divestiture alone would change an investor's attitude towards risk. As such, to appropriately compare divested and non-divested portfolios, we risk-adjusted the optimal equity portfolio to make it comparable to the divested non-energy stock index portfolio. Specifically, we allocated a share of the funds in the optimal portfolio including energy stocks to an essentially risk-free asset (a one-month U.S. Treasury bill), and adjusted this share to make the volatility of the optimal portfolio, measured by the standard deviation, equal to that of the non-energy stock index, which has a standard deviation of 15.7 percent.

24. After this adjustment, the optimal portfolio that includes energy stocks earned an average annualized excess return of 6.3 percent. While lower than the gross return calculated above, this is still substantially higher than the average return for the divested non-energy index portfolio, which is only 5.8 percent. This indicates a diversification cost from divesting energy stocks of approximately 0.5 percent per year, holding constant the volatility of the portfolio. Exhibit B shows the value over time of \$100 invested on January 1, 1965 in each of these two portfolios. As of December 31, 2014, the \$100 invested in the optimal risk-adjusted portfolio would have grown to about \$14,600, whereas the \$100 invested in the divested portfolio would have grown to only about \$11,200, indicating a loss of 23 percent due to divestment.

### **C. Compliance Costs**

25. Our discussion above assumed divestment of all energy stocks, and this would certainly be a simple divestiture strategy. However, actual divestiture strategies are typically far more sophisticated, consistent with the complexity of identifying the environmental impact of individual companies. For instance, the recent *New York Times* opinion article described above proposed that divestiture distinguish between fossil fuel companies: “[i]nvestment could be

contingent on a company's agreeing to curtail its political spending, report on climate change or include environmental experts on its board."<sup>25</sup> The Rockefeller Brothers Fund stated that its process of divestment would involve developing a "detailed plan" over a multi-year period.<sup>26</sup>

26. Investors seeking to pursue climate change sensitive investing would therefore most likely undertake a careful review to identify securities for divestiture, at a consequently substantial cost. These costs would likely be ongoing as individual companies' climate impacts evolve over time. For example, American University said "divesting from these companies would require that AU investments be withdrawn from index funds and commingled funds in favor of more actively managed funds [and] estimated this withdrawal would cause manager fees to double."<sup>27</sup>

27. It is easy to point at large energy companies as simple targets for divestment, but many of these companies are also leaders in the production of non-fossil-fuel energy and the development of green energy technology, so even in these apparently simple cases, investors would presumably want to exercise nuanced judgment. For instance, from 2000 – 2012, U.S. oil and natural gas companies invested approximately \$11.4 billion in renewable sources of energy. This \$11.4 billion contribution accounted for roughly 17 percent of the comparable total industry and federal government investment during this time period.<sup>28</sup>

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25. Evan J. Mandery (2014) "The Missing Campus Climate Debate," *New York Times*, November 2, 2014.

26. Michael Calia (2014) "Rockefeller Fund Seeks to Shed Fossil-Fuel Investments; Family, Whose Fortune is from Oil Aims to Limit Bets on Coal, Tar Sands in its Fund," *Wall Street Journal*, Sept. 22, 2014.

27. Jeffrey A. Sine, Chair, Board of Trustees (2014) "Memorandum to American University Community," November 21, 2014, <http://www.american.edu/trustees/Announcement-November-21-2014.cfm>.

28. Thomas Tanton.(2011) "Key Investments in Greenhouse Gas Mitigation Technologies from 2000 Through 2012 by Energy Firms, Other Industry and the Federal Government," T<sup>2</sup> & Associates, at p. 9.

28. Moreover, investors attempting to achieve environmental goals in their portfolio would also likely want to consider the appropriateness of other companies that produce products that are complements for fossil fuels, like automakers or construction companies, and companies that provide support and services for fossil fuel production, like banks that provide cash management and lines of credit. Effectively identifying divestiture targets in these cases requires a fuller understanding of the activities of these firms and how those activities may affect environmental outcomes.

29. Compliance costs associated with divestiture could, in principle, be reduced if recognized environmental experts could agree upon a unified set of target securities. The cost of obtaining and maintaining this expert analysis could then be allocated across many investors. However, at least for now, the lists of companies proposed as targets by major divestment campaigns diverge widely.

30. For instance, one of the most prominent divestment campaigns, Fossil Free, proposes investors divest from securities issued by companies on a list it calls the “Carbon Underground 200,” which “identifies the top 100 public coal companies globally and the top public oil and gas companies globally, ranked by the potential carbon emissions content of their reported reserves.”<sup>29</sup> Another group with similar views, the Political Economic Research Institute, has developed its own list of major polluters, the “Greenhouse 100 Polluters Index,” which “identifies the top companies responsible for greenhouse gas emissions.”<sup>30</sup> Exhibit C reports the top 10 U.S. companies on each of these two lists. Despite the apparently sympathetic goals of these two lists of companies, there is no overlap among even the top 10 firms.

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29. See: <http://fossilfreeindexes.com/the-carbon-underground-2014/>.

30. See: <http://www.peri.umass.edu/greenhouse100/>.

31. Overall, among the 192 unique companies on the Carbon Underground 200, and the 88 unique companies on the Greenhouse 100 Polluters Index, only 11 companies appear on both lists.<sup>31</sup> This comparison illustrates the complexities that investors will likely need to consider when choosing to divest, and the consequently higher costs they will incur in doing so. Principled compliance with a climate change sensitive divestment strategy requires investors to make thoughtful judgments regarding the securities in their portfolio, and these judgments are not straightforward or automatic.<sup>32</sup>

32. Moreover, in addition to compliance costs associated with divestment, an investor would also presumably want to identify other acceptable securities for reinvestment. For instance, the fossil fuel divestment advocacy group Fossil Free proposes that, after divesting, investors should “focus a reinvestment strategy on renewable energy, energy efficiency, and climate mitigation and adaptation infrastructure.”<sup>33</sup> However, there is again no simple expert consensus approach to doing so, and therefore, considerable efforts would be necessary to identify and support a given investment strategy. In particular, existing mutual funds that do indicate environmental concerns as a key objective vary widely in their holdings. Exhibit D illustrates the 10 largest security holdings of the five largest such funds by market capitalization. Thirty-one of the forty unique securities listed in Exhibit D appear in the top 10 security holdings

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31. To determine unique companies and the overlap between the two lists, Capital IQ was used to determine the parent company associated with the entities on each list.

32. For example, Trillium Asset Management, a supporter of the 350.org divestment campaign, offers clients several investment vehicles that hold equities in fossil fuel companies. In particular, its Large Cap Core fund lists EOG Resources, which is also listed on the Carbon Underground 200, as one of its top 10 holdings. See: <http://www.trilliuminvest.com/wp-content/uploads/2014/10/Trillium-Large-Cap-Core-Fact-Sheet-Q3-2014.pdf>. Trillium states that “[a]n important piece of Trillium’s climate change strategy is to engage companies on climate change risks.” See: <http://www.trilliuminvest.com/wp-content/uploads/2013/01/Trillium-Fossil-Fuel-Free-Investing.pdf>. However, they invest only in funds that meet certain “ESG” (environmental, social and governance) criteria. In other words, even an organization that supports divestment acknowledges that some fossil fuel firms meet its standard for companies that are “protecting the environment” and “exhibiting best practices.” See <http://www.trilliuminvest.com/approach-to-sri/esg-integration/>.

33. See: <http://gofossilfree.org/usa/your-roadmap-to-personal-divestment/>.

of only one of these funds. This illustrates that additional costs will be incurred by investors in researching reinvestment opportunities.

33. Even if a reliable definition of target divestment securities and appropriate replacement investments could be identified today, compliance costs are still likely to be substantial and ongoing for investors. Over time, it is likely that the composition of portfolio companies' investments will evolve and their holdings and activity related to fossil fuels will change. Companies will drift between unacceptable and acceptable status according to various metrics, many of which are not reliably quantified and/or subjective in nature. Moreover, new potential investments will arise, which must be continually analyzed relative to the desired environmental objectives.

34. There are two ways for an investor to maintain ongoing portfolio compliance with divestment objectives. One is for the investor to manage the portfolio, continuously monitoring the activities of the companies within the portfolio to identify divergence from environmental objectives and adjusting the portfolio correspondingly. A second approach is to outsource this monitoring by holding a larger share of the portfolio in a mutual fund with "green" objectives; this essentially entrusts the mutual fund manager with the role of active management. Either approach involves costs that are likely to be substantial for most investors.

35. Financial literature has long associated active portfolio management, either individually or through a mutual fund manager, with a higher overall fee structure relative to passive strategies. In his 2008 Presidential Address to the American Financial Association, Kenneth R. French summarized a range of evidence indicating that the cost of active portfolio

management is a reduction in the average annual return on a portfolio of 0.67 percent per year.<sup>34</sup> Over a 10-year horizon, an initial portfolio of \$1,000,000 would experience an average of over \$67,000 in losses due to the cost of active management.

36. Dr. French's estimate reflects the overall average costs to investors who actively manage their portfolios for a wide range of reasons besides environmental concerns, and I am not aware of any estimates in the literature that focus on the costs of active management exclusively for the purposes of achieving environmental goals. Nevertheless, it is a broadly accepted principle of financial economics that active investing is costly and involves lower returns for most investors.<sup>35</sup>

37. Even so, management fees for mutual funds with an environmental focus appear to be, on average, greater than those funds without such a focus. Exhibit E-1 compares the 10 largest "green" mutual funds proposed by The Forum for Sustainable and Responsible Investment ("US SIF"), a group that seeks to advance investment practices that consider environmental criteria, with a set of the largest overall mutual funds in the market by assets under management (as reported by Bloomberg, L.P.).<sup>36</sup> On average, the US SIF green mutual funds reported an expense ratio of 0.95 percent of assets, approximately three times higher than

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34. This estimate includes certain transaction costs, which I discussed earlier in this report. <http://www.afajof.org/details/video/2870801/2008-Presidential-Address.html>.

35. For example, one prominent textbook states, "[p]roponents of the efficient market hypothesis often advocate passive as opposed to active investment strategies. The policy of passive investors is to buy and hold a broad-based market index. They expend resources neither on market research nor on frequent purchase and sale of stocks. Passive Strategies may be tailored to meet individual investor requirements." Zvi Bodie, Alex Kane, and Alan Marcus (2014) *Investments, Tenth Edition*, McGraw Hill/Irwin, at p. 380.

36. US SIF is one of the resources that divestment advocacy group Fossil Free proposes that investors use to identify appropriate re-investment assets. See: <http://gofossilfree.org/usa/your-roadmap-to-personal-divestment/>.

the average expense ratio of the 10 largest mutual funds, which was reported at only 0.32 percent over the same period (*see* Exhibit E-2).<sup>37</sup>

**D. The overall cost of divestment is substantial.**

38. While each of the individual costs discussed above is meaningful in isolation, taken together these costs have the potential to substantially impair the future value of endowments and other investor funds. For example, a 0.5 percent decrease in portfolio performance impact on the estimated \$456 billion in university endowment assets would decrease annual growth by over \$2 billion annually.<sup>38</sup> An increase in compliance costs of 1 percent on the estimated \$23 billion of those endowments invested in energy stocks would further decrease annual growth by an additional \$230 million.<sup>39</sup> A reduction in wealth of this magnitude could have a substantial impact on the ability of universities to achieve their goals, such as the research, scholarships and services that universities are able to offer. As noted by Harvard President Drew Faust,

“Significantly constraining investment options risks significantly constraining investment returns. The endowment provides more than one-third of the funds we expend on University activities each year. Its strength and growth are crucial to our institutional ambitions — to the support we can offer students and faculty, to the intellectual opportunities we can provide, to the research we can advance.”<sup>40</sup>

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37. These calculations are based on the most recent data provided by Morningstar.

38. See, “U.S. and Canadian Institutions Listed by Fiscal Year 2013 Endowment Market Value and Change in Endowment Market Value from FY 2012 to FY 2013,” Revised February 2014 (<http://www.nacubo.org/Documents/EndowmentFiles/2013NCSEEndowmentMarket%20ValuesRevisedFeb142014.pdf>).

39. *Id.*, and The 2013 Commonwealth Study of College Endowments.

40. Drew Faust, Harvard University Office of the President (2013) “Fossil Fuel Divestment Statement,” October 3, 2013, <http://www.harvard.edu/president/fossil-fuels>.

### **III. Divestiture is unlikely to impact equity values of divested companies or achieve other goals.**

#### **A. Divestiture is unlikely to impact equity values of divested companies.**

39. The ostensible purpose of divestment would be to place capital market pressure on certain companies to reduce or change business operations that activists believe may harm the environment or impact climate change. However, basic and widely-accepted financial principles indicate that divestment is in fact highly unlikely to have any substantial effect on these companies.

40. Financial analysts typically represent the price of a stock as the present value of the expected returns to the company's investments.<sup>41</sup> In highly liquid markets, a company's stock price cannot diverge in any persistent, substantial way from this fundamental value, because otherwise, investors would have the opportunity to earn greater returns by buying or selling the stock, a process known as arbitrage. As one textbook puts it, "[t]he idea that market prices will move to rule out arbitrage opportunities is perhaps the most fundamental concept in capital market theory."<sup>42</sup>

41. This relationship between a company's stock price and its fundamental value in liquid markets means that divestment campaigns cannot materially affect stock prices and therefore cannot materially change a company's incentives to undertake certain activities or other investors' incentives to hold these companies in their portfolios. As an example, suppose a particular company's stock price is currently \$100. While individual investors can and do differ

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41. Richard A. Brealey, Stewart C. Myers, and Franklin Allen (2014) *Principles of Corporate Finance* (11<sup>th</sup> ed.), McGraw-Hill Irwin, pp. 80-84.

42. Zvi Bodie, Alex Kane, and Alan J. Marcus (2014) *Investments, Tenth Edition*, McGraw-Hill Irwin, at p. 328. See also Hal R. Varian (2014) *Intermediate Microeconomics* (9<sup>th</sup> ed.), W.W. Norton & Co., at p. 205 (stating, "[a]s long as there are people around looking for 'sure things' we would expect that well-functioning markets should quickly eliminate any opportunities for arbitrage.")

in their beliefs about a company's future profitability, the \$100 price can be thought of as a market consensus view about the value of future profits and dividends for the company.

42. An investor who wishes to divest his portfolio of this stock would offer it for sale and (putting aside the bid-ask spread) be able to sell the stock for approximately \$100 per share, with no reduction in the stock price, because if the stock price did decline, say to \$95, other investors would be able to earn \$5 per share in arbitrage profits. This would lead other investors to bid up the price back to \$100. This is the simple logic of arbitrage that implies that divestiture cannot materially reduce equity values.<sup>43</sup>

43. As described above, institutions currently engaged in fossil fuel divestment are focused among the educational, philanthropic, and government sectors, and these institutions hold a very small share of stock in the targeted companies. Even a substantially more widespread adoption of divestment policies by these types of institutions would therefore have little or no effect on share prices. As noted above, for instance, available estimates indicate that college and university endowments have roughly \$23 billion invested in energy and natural resources. This is less than 1 percent of the more than \$3.8 trillion in total current market capitalization of the 200 companies on the Carbon Underground 200.<sup>44</sup>

#### **B. Prior divestment campaigns have not impacted stock valuations.**

44. The conclusion that divestiture campaigns are unlikely to affect targeted companies is confirmed by the experience of prior campaigns. During the 1980s, a major

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43. In theory, it could be possible for divestment to affect the price of a security that was highly illiquid, because of the lack of arbitrageurs. However, the stocks of most major companies targeted by divestment campaigns are traded on exchanges and have liquid markets for their equity.

44. Total current market capitalization is calculated as of year-end (12/31/2014), sourced from available data on Bloomberg, L.P.

coordinated divestiture campaign targeted securities issued by companies with interests in South Africa, with the goal of supporting an end to Apartheid. By 1986, over 100 colleges and universities had adopted some form of South African divestment, as had the pension funds of several states, including New Jersey and California, and major companies, including Lotus Development and Levi-Strauss.<sup>45</sup> In addition to being widely adopted by many institutional investors, South African divestment is a far more narrowly-defined investment strategy with far less controversial goals than fossil fuel divestment. Therefore, South African divestment would be more likely to succeed in affecting change at the targeted companies.

45. Nevertheless, available evidence indicates that South African divestment had little or no impact on the stock prices of targeted companies. A 1996 article used an event study methodology to investigate whether South Africa divestiture announcements by major institutional investors, including municipalities, states, and universities, impacted stock returns of firms that chose to maintain their presence in South Africa during the 1983-1989 period.<sup>46</sup> The authors concluded that “[i]t appears that portfolio divestment announcements by major pension funds and endowment associations had no important impact on stock prices of firms doing business in South Africa.”<sup>47</sup>

46. Another study examined the stock price reactions of firms with high levels of exposure in South Africa on 21 dates when pension funds announced policies of divestment.<sup>48</sup>

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45. William H. Kaempfer, James A. Lehman, and Anton D. Lowenberg (1987) “Divestment, Investment Sanctions, and Disinvestment: An Evaluation of Anti-Apartheid Policy Instruments,” *International Organization* 41(3):457-73, at 460-461.

46. Laurian Casson Lyttle and O. Maurice Joy (1996) “The Stock Market Impact of Social Pressure: The South African Divestment Case,” *Quarterly Review of Economics and Finance*, 36(4):507-527.

47. *Id.*, at 519.

48. Siew Hong Teoh, Ivo Welch, and C. Paul Wazzan (1999) “The Effect of Socially Activist Investment Policies on the Financial Markets: Evidence from the South African Boycott,” *Journal of Business* 72(1):35-89.

The authors found that these firms suffered no statistically significant effect on their stock prices on 16 of these 21 dates, experienced statistically significant and negative effects on three dates, and experienced statistically significant and positive effects on two dates.<sup>49</sup> On the basis of this evidence, they concluded that the evidence “does not indicate that the pension fund divestment announcement significantly hurt firms with major South African operations.” In summary, they stated, “the announcement of legislative or shareholder pressure had *no* discernible effect on the valuation of banks and corporations with South African operations or on the South African financial markets.”<sup>50</sup>

47. Another study that included a broader range of divestment campaigns, including those related to South Africa as well as others, concluded that “[d]ivestitures do not seem to motivate change” at targeted companies and “divestiture announcements resulted in no significant market responses.”<sup>51</sup>

48. Even if, contrary to financial economic theory and all the available evidence, a divestiture campaign could effect change in the activities of target companies by lowering their stock prices, divestment proponents should consider the harm this reduction in stock prices would cause. For instance, ExxonMobil’s common stock is among the most widely-held equity issues in the world. Its largest current shareholders are top investment managers and institutional

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49. These results are based on the “Equal Weighted” model. Other models presented by the author, including “Sales Weighted,” “Asset Weighted,” and “Employee Weighted” indicate even fewer dates with statistically significant and negative effects. *Id.*, at 64-67.

50. *Id.*, at 68, 79 and 83.

51. Wallace N. Davison, III, Dan L. Worrell, & Abuzar El-Jelly (1995) “Influencing Managers to Change Unpopular Corporate Behavior Through Boycotts and Divestitures: A Stock Market Test,” *Business & Society* 34(2):171-196, at pp. 171 & 190.

investors, including CalPERS, the New York State Common Retirement System, and both the New York and California Teachers' Retirement Systems.<sup>52</sup>

49. In fact, according to a study published in October 2014, pension funds are the largest category of owners of U.S. oil and natural gas companies, holding approximately 28.9 percent of all oil and natural gas company shares.<sup>53</sup> With individual investors holding an additional 36.6 percent of all shares (including shares held in IRAs), the study's analyses "show that middle-class households dominate the ownership of U.S. publicly-held oil and natural gas companies...[and] benefit from the industry's strong returns."<sup>54</sup> This same study estimates that pension plans and IRAs hold approximately \$909 billion in oil and natural gas company stock. If divestment proponents were successful in reducing the returns on these investments by 1 percent each year, relative to what they would have been otherwise, retirees and other individual investors would lose more than \$90 billion in value over the next 10 years.

### **C. Divestiture is unlikely to change social views regarding environmental goals.**

50. The inability of divestment campaigns to directly affect company activity is understood, even by divestiture proponents. For instance, the divestiture proponent organization Fossil Free readily admits that divestment "[is not] primarily an economic strategy, but a moral and political one." Fossil Free acknowledges that divestment is a tactic primarily intended to "spark[] a big discussion," and "might not have an immediate impact on a fossil fuel company."<sup>55</sup> Similarly, leaders of Divest Harvard have stated that "[w]e do not expect

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52. As of 9/30/2014. Data from Thomson Financial.

53. Robert J. Shapiro & Nam D. Pham (2014) "Who Owns America's Oil and Natural Gas Companies: A 2014 Update," Sonecon, at pp. 1-2.

54. *Id.*, at 2.

55. See: <http://gofossilfree.org/usa/frequently-asked-questions/>.

divestment to have a financial impact on fossil fuel companies ... Divestment calls on citizens to build a powerful climate movement and pressure elected representatives to enact meaningful legislation.”<sup>56</sup>

51. Obviously, climate change is one of the most controversial issues in public discourse today, and the range of opinions about it is very wide. Even ignoring the broader range of opinions and focusing solely on the economic debate, a recent survey of the economic literature concluded there was “considerable uncertainty about the economic impact of climate change,” and “large estimated uncertainty about the social cost of carbon.”<sup>57</sup> Of course, even if these debates could be resolved, there would still be vociferous debate about the appropriate role of governments and private actors in policymaking. No matter where one stands on the science, economics, and policy of the climate change debate, there is no basis to believe that divestment will help resolve these issues or push the debate materially in any productive direction.

52. Even for those strong believers in the need to address climate change, the divestiture proposition serves as more of a distraction than a contributor to public discourse designed to further real, meaningful solutions to the problem. As one such strong proponent, the President of Harvard University, has recognized:

“While I share their belief in the importance of addressing climate change, I do not believe, nor do my colleagues on the Corporation, that university divestment from the fossil fuel industry is warranted or wise...Because I am deeply concerned about climate change, I also feel compelled to ask whether a focus on

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56. Chloe Maxmin, Hannah Borowsky and StudentNation (2014) “The Time to Divest: A Response to Harvard President Drew Faust,” *The Nation*, October 15, 2013.

57. Richard S. J. Toll (2009) “The Economic Effects of Climate Change,” *Journal of Economic Perspectives* 23(2):29-51, at pp37, & 42.

divestment does not in fact distract us from more effective measures, better aligned with our institutional capacities.”<sup>58</sup>

53. Indeed, fossil fuel divestment is not needed to “spark[] a big discussion” about climate change, or generate increased public interest in climate change policymaking. The climate change debate is already a major part of the news and policy discussion in the United States and other countries. During 2013, climate change was the most commonly covered environmental story on the major networks’ evening newscasts.<sup>59</sup>

54. The debate regarding climate change is also highly prominent in major newspapers. During 2014, 2,118 news articles in the five largest circulation newspapers in the United States referenced “climate change” or “global warming.”<sup>60</sup> This is almost the same as the number of news articles in these papers that referenced “Ebola” (2,167 articles) and not much fewer than the number of news articles in these papers that referenced “Obamacare” or “Affordable Care Act” (2,727). The climate change debate has been prominent in public discourse for more than two decades, while the Ebola outbreak and health insurance legislation stories are far more temporary news events. Therefore, one would expect climate change stories to be less frequent; nevertheless, as these statistics show, climate change controversies are clearly not suffering from a lack of prominent news coverage, relative to other major news-generating stories.

#### **D. Divestiture is unlikely to accomplish investment goals.**

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58. Drew Faust, Harvard University Office of the President (2013) “Fossil Fuel Divestment Statement,” October 3, 2013, <http://www.harvard.edu/president/fossil-fuels>.

59. Tyndall Report Year in Review, 2013, <http://tyndallreport.com/yearinreview2013/environment/>.

60. This study was performed using the Dow Jones / Factiva service, and covered the period December 31, 2013 through December 22, 2014. The newspapers included were: *Wall Street Journal*, *New York Times*, *USA Today*, *Los Angeles Times*, and *New York Daily News*.

55. Some proponents of divestment hold that fossil fuel company stocks are likely to suffer reductions in price over time, and therefore, that divestment is a successful investment strategy, regardless of its impact on environmental goals. For instance, Fossil Free claims that “investing in clean energy, efficiency, and other sustainable technologies can be even more profitable than fossil fuels.”<sup>61</sup>

56. As discussed above, this claim is demonstrably false over the past 50 years. As we showed, over the 1965-2014 period, a portfolio including both an energy sector stock index and non-energy stocks experienced a 0.7 percent higher gross return, and a 0.5 percent higher risk-adjusted return, relative to a divested portfolio of only the non-energy stock index.

57. Of course, everyone is entitled to their own opinion about the future course of security prices, and it is certainly possible that, over some period, stocks of fossil fuel companies will underperform other stocks. But unless an investor has private information about these companies which is unavailable to other market participants (and I am not aware that any divestment proponents claim they do have such private information), there is no reason to assume that their current stock prices are “too high” or that they will inevitably decline.<sup>62</sup>

58. While there is a long-running and wide-ranging debate among academics about whether securities markets are “efficient” in one form or another, there is nevertheless widespread agreement that simple rules like “sell fossil fuel stocks” are not recipes for making

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61. <http://gofossilfree.org/usa/frequently-asked-questions/>.

62. This applies to the discussion among some divestment advocates of “stranded assets,” *i.e.*, company assets that could become uneconomical to exploit at some point in the future due to changes in market prices or future regulations related to climate change. Divestment advocates do not claim to have private information about these changes in prices or regulations that are not available to the investing public at large; therefore, current security prices already incorporate the market consensus view about stranded assets.

money. As one textbook puts it, “[t]he bulk of the evidence, however, suggests that any supposedly superior investment strategy should be taken with many grains of salt. The market is competitive *enough* that only differentially superior information or insight will earn money; the easy pickings have been picked.”<sup>63</sup>

#### **IV. Conclusion**

59. The economic evidence demonstrates that fossil fuel divestment is a bad idea. The costs of divestment are clearly substantial. Trading costs like commissions are incurred in virtually every securities transaction. Costs associated with reductions in diversification are a bedrock principle of financial economics. Ongoing compliance costs mean that every future securities transaction will need to be analyzed for its environmental impact. These costs have real financial impacts on the returns generated by an investment portfolio, and therefore, real impacts on the ability of an educational institution to achieve its goals.

60. By contrast, any benefits from fossil fuel divestment are likely to be non-existent. There is no basis to believe that divestment can affect the stock prices or business decisions of targeted firms. Moreover, there is broad agreement among financial professionals and academics that simple investment rules like divestment from fossil fuel companies cannot generate superior returns. Finally, divestment seems unlikely to affect the public debate or provide an effective tool even for those who strongly feel the need to address climate change.

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63. Zvi Bodie, Alex Kane, and Alan J. Marcus (2014) *Investments, Tenth Edition*, McGraw-Hill Irwin, at p. 380.

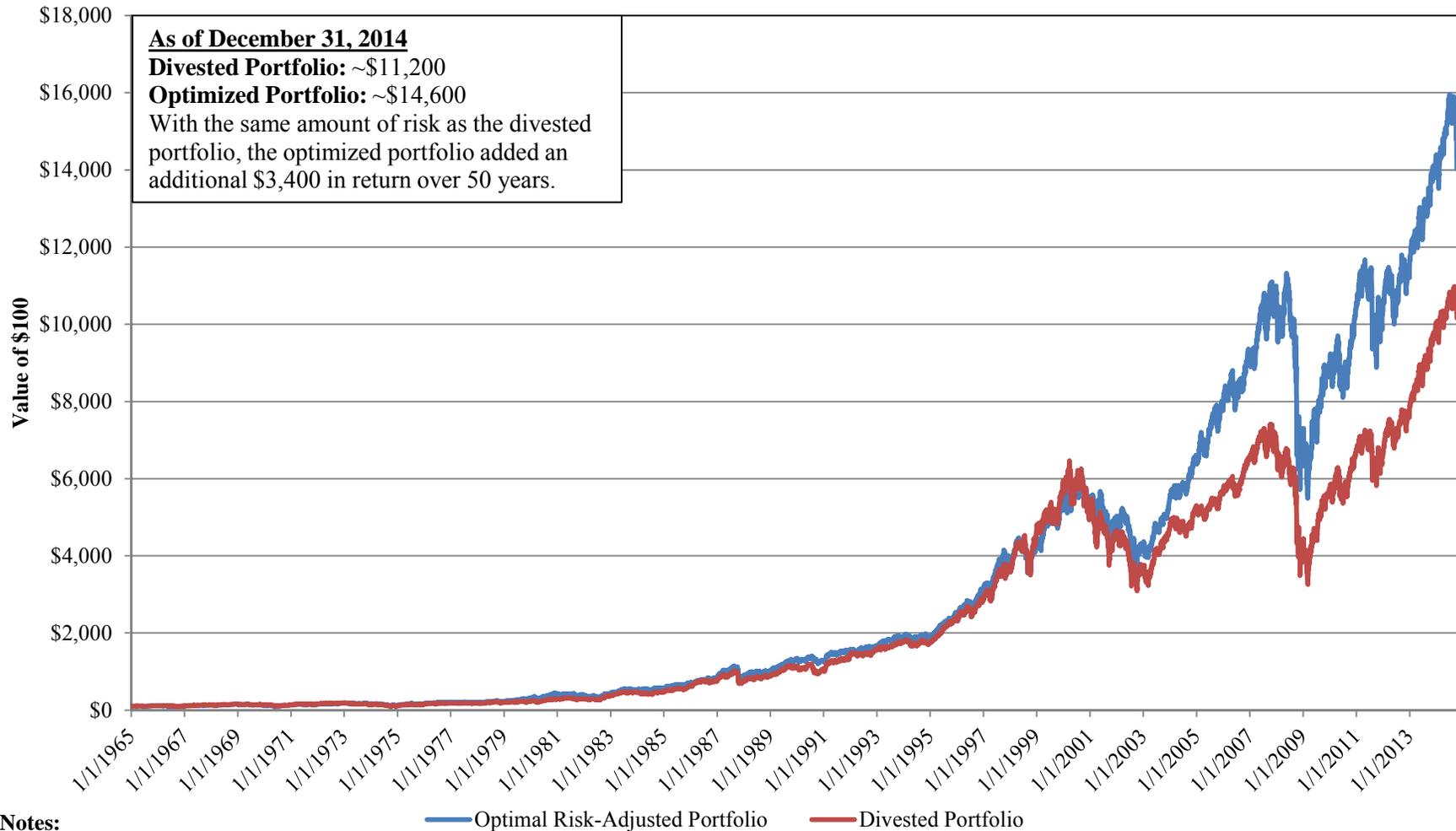
## Exhibit A: Correlation of Each Sector With Other Nine Sectors

	Sector	Correlation
1.	Energy	0.6770
2.	Utilities	0.7046
3.	Healthcare	0.7744
4.	Telecommunications	0.8138
5.	Durables	0.8248
6.	High-Technology	0.8259
7.	Shops	0.8607
8.	Non-Durables	0.8642
9.	Other	0.9077
10.	Manufacturing	0.9183

**Notes:** For each sector, a value-weighted index of all stocks in that sector and a value weighted index of all stocks in the other nine sectors were created. The correlation between the excess returns of those two indices are shown in the Exhibit.

**Source:** CRSP.

## Exhibit B: Optimal Risk-Adjusted Portfolio vs. Divested Portfolio 1965-2014



**Notes:**

[1] The indices are value-weighted by market capitalization.

[2] The Optimal Risk-Adjusted Portfolio is comprised of the energy index and 1-month Treasury bill, optimized by matching the standard deviation of the Divested Portfolio.

[3] The Divested Portfolio is comprised of only the non-energy index.

**Sources:** CRSP; Kenneth R. French.

## Exhibit C. Top 10 Coal and Oil & Natural Gas Companies

<u>Carbon Underground 200</u>	<u>Greenhouse 100 Polluters Index</u>
1. Peabody Energy	American Electric Power
2. ExxonMobil	Duke Energy
3. Arch Coal	Southern Company
4. Alpha Natural Resources	Berkshire Hathaway
5. Chevron	Ameren
6. Cloud Peak Energy	Luminant
7. ConocoPhillips	FirstEnergy
8. Consol Energy	AES
9. Nacco Industries	Xcel Energy
10. Alliance Resource Partners	Dominion Resources

**Notes:**

[1] The Carbon Underground 200 and Greenhouse 100 Polluters Index have been restricted to include only U.S. companies.

[2] All non-corporate entities have been removed.

**Source:** Carbon Underground 200; Bloomberg, L.P.; Political Economy Research Institute.

## Exhibit D. Top 10 Holdings for Five Largest “Green” Mutual Funds

	<b>Parnassus Core Equity Fund</b>	<b>Calvert Equity Portfolio</b>	<b>TIAA-CREF Social Choice Equity Fund</b>	<b>Neuberger Berman Socially Responsive Fund</b>	<b>Pax World Balanced Fund</b>
1.	Allergan Inc.	<b>CVS Health Corp.</b>	Johnson & Johnson	Texas Instruments	<b>Apple Inc.</b>
2.	Applied Materials	<b>Apple Inc.</b>	Berkshire Hathaway Inc.	Newell Rubbermaid	BlackRock Inc.
3.	Motorola Solutions	<b>Gilead Sciences Inc.</b>	<b>Procter &amp; Gamble Co.</b>	<b>American Express Co.</b>	UnitedHealth Group Inc.
4.	Pentair PLC	The Coca Cola Co.	Verizon Communications Inc.	Danaher Corp.	Becton Dickinson & Co.
5.	<b>Procter &amp; Gamble Co.</b>	Costco Wholesale Corp.	International Business Machines Corp.	Progressive Corp.	Microsoft Corp.
6.	Iron Mountain Inc.	Visa Inc.	<b>Intel Corp.</b>	<b>Intercontinental Exchange Inc.</b>	Morgan Stanley
7.	<b>Qualcomm Inc.</b>	<b>Qualcomm Inc.</b>	<b>Merck &amp; Co Inc.</b>	TJX Cos.	<b>Merck &amp; Co Inc.</b>
8.	<b>Apple Inc.</b>	Lowe’s Companies Inc.	<b>Gilead Sciences Inc.</b>	Robert Half International	Hess Corp.
9.	Mondelez International Inc.	<b>Intercontinental Exchange Inc.</b>	Google Inc. (Class A)	U.S. Bancorp	<b>American Express Co.</b>
10.	<b>CVS Health Corp.</b>	Wells Fargo & Company	Google Inc.	eBay Inc.	<b>Intel Corp.</b>

**Note:**

[1] Companies in bold appear in multiple mutual funds.

[2] Treasury holdings have been excluded.

[3] TIAA-CREF and Pax holdings data are as of 9/30/2014, the remaining holdings data are as of 11/30/2014.

**Sources:** The Forum for Sustainable and Responsible Investment (<http://charts.ussif.org/mfpc/>); GoFossilFree.org (<http://gofossilfree.org/usa/your-roadmap-to-personal-divestment/>); Parnassus (<http://www.parnassus.com/parnassus-mutual-funds/core-equity/investor-shares/portfolio>); Calvert (<http://www.calvert.com/fundprofile.html?fund=919>); TIAA-CREF (<https://www.tiaa-cref.org/public/tcfpi/Investment/Profile?symbol=4530792>); Neuberger Berman (<http://www.nb.com/Pages/public/en-us/products/socially-responsive-fund.aspx>); Pax ([http://www.paxworld.com/system/storage/14/a0/3/773/fact\\_sheet\\_balancedfund.pdf](http://www.paxworld.com/system/storage/14/a0/3/773/fact_sheet_balancedfund.pdf)).

## Exhibit E-1. Associated Costs for 10 Largest Mutual Funds

	Fund	Expense Ratio
1.	Vanguard Total Stock Market Index Fund	0.17%
2.	Vanguard Institutional Index Fund	0.04%
3.	Vanguard 500 Index Fund	0.17%
4.	PIMCO Total Return Fund	0.46%
5.	The Growth Fund of America	0.66%
6.	Vanguard Prime Money Market Fund	0.14%
7.	Vanguard Total International Stock Index Fund	0.22%
8.	EuroPacific Growth Fund	0.84%
9.	J.P. Morgan Prime Money Market Fund	0.23%
10.	Fidelity Cash Reserves	0.28%
	Average	0.32%

**Notes:**

[1] The Bahana Liquid USD Fund was dropped because primary documents could not be located.

[2] "Expense Ratio" uses the most recent annual data from Morningstar.

**Sources:** Bloomberg, L.P.; Morningstar.

## Exhibit E-2. Associated Costs for “Green” Mutual Funds

	Fund	Expense Ratio
1.	Parnassus Core Equity Fund	0.87%
2.	Calvert Equity Portfolio	1.11%
3.	TIAA-CREF Social Choice Equity	0.35%
4.	Neuberger Berman Socially Responsive Fund	1.12%
5.	Pax World Balanced Fund	0.91%
6.	Ariel Appreciation Fund	1.12%
7.	Ariel Fund	1.03%
8.	CRA Qualified Investment Fund	0.75%
9.	Domini Social Equity Fund	1.02%
10.	Calvert Balanced Portfolio	1.25%
	Average	0.95%

**Notes:**

[1] Where the Forum for Sustainable and Responsible Investment presents multiple investor classes of the same fund as having the same Assets Under Management, “Expense Ratio” is the average expense ratio across investor classes.

[2] “Expense Ratio” uses the most recent annual data from Morningstar.

**Sources:** The Forum for Sustainable and Responsible Investment; Morningstar.

## APPENDIX A: KEY QUALIFICATIONS OF DANIEL R. FISCHER

1. I am President of Compass Lexecon, a consulting firm that specializes in the application of economics to a variety of legal and regulatory issues. I am also the Lee and Brena Freeman Professor of Law and Business Emeritus at The University of Chicago Law School. I have served previously as Dean of The University of Chicago Law School, Director of the Law and Economics Program at The University of Chicago, and as Professor of Law and Business at The University of Chicago Graduate School of Business, the Kellogg School of Management at Northwestern University, and the Northwestern University Law School.

2. Both my research and my teaching have concerned the economics of corporate law and financial markets. I have published approximately fifty articles in leading legal and economics journals and am coauthor, with Judge Frank Easterbrook of the Seventh Circuit Court of Appeals, of the book *The Economic Structure of Corporate Law* (Harvard University Press, 1991). Courts of all levels, including the Supreme Court of the United States, have cited my articles as authoritative. My curriculum vitae, which contains a list of my publications, is available on the Compass Lexecon website at <http://www.compasslexecon.com/>.

3. I have served as a consultant or adviser on economic issues to, among others, the United States Department of Justice, the United States Securities and Exchange Commission, the National Association of Securities Dealers, the New York Stock Exchange, the Chicago Board of Trade, the Chicago Mercantile Exchange, the New York Mercantile Exchange, the United States Department of Labor, the Federal Deposit Insurance Corporation, the Resolution Trust Corporation, the Federal Housing Finance Agency, and the Federal Trade Commission.

4. I am a member of the American Economic Association and the American Finance Association. I am also a member of the Board of Governors of the Becker Friedman Institute at the University of Chicago and an Advisor to the Corporate Governance Project at Harvard University. I am also a former member of the Board of Directors of the Center for the Study of the Economy and the State at The University of Chicago, and former Chairman of the American Association of Law Schools' Section on Law and Economics. I have testified as an expert witness in multiple proceedings in federal and state courts across the country.

## APPENDIX B: MEAN-VARIANCE ANALYSIS OF ENERGY STOCK DIVESTMENT

1. We make use of a common analytical framework used by financial analysts known as Mean-Variance Analysis.<sup>1</sup> We will show that by adding energy stocks to a market portfolio that is divested from the energy sector, one can achieve a substantially higher return over the 1965-2014 period without increasing the variance of the portfolio.

2. Mean-Variance Analysis reflects a typical investor's desire to build a portfolio that has high and stable returns, recognizing that there is a tradeoff between those two goals. Some investors are willing to accept a higher level of period-to-period volatility in returns, while others are not. The basic principle of Mean-Variance Analysis is that, for any given level of period-to-period volatility in portfolio return, an investor should choose the portfolio that maximizes average excess returns (relative to a "risk-free" asset, like U.S. Treasury bills). For example, if an investor is willing to accept a level of volatility in his portfolio such that the standard deviation in excess returns over time is 2 percent, then a portfolio with that 2 percent volatility measure and an average excess return of 3 percent is suboptimal if another portfolio with the same standard deviation but an average excess return of 4 percent exists.

3. Investors can achieve the maximum average return for a given volatility level by maximizing the "Sharpe Ratio" of the portfolio of risky assets, *i.e.*, excluding any risk-free assets.<sup>2</sup> The Sharpe Ratio is defined as:

$$\text{Sharpe Ratio} = \frac{\text{Mean}(\text{Excess Returns})}{\text{Standard Deviation}(\text{Excess Returns})}$$

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1. See: Zvi Bodie, Alex Kane, and Alan J. Marcus (2014) *Investments, Tenth Edition*, McGraw-Hill Irwin, at p. 208.

2. *Id.*, at pp. 134.

where excess returns is the calculated return of the portfolio relative to the return of the risk-free asset.

4. After selecting stocks to maximize the Sharpe Ratio, the investor can then add risk-free assets like U.S. Treasury bills to the portfolio to reduce its volatility as desired without reducing the Sharpe Ratio of the portfolio. In this way, the investor can achieve the highest expected return of the portfolio for a given level of volatility.

5. To estimate the diversification cost associated with restricting energy stocks from the portfolio, we constructed a value-weighted energy stock index from the CRSP database, as discussed in the text. Separately, we also constructed a single value-weighted index of all non-energy stocks in the other nine sectors. The means and standard deviations of the two indices over the 1965-2014 period are reported below in Table 1.

<u>Excess Returns</u>	<u>Non-Energy Index</u>	<u>Energy Index</u>
Mean	5.77%	7.44%
Standard Deviation	15.71%	20.25%
Sharpe Ratio	0.3674	0.3674
<b>Notes:</b> “Energy” refers to the value-weighted index of all stocks in the Energy Sector. “Non-Energy” refers to the value-weighted index of all stocks not included in the Energy Sector.		
<b>Sources:</b> CRSP; Kenneth R. French.		

6. As can be seen in the Table, the Energy Index has higher average returns, but also a higher standard deviation, indicating greater volatility. Regardless of whether an investor is willing to take on greater volatility or not, including the Energy Index in the portfolio in at least some quantity generates diversification benefits because the Energy and Non-Energy indices are not perfectly correlated. In particular, the correlation coefficient between the two indices is 0.6770. To demonstrate this, we calculated the Sharpe Ratio for portfolios which combined the Energy Index and the Non-Energy Index with different weightings on each index. The portfolio including both energy and non-energy stocks that maximizes the Sharpe Ratio contains an allocation of 56.3 percent to the Non-Energy Index and 43.7 percent to the Energy Index. Table 2 below compares the Non-Energy index (*i.e.*, the divested portfolio) to the optimal portfolio including both indices.

<u>Excess Returns</u>	<u>Optimal Risky Portfolio</u>	<u>Divested Portfolio</u>
Mean	6.50%	5.77%
Standard Deviation	16.20%	15.71%
Sharpe Ratio	0.4012	0.3674

**Notes:** Two value weighted indices were created: the first contains all energy stocks, and the second contains all non-energy stocks in CRSP. “Optimal Risky Portfolio” refers to the combination of the value weighted indices that maximizes Sharpe Ratio, and “Divested Portfolio” refers to the portfolio that contains only non-energy stocks.

**Sources:** CRSP; Kenneth R. French.

7. Consistent with our findings above regarding the Energy Index, the optimal portfolio including both indices has a higher average return, but also a higher standard deviation. We can now add a risk-free asset to the optimal portfolio including both indices until its volatility matches that of the divested portfolio. The risk-free asset for this analysis is the one-

month U.S. Treasury bill. As discussed above, the Sharpe Ratio of the portfolio is not affected by the addition of a risk-free asset. Specifically, by moving 3.04 percent of the combined energy and non-energy portfolio to the risk-free asset, the volatility of the portfolio can be made to match the volatility of the divested portfolio, with a standard deviation of 15.71 percent.

8. As shown in Table 3, despite having the same volatility as the divested portfolio, the portfolio that includes energy stocks earned an average return of 6.30 percent, whereas the divested portfolio earned an average return of only 5.77 percent. The difference between these two mean returns, 0.53 percent, is a measure of the portfolio diversification cost of divesting from energy stocks, holding portfolio volatility constant.

<u>Excess Returns</u>	<u>Optimal Risk-Adjusted Portfolio</u>	<u>Divested Portfolio</u>
Mean	6.30%	5.77%
Standard Deviation	15.71%	15.71%
Sharpe Ratio	0.4012	0.3674

**Notes:** Two value weighted indices were created: the first contains all energy stocks, and the second contains all non-energy stocks in CRSP. “Optimal Risk-Adjusted Portfolio” refers to the combination of the value weighted indices and the risk free asset that maximizes Sharpe Ratio and matches the standard deviation of the Divested Portfolio, and “Divested Portfolio” refers to the portfolio that contains only non-energy stocks. The risk free return is the daily return of the treasury bills.

**Sources:** CRSP; Kenneth R. French.

9. While the above optimization shows that there is an allocation to energy stocks that improves portfolio performance, it should also be noted that the value weighted index created from all stocks in CRSP with an SIC code, *i.e.* the “market index,” has a higher Sharpe

Ratio than the divested index considered above. Therefore, the market index will also provide a larger risk-adjusted return than the divested index. These results are reported in Table 4.

<u>Excess Returns</u>	<u>Non-Energy Index</u>	<u>Market Index</u>
Mean	5.77%	5.86%
Standard Deviation	15.71%	15.70%
Sharpe Ratio	0.3674	0.3732

**Notes:** “Non-Energy” refers to the value-weighted index of all stocks not included in the Energy Sector. “Market” refers to the value-weighted index of all stocks in the CRSP database that were assigned an SIC code.

**Sources:** CRSP; Kenneth R. French.