
Pension Reform in Alabama: A Case for Economic Accounting

Improving Lives in Alabama: A Vision for Economic Freedom and Prosperity



Eileen Norcross is Lead Researcher for the State and Local Policy Project at the Mercatus Center at George Mason University in Arlington, Virginia. She received a B.A. In Economics and U.S. History from Rutgers-Newark College of Arts and Sciences and an M.A. In Economics from Rutgers University.



For media inquiries, please contact:

Manuel H. Johnson Center for Political Economy
137 Bibb Graves Hall
Troy University
Troy, AL 36082
P: 334-808-6583

<http://business.troy.edu/JohnsonCenter/>



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by

Eileen Norcross, M.A.

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The funding shortfall in state and local pension systems is a problem of national as well as local significance for governments, public employees, and taxpayers. State and local governments must confront large—and as of yet only partially recognized—unfunded liabilities that will require an increasing amount of revenue to sustain. A combination of flawed accounting, poor market returns, and erratic funding policies has contributed to falling funding levels across plans, and obscured a total funding shortfall of over \$4 trillion nationally.¹ By one estimate, Illinois, Connecticut, and New Jersey are projected to run out of assets to pay retiree benefits by 2020.²

Alabama's three pensions systems are under similar strain. By one estimate, the state may run out of pension assets by 2023.³ When valued based on the certainty of payment, Alabama will have to increase its contributions from \$1.6 billion to \$3.4 billion annually, or \$819 per household, to fully fund the system.⁴ Given the magnitude of pension liabilities relative to revenues, the question of whether

¹ Thomas J. Healy, Carl Hess and Kevin Nicholson, "Underfunded Public Pensions in the United States: The Size of the Problem, the Obstacles to Reform and the Path Forward," M-RCBG Faculty Working Paper No. 2012-08, Mossavar-Rahmani Center for Business and Government, 2012, http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/centers/mrcbg/publications/fwp/MRCBG_FWP_2012_08-Healey_Underfunded.pdf.

² Joshua D. Rauh, "Are State Public Pensions Sustainable? Why the Federal Government Should Worry about State Pension Liabilities," May 15, 2010, available at SSRN: <http://ssrn.com/abstract=1596679> or <http://dx.doi.org/10.2139/ssrn.1596679>. This estimate presumes pension plans earn an assumed rate of return of 8 percent annually on pension investments.

³ *ibid*, p. 3 and p. 26

⁴ Joshua D. Rauh and Robert Novy-Marx, "The Revenue Demands of Public Employee Pension Promises," September 16, 2012, available at SSRN: <http://ssrn.com/abstract=1973668> or <http://dx.doi.org/10.2139/ssrn.1973668>. P. 3 and p. 48.

chronically underfunded governments will seek a federal bailout of their pension systems is a subject that has garnered congressional attention.⁵

The implications of pension underfunding affect both public employees and taxpayers. More than 8 million Americans receive retirement benefits from a state or local pension plan. An additional 19 million public employees anticipate that the benefits they are currently earning will be available when they retire. With 222 state-operated plans and a further 3,196 municipal pension plans, these systems vary in terms of management, benefit size, and fiduciary policies, yet all face the same funding challenge rooted in misleading accounting.⁶

Without accounting, benefit, and funding reforms, taxpayers and citizens will be asked to shoulder a growing financial burden in the coming decade. The trade-off between fully funding pensions and providing city services is a growing dilemma for municipalities. Former New York City mayor Michael Bloomberg recently warned of the mounting budgetary trouble presented by employee benefits. Since 2002, New York City's pension costs have increased by 500 percent.⁷ The pension systems of Chicago and Los Angeles are quickly swamping general funds.⁸ In 2012 Springfield, the capital city of Illinois spent 20 percent of its budget on pensions, as the city simultaneously reduced services.⁹ Even more alarming, rising pension costs are at

⁵ See "State and Municipal Debt: The Coming Crisis?," testimony to the House Committee on Government and Oversight Reform, February 9, 2011 (http://mercatus.org/sites/default/files/Norcross-2-9-11_Testimony.pdf); "State and Municipal Debt: Tough Choices Ahead," testimony, April 14, 2011 (<http://oversight.house.gov/hearing/state-and-municipal-debt-tough-choices-ahead/>).

⁶ Annual Survey of Public Pensions: State and Locally-Administered Defined Benefit Data Summary Report: 2011, <http://www2.census.gov/govs/retire/2011summaryreport.pdf>.

⁷ Michael Bloomberg, "NYC's Coming Pension Crisis," December 19, 2013.

⁸ Steven Malanga, "Bailouts of Cities? Advocates for Cash-Strapped Municipalities Want Washington to Clean Up Their Mess," *City Journal*, Autumn 2013, http://www.city-journal.org/2013/23_4_snd-bailouts.html.

⁹ Mark Peters, "Pension Pinch Busts City Budgets," *Wall Street Journal*, November 5, 2013.

least partially responsible for the bankruptcy filings of Central Falls, Rhode Island; Detroit, Michigan; and four California cities: Vallejo, Stockton, San Bernardino, and—most recently—Hot Desert Springs.¹⁰

Along with many other state and local policymakers, Alabama legislators recognize that pension reform is necessary to the long-term stability of the state's budget and economy. In May 2012 Alabama Governor Robert J. Bentley signed Act 377 (Senate Bill 388), reforming the Retirement System of Alabama (RSA) by decreasing employees' annual contribution and increasing the minimum retirement age. The act also made small changes in how benefits are calculated.¹¹ The law mainly applies to those hired after January 1, 2013. Therefore, the near-term effects on the system's underfunding are modest and are estimated to save \$162 million a year over the next 30 years, for a total savings of \$5 billion. In practical terms, new employees' take-home pay will increase, and their future benefits will decrease.

Such stopgap measures are not nearly enough to plug the funding shortfall facing the RSA. According to the system's actuarial reports, Alabama's three main pension systems, the Employees Retirement System (ERS), the Teachers Retirement System (TRS) and the Judicial Retirement Fund (JRF), report total assets of \$28 billion and total liabilities of \$42 billion for a funding gap of \$14 billion, and an average funding ratio of 62 percent. This puts Alabama well below ideal level of 100 percent funding that would ensure the plan has enough assets on hand to meet its obligations to employees.¹²

¹⁰ Rick Lyman and Mary Williams Walsh, "Police Salaries and Pensions Push California City to the Brink," *New York Times*, December 27, 2013, http://www.nytimes.com/2013/12/28/us/police-salaries-and-pensions-push-california-city-to-brink.html?_r=0.

¹¹ <http://www.ncsl.org/issues-research/labor/highlights-pension-reform-2012.aspx>.

¹² Richard Dreyfuss, "Fixing the Public Sector Pension Problem: The (True Path to Long-Term Reform)," Civic Report No. 74, February 2013, CSLL at Manhattan Institute.

Government estimates of pension plan liabilities have been widely criticized by economists for erroneously linking the value of plan liabilities to the performance of plan assets. According to economic theory, plan liabilities have an intrinsic value that is independent of the investment performance of the assets held by the fund.

This principle informs what “discount rate” plan sponsors should select when calculating the present value of liabilities. This is a calculation that is fundamental to the health of the plan since it determines how much money the sponsor should contribute today to ensure promised benefits are funded when an employee retires. Currently, Alabama values its pension liabilities—and calculates the amount needed to fund benefits—based on an 8 percent expected annual return on plan assets.

However, public-sector pension benefits are protected under state law. They represent a default-free promise to pay employees a benefit over their retired years. In terms of value and risk, public pensions are akin to government debt. When valued on this “risk-free” or fair-market basis, Alabama’s pensions are in very poor shape and represent a massive debt for the state.

On a fair-market basis the total unfunded liability for the ERS, TRS, and JFR increases to \$59 billion and the average funded ratio drops to 32 percent. The size of Alabama’s unfunded pension liability is 37 times larger the state’s debt, which totaled \$1.59 billion in 2012. With a gross domestic product of \$183 billion in 2012, Alabama’s unfunded pension liability represents one-third of the state economy. This puts the Retirement System of Alabama (RSA) on critical footing. Absent further policy changes, the plan will run out of assets to pay retirees in less than a decade, draining a significant amount of resources from the state’s budget and economy.

The actuarial approach of linking the value of plan liabilities to the expected performance of plan assets produces several behaviors that have undermined the stability of public-sector pensions. Contribution levels are affected. By undervaluing

the liability, the amount calculated to fully fund the plan is underestimated. Even when the sponsor makes the full annual contribution, it is contributing too little.

Another behavior arising from muddling the values of assets and liabilities is that plan managers have an incentive to take on more investment risk in order to keep liabilities and contributions low as well as to generate excess returns to fund benefits. But shifting plan assets into higher-risk investments introduces even more funding volatility. If the assets underperform, then the plan's funding gap increases. The RSA's investment strategy mirrors the national trend. US public plans have moved away from bonds and into higher-risk equities over the last three decades.¹³

Lastly, by failing to accurately value plan liabilities, policymakers have little incentive to make the kinds of changes necessary to ensure employees are more likely to be paid the accrued benefits that they have earned.

The structure of the defined benefit plan makes it susceptible to mismanagement in the public sector. Budgetary and actuarial manipulation, opportunistic accounting practices, interest-group bargaining, and the short-term thinking of politicians render it less than ideal as a vehicle for ensuring a secure retirement for public employees.

Fortunately, there are reforms legislators and state leaders can undertake today to stabilize the current defined benefit system and improve retirement options for

¹³ The investment behavior of US public plans may be compared to US private plans and public and private plans in Canada and Europe where liability discount rates are not selected based on expected asset returns. Andonov, Bauer, and Cremers find that between 1993 and 2010, US public-sector defined benefit plans "uniquely increased allocations to riskier investments to maintain high discount rates, thereby camouflaging the degree of underfunding." See Aleksander Andonov, Rob Bauer and Martijn Cremers, "Pension Fund Asset Allocation and Liability Discount Rates: Camouflage and Reckless Risk Taking by U.S. Public Plans?" (May 1, 2013), available at SSRN: <http://ssrn.com/abstract=2070054> or <http://dx.doi.org/10.2139/ssrn.2070054>.

employees. Firstly, an accurate accounting of Alabama’s defined benefit plan should alert lawmakers to the trade-offs necessary to funding benefits that have been accrued. To ensure the liability does not grow even larger, Alabama should close the current defined benefit plans and establish a defined contribution plan for employees. This will not only shift the financial risk of plan underfunding away from taxpayers, but it will also benefit Alabama employees by ensuring that they have ownership over the annual contributions made to their retirements, enhanced career flexibility, and control over their retirement savings. A DC plan can be designed to reflect the risk tolerance of public-sector employees by seeking income security for retirees and offering the option for the annuitization of savings.

This chapter provides a fair-market analysis of Alabama’s three pension plans. First, the structure and policies affecting plan benefits are outlined. This is followed by a discussion of the key accounting assumptions that affect the valuation of plan liabilities, notably “the discount rate” guidance used in public-sector accounting that effectively obscures the true value of liabilities and creates unrecognized funding gaps.

A fair-market valuation of the ERS, TRS, and JRF allows for a fuller assessment of the RSA’s investment strategy. This section considers various approaches taken to investing plan assets. Particular attention is given to Alabama’s dual-purpose investment philosophy that dedicates up to 10 percent of the plan’s pension assets with the goal of producing economic benefits for the state. Economically targeted investments (ETIs) have played a an ongoing role in state pension investments over the last 30 years, producing mixed results for plan funding. In the case of Alabama, “in-state” investments—while generating some economic activity—have in recent years performed poorly for the pension fund, creating funding gaps.

This chapter concludes with several recommendations for how Alabama can improve funding in its defined benefit plans and undertake structural reforms to

meet the RSA’s stated goals of “Strength, Stability and Security” for Alabama retirees and taxpayers.

I. The History and Structure of Alabama’s Retirement System

The state of Alabama operates three pension plans on behalf of state and local employees. The Teachers’ Retirement System, the Employees’ Retirement System, and the Judicial Retirement Fund are commonly managed as part of the Retirement System of Alabama.

The TRS provides benefits to state-supported educational institutions. It is a cost-sharing, multiple-employer plan. Participating employers include 13 public universities, 31 post-secondary institutions, 133 city and county boards of education, and 32 state agencies.

The ERS is a multiple-employer plan and provides pension benefits for state employees, state police, and employees of municipalities and quasi-public organizations, where these governments elect to participate in the system. ERS participants include 290 cities, 65 county governments, and 518 other public entities (e.g., public works authorities, housing authorities, commissions, and libraries).

The JRF is a cost-sharing, multiple employer plan providing pension benefits to judges and justices. In 2012 there were 67 participating employers.¹⁴

A total of 114,050 retirees and 221,735 employees are covered by an RSA pension. Table 1 shows the number of retired and active participants in each plan according to occupation.

Table 1. Retired and Active Members of the Retirement System of Alabama

¹⁴ Retirement Systems of Alabama Comprehensive Annual Financial Report for FY 2013, p. 24, http://www.rsa-al.gov/uploads/files/2013_CAFR.pdf.

Plan and Date of inception	Teachers' Retirement System (1939)	Employees' Retirement System (1945)	Judicial Retirement Fund (1973)	Total
Retirees and beneficiaries currently receiving benefits				
General	78,370	20,618	347	99,335
State Police	-	839	-	839
Local Employees	-	19,519	-	19,519
Deferred Retirement Option (DROP)	4,436	2,121	-	6,557
Terminated employees entitled to but not yet receiving benefits				
General	18,568	3,197	45	21,810
State Police	-	16	-	16
Local Employees	-	7,341	-	7,341
Active Employees				
General	133,791	29,548	337	163,676
State Police	-	777	-	777
Local Employees	-	53,844	-	53,844
Totals	235,165	137,820	729	373,714

Source: Retirement Systems of Alabama Comprehensive Annual Financial Report for FY 2013, p. 25 (http://www.rsa-al.gov/uploads/files/2013_CAFR.pdf).

Alabama's pension benefits

The RSA offers employees a defined benefit pension plan in retirement. A defined benefit plan provides participants with fixed monthly payments over their retired

years, determined by a formula based on each employee's years of service, and a measure of final average salary (e.g., an average of the highest five years), multiplied by a percentage of salary. The employee and employer make regular contributions to plan. These contributions are invested in a mix of domestic and international equities, fixed income, and alternatives, which fund the benefit payments.

Regardless of the performance of the plan's assets, the employer promises to pay the amount determined by the pension formula to the retiree. In a defined benefit plan, the employer bears the investment risk and reward. In a public-sector plan, taxpayers ultimately bear the investment risk.

The defined benefit model is in contrast to the defined contribution plan in which the final amount of retirement benefits is unknown, but is determined by the annual contributions set aside and the performance of those savings when invested. In a defined contribution plan, investment risk is borne by the employee.

Given the growing funding gap in RSA's plans, in 2012, the state modified benefits for new hires. Tier 1 members—or those employees hired before January 1, 2013—will contribute more to their plans, but maintain a higher benefit multiplier and thus more generous retirement payouts. Tier II employees will contribute less of their salary to the pension plan, increasing their take-home pay. However, newer hires are subject to lower benefit multipliers and higher retirement ages, effectively decreasing the size of their retiree benefits.

Table 2. Key Features of ERS and TRS

	ERS	ERS State Police	ERS Other law enforcement	TRS
Vesting				
<i>Tier I (pre- July 30, 1979)</i>	25 years of creditable service, or Age 60 with 10 years of	Age 52 with 10 years of creditable service	Age 60 with 10 years of creditable service	25 years of creditable service, or Age 60

	credited service			with 10 years of creditable service
<i>Tier II (post-July 30, 1979)</i>	Age 62 with 10 years creditable service	Age 56 with 10 years of creditable service	Age 56 with 10 years of creditable service	Age 62 with 10 years of creditable service
Final Average Salary				
<i>Tier I and Tier II</i>	Highest five of last 10 years	Highest five of last 10 years	Highest five of last 10 years	Highest five of last 10 years
Service Multiplier (applied to years of creditable service)				
<i>Tier I</i>	2.0125% of Final Average Salary	2.875% of Average Final Salary	2.0125% of Final Average Salary	2.0125% of Final Average Salary
<i>Tier II Benefits capped at 80% of Final Average Salary</i>	1.65% of Final Average Salary	2.375% of ¹⁵ Average Final Salary	1.65% of Final Average Salary	1.65% of Final Average Salary
Employee Contributions				
<i>Tier I (effective October 1, 2012)¹⁶</i>	7.5%	10%	8.5%	7.5%
<i>Tier II (effective for</i>	6%	10%	7%	6%

¹⁵ This new multiplier to calculate benefit payments also applies to firefighters

¹⁶ Prior to October 1, 2011 Tier I members contributed ERS members contributed 5% of salary. Full-time police officers, firefighters and correctional officers contributed 6% of salary. These employee contribution levels were raised on October 1, 2011 to 7.25% for ERS members and 8.25% for police, firefighters and correctional officers. These are the rates that apply to all Alabama Tier I employees or those hired before January 1, 2013

<i>those hired after January 1, 2013)</i>				
Disability Retirement allowance formula (Percent of Final Average Salary multiplied by years of creditable service)	<i>Granted to a member with 10 or more years creditable service who becomes permanently incapacitated before reaching retirement</i>			
<i>Tier I</i>	2.0125% of FAS * years of creditable service.	2.875% of FAS * years of creditable service	2.0125% of FAS * years of creditable service.	2.0125% of FAS * years of creditable service.
<i>Tier II (capped at 80% of members' FAS)</i>	1.65% of FAS * years creditable service	2.375% of FAS * years of creditable service	1.65% of FAS * years creditable service	1.65% of FAS * years creditable service

Source: Retirement Systems of Alabama Comprehensive Annual Financial Report for FY 2013, pp. 80–82 and 94–99 (http://www.rsa-al.gov/uploads/files/2013_CAFR.pdf).

Unfortunately, these reforms are insufficient to close the funding gap. Government accounting standards (and actuarial methods) fail to fully capture the value and funding status of public-sector plans. On an economic-accounting basis, funding shortfalls in public pensions are far greater than current government accounting methods recognize.

I. The Accounting Error that Compromises the Funding of US Public-Sector Pension Plans

A defined benefit pension plan is fully funded if plan assets are equal to plan liabilities. A funding gap emerges in the plan when liabilities exceed assets. The plan's funding ratio is the portion of the liability that is covered by assets. It is

calculated by dividing plan assets by plan liabilities. Table 2 shows these basic measures for the RSA. Columns 1 through 4 report the unfunded liability and funding gap under government accounting conventions in the RSA's actuarial reports.

On an actuarial basis, the RSA's three main plans hold \$28 billion in assets and \$41 billion in liabilities for a funding gap of \$14 billion. Plan assets cover only 65 percent of plan liabilities, leaving 35 percent of the plan unfunded.

However, these measures are based on an accounting flaw, embedded in all US public-sector pension plans, that miscalculates plan liabilities by linking their value to the expected performance of plan assets.

Comparing the performance of a pension system's assets and liabilities first requires transforming the liability into its present value. The pension liability is a formula-determined benefit that is promised to the employee in the future. It is funded by contributions and the interest earned (the time value of money) on those contributions over the working life of the employee. Determining the present value of pension liabilities requires "backing out" the interest earned over that future period, a calculation known as "discounting the liability," or reverse compound interest. Discounting requires selecting a rate of interest to transform the future value into a present value. The subject of how to select this interest rate is the source of much controversy in US public-sector accounting, but it is a straightforward matter for economists.

Economic theory holds that the value of a liability—a stream of future cash flows—Is independent of the value of the assets used to finance that liability.¹⁷ The present

¹⁷ The valuation of pension liabilities flows from the Modigliani-Miller Theorem, which holds that the liability—a stream of future financial payments—is independent in value from the assets used to finance or pay for that liability. See F. Modigliani and M. Miller, "Corporate Income Taxes and the Cost of Capital: A

value of a liability should be calculated based on the risk and timing of the payments of that liability. Government pension plans, protected by state law and constitutions, offer workers a guaranteed payment, certain to be paid over a specific period of time. The discount rate selected should reflect the legal protections and timing of benefit payments. Alabama law protects accrued benefits for vested employees who are eligible to retire.¹⁸ A vested employee's earned benefits are akin to a government debt. If Alabama law implies a "default-free" promise to pay vested workers earned pension benefits, an appropriate match to value the liability is the *notional* yield on a 15-year Treasury bond.¹⁹ Fifteen years represents the median or average duration of a plan with a mix of active and retired members. Current Treasury yields are at historic lows. As of September 2013, when the last actuarial valuation of the RSA was performed, the yield on a notional 15-year Treasury bond was 3.12 percent. Mathematically, lowering the discount rate increases the liability's present value, and thus the contributions necessary to fund the plan.

Correction," *American Economic Review* 53, no. 3 (1963): 433–43. For a layman's summary, see Anne P. Villamil, "Modigliani-Miller Theorem," *The New Palgrave Dictionary of Economics*, 2nd ed., 2008, http://www.econ.uiuc.edu/~avillami/coursefiles/PalgraveRev_ModiglianiMiller_Villamil.pdf. Further discussion of this central principle of corporate finance can be found in several recent contributions including M. Barton Waring, *Pension Finance: Putting the Risks and Costs of Defined Benefit Plans Back under Your Control* (Hoboken, NJ: Wiley, 2012); Robert Novy-Marx and Joshua Rauh, "The Liabilities and Risks of State-Sponsored Pension Plans," *Journal of Economic Perspectives* 23, no. 4 (Fall 2009): 191–210; Frank Russek, "The Underfunding of State and Local Pension Plans," *Economic and Budget Issue Brief*, Congressional Budget Office, May 4, 2011.

¹⁸ Alabama Constitution, Article 1, § 22,

http://ballotpedia.org/wiki/index.php/Article_I,_Alabama_Constitution#Section_22.

¹⁹ Ronald J. Ryan and Frank J. Fabozzi, "Rethinking Pension Liabilities and Asset Allocation," *Journal of Portfolio Management* 28, no. 4 (Summer 2002); and Mercer LLC, "Mercer Pension Discount Yield Curve and Index Rates in the U.S.," 2010, <http://www.mercer.com/articles/1213490>. Note that this is a notional bond yield. There are no 15-year Treasury bonds. This duration is selected since it matches the timing of payments and the mid-point of the stream of future cash flows. Alternatively, one may select the actual yield on 10- or 20-year Treasury bonds.

To date, the approach of US public-sector plans is informed by Government Accounting Standards Board (GASB) 25 guidance that suggests that plan actuaries select a discount rate to value plan liabilities based on the expected return on pension fund assets.²⁰ Alabama assumes an annual return of 8 percent on plan investments and uses this to calculate the present value of the plan's liabilities. According to economic theory, the expected performance of the plan's assets is completely unrelated to the *value* of the plan's benefits. This distinction between the value of assets and the value of liabilities is vital to the health of the plan because regardless of the performance of the plan's assets, the liability must be paid over a specific period of time. Under current GASB accounting, "There is a mismatch between the plan's legal requirement to pay benefits and its probability of being able to do so."²¹ That is, the liability must be paid even if the assets do not generate an 8 percent annual return. This, "contingent liability," the risk that the assets do not return as expected, is unrecognized in GASB accounting.

By way of analogy, government accounting guidance implies that the value of a home mortgage can be calculated based on the expected performance of the mortgage-holder's 401(K) plan. In effect, GASB 25 suggests it is possible for mortgage-holders to pay only a fraction of their monthly mortgage by assuming high returns in their investments, believing this will still result in the mortgage being fully paid off on schedule.

The practical result of the approach suggested by GASB 25 is shown in columns 5–7 of table 2. On a fair-market basis—that is, when the liability is valued on a default-free basis—Alabama's unfunded pension liability is \$59 billion and the funded ratio is 32 percent.

²⁰ GASB, "Financial Reporting for Pension Plans: An Amendment of GASB Statement No. 25," Statement No. 67 of the Government Accounting Standards Board, Governmental Accounting Standards Series No. 327-B, June 2012, <http://www.gasb.org/cs/BlobServer?blobkey=id&blobwhere=1175824320579&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs>.

²¹ Andrew G. Biggs and Kent A. Smetters, "Understanding the Argument for Market Valuation of Public Pension Liabilities," AEI, May 2013, p. 5.

One implication of applying GASB 25 for several decades to calculate liabilities and contributions is that in spite of Alabama’s good track record of making the full actuarial contribution to the plan, this contribution is calculated based on high-risk asset returns, and is thus too little to fully fund the system. Unfortunately, good funding discipline cannot undo the effects of distorted accounting. Alabama runs the serious risk of moving to a PAYGO system over the next several years, presenting lawmakers with the possibility of needing to raise taxes to fund retiree benefits in the near future.

Effective in June 2013, public pensions will report their liabilities based on a new GASB rule, known as GASB 67. An attempt to reach a compromise between the actuarial and economic approaches, GASB 67 allows plans to use the expected return on assets to value the funded portion of the liability. The unfunded portion is to be valued based on a lower-risk, high-quality municipal bond yield. The change only applies for reporting, and not contribution purposes. While plans with deep funding gaps will show greater pension shortfalls in their financial reports under GASB 67, it will not affect funding decisions. Further, the new rule continues to undervalue a portion of the liability—the portion backed by assets—and will persist in producing artificially inflated funding levels.²²

Table 2.
FY 2013 Schedule of Funding Progress: Actuarial vs. Market Valuation
(\$000)

	Total Assets (a)	Total Liabilities (b)	Unfunded Liability (b-a)	Funded Ratio (a/b)	Fair Market Value Liability (c)	Fair Market Value Unfunded Liability (c-a)	Fair Market Value Funded Ratio (d)

²² Andrew G. Biggs, “Proposed GASB Rules Show Why Only Market Valuation Fully Captures Public Pension Liabilities,” *Financial Analysts Journal* 67, no. 2 (2011), <http://www.aei.org/files/2011/02/01/BiggsFinancialAnalysisJournal.pdf>.

ERS	\$9,116,551	\$13,884,995	\$4,768,443	66%	\$27,781,679	\$18,665,128	33%
TRS	\$18,786,008	\$28,251,367	\$9,465,359	66%	\$56,526,518	\$37,740,510	33%
JRF	\$234,300	\$380,469	\$146,170	62%	\$761,259	\$526,960	32%
Total	\$28,136,858	\$42,516,831	\$14,379,972	65%	\$85,069,457	\$59,932,598	31%

Author's Calculations based on plan actuarial valuation reports. Retirement Systems of Alabama Comprehensive Annual Financial Report for FY 2013 (http://www.rsa-al.gov/uploads/files/2013_CAFR.pdf).

II. The Implication of Fair-Market Valuation of Liabilities for Plan Asset Investments

Perhaps the most distortionary effect of valuing plan liabilities based on expected asset returns is that plan sponsors believe that a risky portfolio “helps pay for the plan” by lowering plan expenses and contributions on the books. But there is a real risk that if the assets do not realize the expected return, the plan will be left with a funding gap. Recent recessionary periods show the consequences of chasing risky investments to fund public pensions. Over the last decade, public-sector plan fiduciaries have taken on more investment risk to make up for market losses, in a stark contrast to how pensions were funded in an earlier period. The shift helps to explain why traditionally safe pensions are now a highly volatile experience for employees, governments and taxpayers.

In the 1950 and 1960s, pension plans were primarily invested in low-risk bonds, which more closely match the risk characteristics of the liability. Effectively, pension funds' heavy investments in bonds helped to neutralize the effects of flawed governmental pension accounting.

Beginning in the 1970s, both private and public pension plans began to move away from legal lists in selecting pension plan investments in favor of a “prudent person” standard which requires the plan fiduciary to act “with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent man acting in a

like capacity” would act, “when selecting investments.”²³

Public pension portfolios have changed significantly in the last 30 years. US public plans have taken on greater levels of investment risk than private plans.²⁴ Chart 1 shows the trend away from fixed income and toward equities between 1984 and 2011 in US public-sector pension plans.

Between 1984 and 1995, public plans portfolios held on average 38 percent of assets in equities, 5 percent in alternative investments, and 50 percent in fixed income (i.e., bonds). In the period leading up to the Great Recession, 2001–2007, this mix changed sharply with funds holding 60 percent of assets in equity, 10 percent in alternatives, and 29 percent in fixed income. The exposure to higher-risk investments resulted in a \$1 trillion loss between October 2007 and October 2008.²⁵

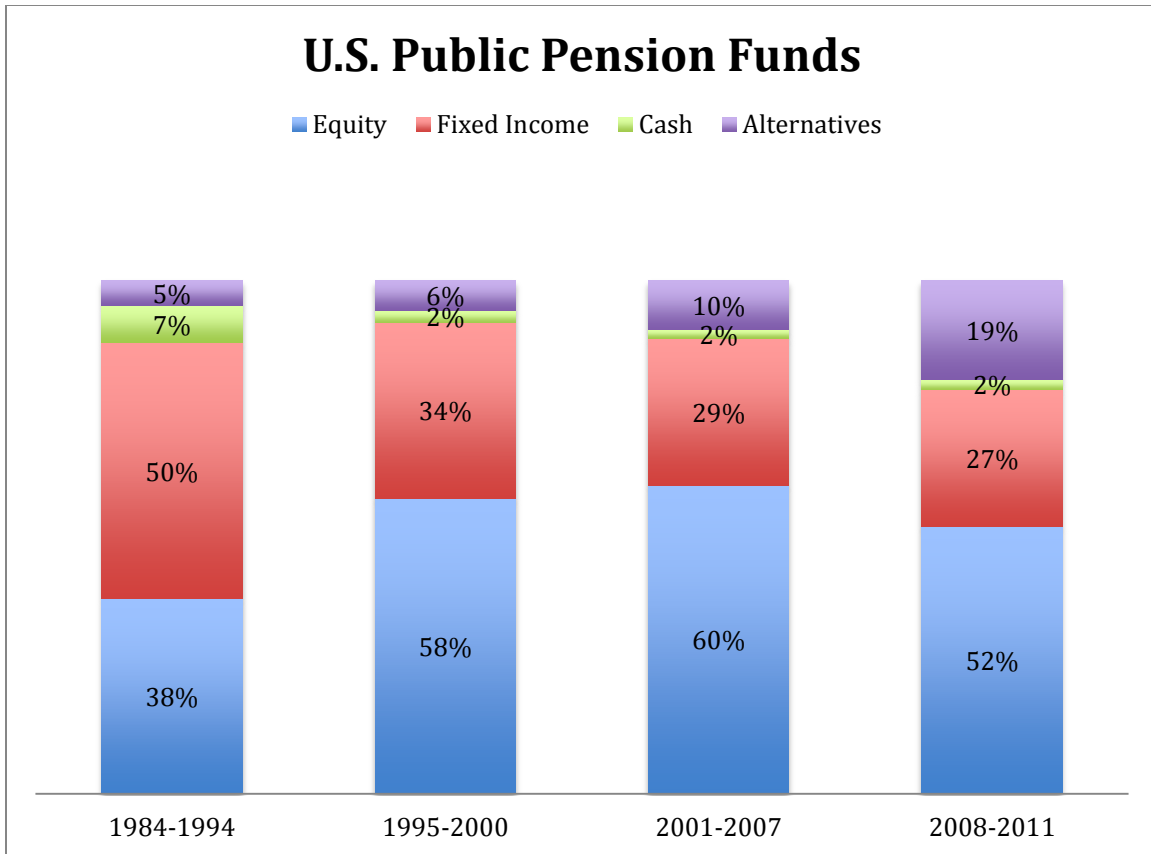
Remarkably, these steep losses have not changed the general approach of many public-sector fund fiduciaries. The desire to make up for losses may account for another dramatic shift in plan investments, including a larger exposure to alternatives. Between 2008 and 2011, public plans, on average, have invested 52 percent of their assets in equities, 19 percent in alternatives, and 27 percent in bonds.

Chart 1. US Public Pension Funds, Asset Investment Composition, by Decade, 1984–2011

²³ This rule is derived from the common law of trusts. This is an objective standard based upon how a person with experience and knowledge of a certain area would act in a given situation. If a fiduciary lacks the expertise for a certain area then the fiduciary must obtain expert help. 29 U.S.C. § 1104 (a)(1)(B).

²⁴ *Pensions & Investments*, Databook 2012.

²⁵ Deborah J. Lucas and Stephen P. Zeldes, “How Should Public Plans Invest?,” *American Economic Review*, 2009 vol. 99 no. 2. P. 537–532, citing Alicia Munnell et al. (2008).

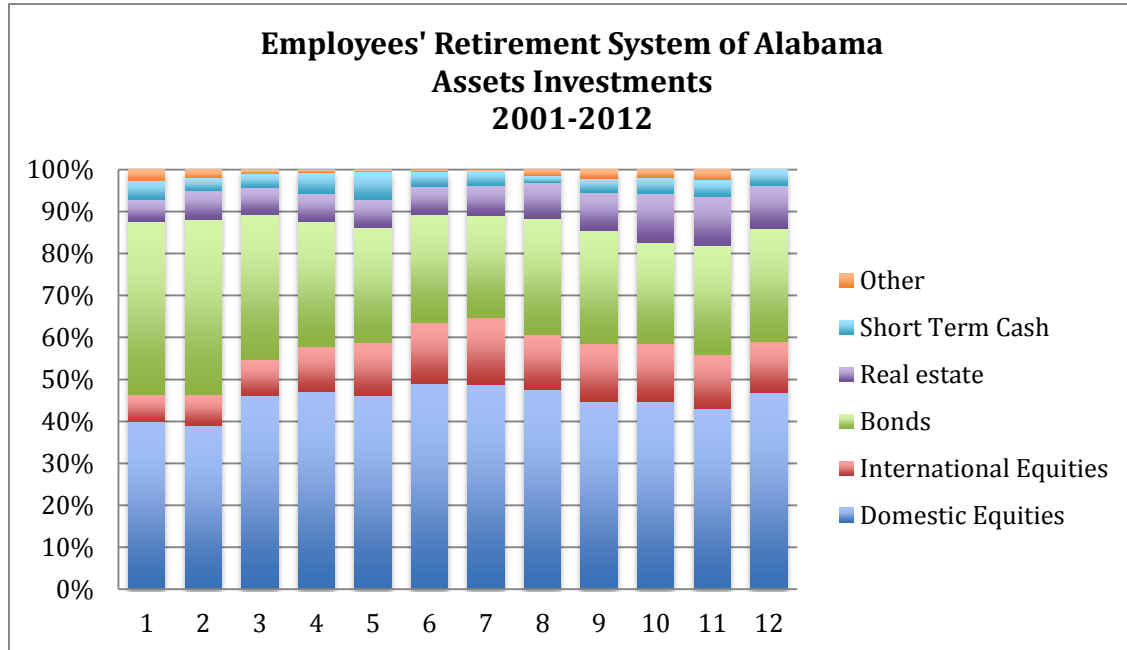


Source: Pensions & Investments, Databook, 2012.

Alabama's pension investment strategy mirrors the national trend. Charts 2 and 3 show the asset composition of the ERS and TRS over the last decade. Between 2001 and 2011 the RSA shifted the proportion of fixed income from of an average of 41 percent holdings to 26 percent, and increased investments in equities from an average of 44 percent to 60 percent.²⁶

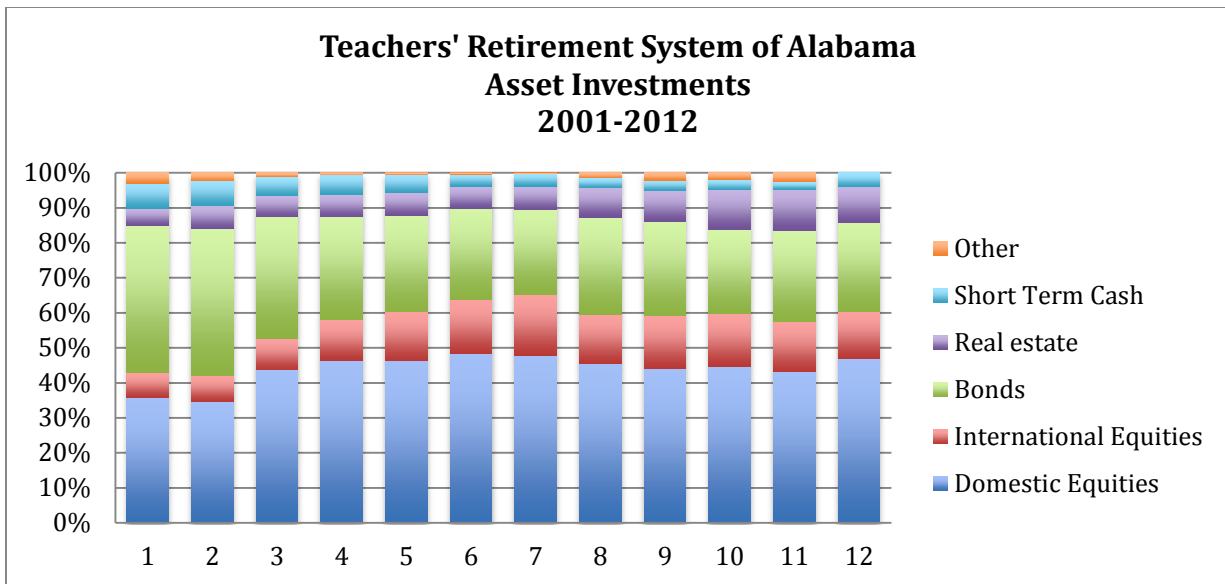
²⁶ Author's Calculations based on The Center for Retirement Research at Boston College, Public Plans Database, <http://crr.bc.edu/data/public-plans-database/>.

Chart 2. Employee's Retirement System of Alabama Asset Investment, 2001–2012



Source: Author's Calculations based on The Center for Retirement Research at Boston College, Public Plans Database, <http://crr.bc.edu/data/public-plans-database/>.

Chart 3. Teachers' Retirement System of Alabama Asset Investments, 2001–2012



Source: Author's Calculations based on The Center for Retirement Research at Boston College, Public Plans Database, <http://crr.bc.edu/data/public-plans-database/>.

Linking liability valuation to asset performance leads plan fiduciaries to believe that greater levels of investment risk will lower plan contributions and improve funding levels.²⁷ It is often expressed as the idea that the plan must “get” a “required rate of return,” to ensure the plan is funded.²⁸ This can be seen in the RSA’s Quarterly Economic Report (March 19, 2013), which points to Fed policy as “putting the defined benefit plan in a checkmate type situation.”²⁹ Low yield on 10-year Treasuries (2 percent) “puts an extra level of burden on the equity side. If rates go lower from here, it simply makes the long-term checkmate problem that much worse. This is perhaps the biggest issue facing defined benefit pension plans in the current area given the very low level of risk-free interest rates.”³⁰

The problem with this line of thinking is that plans do not “get” the return they assume they will achieve, but a “highly random and uncertain draw from an

²⁷ Ibid., Andonov, Bauer, and Cremers (2013), p. 3.

²⁸ M. Barton Waring, *Pension Finance: Putting the Risks and Cost of Defined Benefit Plans Back under Your Control*, Wiley Finance, 2012, p. 214.

²⁹ RSA Quarterly Economic Update, March 19, 2013, pp. 23–24.

³⁰ Ibid., p. 24.

increasingly wide distribution of possible returns.”³¹ More investment risk introduces greater volatility and a greater than 50 percent chance that assets will underperform, leaving the plan with a funding gap. Related to that is the fact that the expected return on the portfolio doesn’t change the amount that’s needed to fund the system each year. Paying for a defined benefit pension plan simply requires that an accurately calculated contribution—one that amortizes the cost of future benefits over a period of years—be made to the plan.³² How the liability is financed doesn’t change the payments that are required to fully fund the plan.

RSA investments are governed by the Boards of Control of the ERS and TRS consisting of eight ex-officio members, sixteen elected members, and two appointees. The board invests under a prudent person standard and under legal limits that cap how much of the portfolio can be dedicated to particular asset classes.³³

The RSA’s investment strategy is driven by the vision of Dr. David Bronner, CEO of the RSA. When he assumed the role in 1973 the plan was deeply underfunded. To improve funding of the pension plan, Bronner believed he needed to improve Alabama’s economy. Based on this insight a “dual-purpose” investment strategy was

³¹ Waring, 41.

³² Waring writes, “high realized returns are not under our power to require or demand.” P. 216.

³³ Investments may not exceed the following maximum levels: domestic fixed income (50%), international fixed income (10%), domestic equity (65%), and international equity (25%), with no more than 5% held in any individual stock, real estate (15%), alternative investments (10%) and short-term investments (10%). Comprehensive Annual Finance Report for the Retirement Systems of Alabama, FY 2012, <http://www.rsaal.gov/About%20RSA/Pubs%20and%20forms/RSA%20Pubs/CAFR/2012%20CAFR.pdf>.

devised to use pension plan assets to lure business to the state: “the stronger I can make the state of Alabama, the stronger I can make the pension fund.”³⁴

Under his direction, the pension investment strategy has three stated goals: (a) asset management and benefit provision, (b) the use of direct investments to facilitate industry recruitment and expansion, and (c) the promotion of tourism, a goal for which the RSA spends \$54 million a year for TV, print, and billboard ads.³⁵ Ten percent of the RSA’s portfolio is invested in attracting and supporting Alabama-based businesses. Pension funds have been used to back as many as 50 businesses, including a Wal-Mart distribution center and the headquarters of RayCom Media. Bronner’s most high-profile economic-development project was launched in 1993: a \$180 million investment in a dozen golf courses, known as the Robert Trent Jones Trail.

Using pension fund contributions to make ETIs raises the question of whether it is a responsible strategy. Should pension contributions be used for reasons other than ensuring the plan is fully funded? Is the plan subsidizing pet projects that would not survive otherwise, in exchange for lower returns on the pension fund? ETIs became widespread in public pension plans in the late 1980s.³⁶ Today, state pension plans

³⁴ “Alabama’s Ace Investments: Out-of-the-ordinary investments pay off for Alabama’s retirement system.” By Jenny Price, *The Council of State Governments, State News*, April 2005.

³⁵ 2009-2011 Economic Impact of RSA on Alabama, Commissioned by the Retirement System of Alabama, May 2012, Center for Business and Economic Research, Culverhouse College of Commerce and Business Administration, the University of Alabama, p. 2. http://www.rsa-al.gov/About%20RSA/News/RSaimpact200911_Final%20Report.pdf

³⁶ A 1989 report commissioned by New York Governor Mario Cuomo entitled, “Our Money’s Worth,” made the case that public pensions should not invest to maximize returns, but rather to “optimize” them by choosing projects with secondary benefits to society such as affordable housing, job creation, and economic development. The Administration later stressed that the plan should not necessarily accept “concessionary returns” to meet these larger social or economic objectives and that it is possible to eat your cake and have it too by choosing socially or economically beneficial investments that also earn a competitive rate of return for the pension

hold three times as many “in-state investments” at 9.7 percent of their portfolios as do other institutional investors.³⁷ ETIs can be evaluated based two criteria: (a) do they deliver competitive returns for the pension plan and (b) do they produce other benefits such as local economic growth.

Brown, Pollet, and Weisbenner find that ETIs generate excess returns for a sample of 20 plans—where those investments consist of smaller stocks that represent a primary industry for the state.³⁸ A subsequent study by Holberg and Rauh examines the performance of specific classes of assets, and finds that pension funds’ in-state investments underperform and reduce pension plan resources by \$1.2 billion annually.³⁹

These studies only assess ETI’s investment performance. The second question is whether ETIs—even if they underperform as investments—provide other benefits such as increased jobs, income, or tax revenues for the state that would have not otherwise occurred. Two RSA-commissioned reports make the case that the RSA’s use of pension funds to promote state economic growth has been a boon to the state. The \$5.6 billion invested between 1990 and 2011 in Alabama-alternatives such as golf courses and business loans, is claimed to have generated \$1.1 billion in tax revenues, \$28 billion in gross state product by \$28 billion, and 282,000 jobs.⁴⁰

fund. See M. Wayne Marr, John R. Nofsinger, and John L. Trimble, “Economically Targeted Investments and Social Investments: Investment Management and Pension Fund Performance, *Manuscript for the Research Foundation, Institute for Chartered Financial Analysis*, April 1995.

³⁷ Jeffrey R. Brown, Joshua Pollet, and Scott J. Weisbenner, “The Investment Behavior of State Pension Plans,” *NBER*, September 2009.

³⁸ *Ibid.*

³⁹ Yael V. Hochberg and Joshua D. Rauh, “Local Overweighting and Underperformance: Evidence from Limited Partner Private Equity Investments,” *NBER*, October 2012.

⁴⁰ The Economics of Retirement System of Alabama’s Investments on the State Economy and the RSA, presented by M. Keivan Deravi, Auburn University, Montgomery, 2012 <http://www.rsa-al.gov/About%20RSA/News/Deravi%20PowerPoint%205-2012.pdf>.

The RSA-commissioned reports are based on a common defense of ETIs by governments. The plan fiduciary might be able to accept a lower investment return in the pension fund if the investments produce economic gains for the state.⁴¹ These “secondary benefits” are argued to also help plan beneficiaries indirectly by ensuring there will be enough tax revenues available to make up for any losses that might result from a less-than-competitive return on such investments for the fund itself.⁴²

However, this logic covers up a real fiscal hazard of gambling with pension contributions. If the state’s economic activity is correlated with the performance of in-state stocks, the pension plan will suffer should the investments fail—at precisely the worst moment—when tax revenues and economic activity dip.⁴³ Put another way, a Texas pension plan may not want to overweight its holdings in oil stock. And in fact, it may want to go short on such positions, hedging the plan’s pension liability against a failure in a prominent sector of the state economy. The fiduciary would want to ensure the fund does not lose value at the same time the state is experiencing fiscal and economic pressure. Investment losses lead to funding gaps. “Concessionary returns” translate into the potential for future tax hikes to pay for unfunded pension liabilities.

⁴¹ The philosophy of “concessionary returns” was expressed by Dr. Bronner in a recent interview: “There’s not one investment that I can think of in Alabama that you couldn’t make more money in other places. . . . But if you don’t invest in Alabama, Alabama will never change. It will never improve. It will never do anything.” David White, “Teachers’ Retirement System Returns over Many Periods Trail Those of Many Other Pension Funds, Study Shows,” *Birmingham News*, May 31, 2012.

⁴² In 1994 the Clinton administration Department of Labor endorsed this idea and attempted to alter ERISA guidance governing private-sector plans, arguing that an ETI that produced “collateral benefits” for employees in the form of an improved economy, but did not necessarily earn a competitive return for the fund, could be defended. <http://www.plansponsor.com/MagazineArticle.aspx?Id=6442462106>.

⁴³ Jeffrey R. Brown, Joshua Pollet, and Scott J. Weisbenner, “The Investment Behavior of State Plans,” September 2009, p. 3 and p. 14.

Dr. Bronner acknowledged this risk in 2012. The TRS's asset performance was trailing that of other states, a factor he attributed to the Alabama-specific investments.⁴⁴ This highlights the danger of investing assets for reasons other than funding plan benefits. The RSA may claim economic benefits were generated by using pension funds to invest in Alabama over a twenty-year period, but it has also exposed the pension to more risk and the chance that if these investments fail, so will the tax revenues they generate, making it more difficult to fund the system, shifting the funding burden for past public service to future generations.⁴⁵

Of related concern is how the RSA showcases its Alabama-centric investment returns in its annual reports—emphasizing the “golf-course strategy” with glossy marketing and selective financial reporting that combines returns on fixed income and “alternatives” obscuring the performance of the Alabama-specific investments.⁴⁶ On a combined basis, fixed income and alternatives returned 10 percent on a one-year basis and 4.5 percent on a ten-year basis for both the TRS and the ERS. The graphic below is taken from the RSA's 2012 Annual Report. Twelve pages are dedicating to promoting golf courses and resorts but no information is provided in this report on the specific performance of Alabama-based investments, many of which are classified as “alternatives,” for the plan.⁴⁷

⁴⁴ Dr. Bronner told TRS board members, “The retirement systems doesn’t do well compared to other states because of the Alabama investments.” David White, “Teachers’ Retirement System Returns over Many Periods Trail Those of Many Other Pension Funds, Study Shows,” *Birmingham News*, May 31, 2012.

⁴⁵ Highly publicized failures—<http://alreporter.com/component/k2/item/29-dr-bronnor's-experiment-goes-wrong-for-alabama.html>.

⁴⁶ The Retirement Systems of Alabama, 2012 Annual Report, “The RSA: On the Championship Course,” p. 24 (<http://www.rsa-al.gov/About%20RSA/Pubs%20and%20forms/RSA%20Pubs/Annual%20Report/Annual%20Report%202012.pdf>).

⁴⁷ Ibid.

Investment Returns / 2012

For the period ended September 30, 2012 (Percent)

	1-YEAR	3-YEARS	5-YEARS	10-YEARS
TOTAL DOMESTIC EQUITY				
TRS	28.27	12.95	1.26	8.45
ERS	28.08	12.88	1.23	8.46
JRF	30.36	13.57	1.55	8.47
TOTAL INTERNATIONAL EQUITY				
TRS	14.99	2.76	-4.22	8.97
ERS	15.05	2.78	-4.17	8.98
JRF	14.88	3.07	-3.39	n/a
TOTAL FIXED INCOME AND ALTERNATIVES				
TRS	10.11	8.02	1.40	4.51
ERS	10.16	8.17	0.48	4.12
JRF	5.53	6.64	5.91	5.62
TOTAL RSA RETURNS				
TRS	18.30	9.30	0.35	6.46
ERS	18.01	9.37	-0.04	6.22
JRF	19.01	9.80	2.60	6.84
BENCHMARKS				
S&P 500	30.20	13.20	1.05	8.01
DJIA	26.52	14.45	2.17	8.59
MIDCAP 400	28.54	14.33	3.83	10.77
SMALLCAP 600	33.35	15.14	3.29	10.74
MSCI EAFE	13.75	2.12	-5.24	8.20
CITIGROUP BIG	5.12	6.04	6.69	5.46
BARCLAYS	5.16	6.19	6.53	5.33

To know the performance of fixed income versus alternative investments, the RSA's Quarterly Economic Updates give a slightly more detailed breakdown.⁴⁸ Table 3 shows the rates of return for the TRS and ERS over the period in specific asset classes. Alternatives performed significantly worse than fixed income over a one-year, three-year, and five-year period for both systems. However, even this breakdown does not provide enough detail to assess the performance of Alabama-based investments, since these are distributed in different categories including alternatives, private placements, and fixed income, according to other sources.⁴⁹

Table 3: Returns on Fixed Income and Alternatives in TRS and ERS

Period Ending January 2013	FY To Date	1-Year⁵⁰	3-Year	5-Year	10-year
TRS Fixed Income	1.0	9.8	9.93	3.85	6.57
TRS	0.1	7.78	2.27	-4.84	n/a

⁴⁸ RSA Quarterly Economic Update, March 19, 2013. Macroeconomic Commentary pp. 5–14.

⁴⁹ The Alabama-based investments are not classified clearly for financial reporting purposes. They are often referred to as “alternative investments” in media reports and RSA promotional materials. RSA financial and investment reports do not break down nor discuss the Alabama-specific investments’ performance, nor do they define the “alternatives” category more precisely. Alabama investments may also be included in fixed income and private placements. The RSA’s website lists several “alternative real estate investments,” including the Robert Trent Jones golf trail, PCH Hotels, RSA real estate web site, the Colony at the Grand, National Village, Community Newspaper Holdings, Raycom and iPic Theaters. While Addy and Ijaz (2008) indicate that Alabama-based investments are also included in private placements. See “Economic Impacts of RSA-Owned Investments on Alabama” Center for Business and Economic Research, Culverhouse College at the University of Alabama, for the Retirement Systems of Alabama, December 2008, p. 1 (bonds).

⁵⁰ One-year and five-year returns on alternatives appear skewed by the volatile performance of TRS and ERS Alternative “Preferred Stock,” which returned 48.46 percent and 39 percent, respectively. On a five-year basis, returns were negative, with a return of -24.67 and -19.97.

Alternatives					
ERS Fixed Income	1.02	9.9	10.1	3.69	6.49
ERS Alternatives	0.05	8.01	2.9	-6.37	n/a

Source: RSA Quarterly Economic Update, March 19, 2013, Macroeconomic Commentary.

The RSA's approach to pension plan investments, as well as its approach to financial reporting, flows from the fiction that plan liabilities can be lowered and funding improved by risky investments, that chase a "required" 8 percent annual return. The pressure to pursue risk in public-sector pensions is a direct result of muddling the value of liabilities with the expected performance of plan assets. But if liabilities should be valued like bonds, then how should the fiduciary invest the assets? A risk-free discount rate to value plan liabilities does not imply that the fund should invest exclusively in US Treasuries, and in fact there may be a role for riskier investments, such as equities.⁵¹ This kind of investment approach can only work if economic accounting is put into effect. The liability must be valued according to the risk and timing of benefit payments. And the asset investments must hedge against the risk that the liability will change in value due to wage increases or inflation and interest rate fluctuations, a concept developed in the next section.

V. Investing assets to fund employee benefits

Current government accounting implies that if public-sector plans embrace more investment risk they can achieve better funding levels. However, the plans may achieve the expected returns, and they may not. A 10 percent decline in the market translates into a 10 percent increase the plan's funding gap. Risky asset portfolios do not "help to pay for the plan" by lowering pension expenses and contributions.

⁵¹ RSA Quarterly Economic Update, Macroeconomic Commentary, March 19, 2013, pp. 23-24.

This can only happen if returns are equal or greater to the discount rate. If they fall short, the plan will require higher rather than lower contributions.⁵²

The role of the pension plan fiduciary should be to ensure the plan is fully funded for employees and that the burden of funding the plan is not shifted to future generations. The fiduciary must hedge against the risk that the liability may change in value due to wage increases, or fluctuations in real interest rates and inflation. The portfolio that hedges against these risks is called a Liability Matching Asset Portfolio (LMAP).⁵³

In addition, the fiduciary may hold a second portfolio consisting of risky assets, called a Risky Asset Portfolio (RAP). The size of the RAP depends on the investor's tolerance for risk. This risk is rewarded with an expectation, but not a guarantee, of returns greater than the risk-free rate. RAP investments do not give sponsors a pass to "anguish over the best new asset class to add to their portfolio—from venture capital, hedge funds, alternatives and infrastructure to exotic betas."⁵⁴ Instead, RAP should represent the market capitalization-weighted portfolio of all risky assets.⁵⁵

Pennacchi and Madhi test what an ideal portfolio for a public-sector pension plan might consist of if the liabilities are properly valued on a default-free basis, and if the assets are invested to hedge against the risk that the liability will change in value due to wage increases, or interest rate/inflation fluctuations.⁵⁶

⁵² Ibid. Waring.

⁵³ This approach is developed by M. Barton Waring in *Pension Finance* (2012), see pp. 135–80.

⁵⁴ Waring, 146.

⁵⁵ Ibid.

⁵⁶ George Pennacchi and Mahdi Rastad, "Portfolio Allocation for Public Pension Funds," *Journal of Pension Economics and Finance* 10, no. 2 (April 2011), 221–45. The authors note that previous research suggests pension funds invest in equities to hedge against wage uncertainty. See Fisher Black, "Should You Use Stocks to Hedge Your Pension Liability?," *Financial Analysts Journal* 45, no. 1 (January/February 1989), 10–12. Mirko Cardinale, "Cointegration and the Relationship between Pension Liabilities and Asset Prices (Watson Wyatt Technical Paper Series No. 2003-

If the pension fund's liabilities are nominal and no COLAs are provided a "risk-minimizing allocation" would consist of a 9 percent short position in equities, a 160 percent allocation to fixed income, a 24 percent allocation to private equity and a 27 percent short position in hedge funds. This implies the fund should borrow via short positions in other categories to increase investment in US fixed income securities.

Today, Alabama invests its pension plan assets in the belief that greater risk will produce lower funding levels. But risk taken with the pension assets translates directly into funding risk. As with all public-sector pension plans, liabilities are mismeasured and assets are invested heavily in high-risk categories because the ledger is muddled, creating dramatic "funding disequilibrium." The only way to resolve this disequilibrium this is through an economic accounting that values the liabilities as though they are intended by law to be paid; and that invest the assets with a view to minimizing the risks that the liability may change in value, as wages, or interest rates and inflation change.

The RSA fiduciaries worry that low yields on Treasury bonds will prevent the system from achieving a "required rate of return." And disappointing returns on Alabama-specific investments may be leading the system to mask their true financial performance in reports. This points to the flawed logic at work in public pension accounting, which encourages fiduciaries to pursue high returns in order to lower funding levels, as well as the danger of using the pension fund to pursue other policy aims. These behaviors underscore the importance of economic accounting, of the liability, and also of changing the fund's asset investment strategy by shifting to

TR-06, 2003); Deborah Lucas and Stephen Zeldes, "How Should Public Pension Plans Invest?," *American Economic Review* 99, no. 2 (2009): 527–32. This research is based on a positive correlation between equities and wages. Pennacchi and Rastad test this and find a negative correlation between growth in US state and local wages and US equities. They find that as the period grows longer, the negative correlation increases. Thus, Pennacchi and Rastad conclude that since the typical duration of a pension plan's liabilities is 15 years, stocks may not be the best hedge against wage risk.

a Liability-Matching Portfolio, though given the size of the funding gap, this alone will not be sufficient to save the system. A combination of increased contributions and benefit reductions will be required to make up for years of insufficient contributions.

VI. Stabilizing and Securing Employee Retirement in Alabama

The defined benefit pension is essentially an annuity,⁵⁷ in which the employer promises to pay a predetermined amount to the employee over the employee's retired years.

The employer's responsibility is to accurately calculate the amount needed to fund the payments and to make the contributions necessary to ensure benefits are paid in full. However, public-sector accounting guidance and changed investment practices, coupled with politicians' incentive to push spending obligations to the future, has shown that governments are poorly suited to investing, managing, and operating retirement systems for employees. In addition, technical accounting techniques and assumptions leave employees at an informational disadvantage about the true funding status of their retirement benefits.

These two features of defined benefit plans—the incentive of politicians to obscure costs and underfund the system coupled with the informational disadvantage of employees—points to a classic “Principal-Agent problem” in public-sector pension systems.⁵⁸ Studies indicate that in some cases, governments may adopt actuarial

⁵⁷ An annuity can be thought of as “longevity insurance” that protects individuals against the risk of outliving their resources due to a long life, bad investments, or careless savings. For a discussion see G. A. “Sandy” Mackenzie, “The Role of Private Sector Annuities Markets in an Individual Accounts Reform of a Public Pension Plans,” IMF Working Paper, Fiscal Affairs Department, September 2002, p. 13.

⁵⁸ The Principal-Agent problem describes a situation when one party (the principal, in this case pension holders and taxpayers) employs an agent (government) to perform a transaction or make decisions on its behalf. A conflict may arise if the agent has asymmetric information and the principal cannot be sure the agent is acting in its best interests.

assumptions to reduce annual payments, or obscure the true size of unfunded pension obligations.⁵⁹ Accounting sleights-of-hand in defined benefit plans allow governments to avoid full funding since, much like payment on a long-term debt, contributions can be deferred: “when a budget deficit occurs, it is likely governments will rely on pension contributions to solve budget problems.”⁶⁰ Even if governments are legally bound to make the full contribution each year, accounting techniques without any basis in economic theory or financial practice can be employed to alter the value of the liability and adjust the annual payment to suit the sponsor, effectively suppressing part of the obligation and pushing payment into the future.⁶¹

This is not true of the defined contribution plan, where the sponsor must make the full contribution to the employee’s retirement account each year. The employer’s contribution to a defined contribution account is guaranteed, the investment performance and final amount available in retirement is not. The shifting of investment risk from the government (more accurately, the taxpayer), to the employee in a defined contribution plan is likely a reason why some advocacy groups, including unions, resist the move away from the defined benefit model, where risk can be shifted to taxpayers. But it also indicates a concern that employees or employers may contribute too little to individual retirement savings, investments may perform poorly, or individuals may make uninformed financial

⁵⁹ Odd J. Stalebrink, “Public Pension Funds and Assumed Rates of Return: An Empirical Examination of Defined Benefit Pension Plans,” *American Review of Public Administration*, vol 44, No. 1 (2014) pp. 92-111: 5. “Studies have shown that the adopted investment return assumptions may be partly driven by political opportunism. More specifically, the evidence suggests that governments and retirement systems, under certain conditions, adopt actuarial assumptions for purposes of reducing the annual required contributions to a pension plan and/or for the purposes of obscuring the magnitude of the unfunded pension liability.”

⁶⁰ J. Peng, “Public Pension Funds and Operating Budgets: A Tale of Three States,” *Public Budgeting and Finance* 24, no. 2: 59–73.

⁶¹ These techniques are not limited to the selection of the discount rate, but also include asset smoothing and the use of amortization schedules to reduce annual payments.

decisions, through risky investment or tapping into retirement savings and putting their retirement income at risk. To this end, a new retirement system should be structured to offer workers the best elements of both plan designs with a focus on income security rather than wealth maximization.

Firstly, Alabama public workers should be offered control over their own retirement savings and discretion over how their savings are structured. To that end, the state should close the defined benefit system and devise a funding strategy to honor the benefits earned to date. A new defined contribution plan should be established for all workers.⁶² In addition to ensuring that the state makes annual contributions to employees' retirement accounts, the DC plan has several other features that make it an attractive retirement option for workers. Employees are fully vested in their contributions. Employee ownership over retirement contributions permits both investment and career flexibility in that the DC plan allows the employee to change jobs without losing retirement benefits.

A DC plan's investment strategy can be designed to reflect the risk tolerance of individuals within the public-sector workforce. Specifically, the DC plan may include the option to invest in a life-cycle fund, which automatically adjusts to more conservative investments as the employee approaches retirement. The DC plan may also give employees the option to partially annuitize their retirement savings. Automatic enrollment and a robust contribution level set for employers would help to ensure that employees are setting aside sufficient savings for retirement.⁶³

⁶² A model to follow for transition from the defined benefit plan to a defined contribution plan is the state of Michigan, which transitioned its state employees to a DC plan in 1997, saving \$167 million in annual pension costs and between \$2.3 billion and \$4.3 billion in unfunded liabilities. See Richard Dreyfuss, "Estimated Savings from Michigan's 1997 State Employees Pension Plan Reform," Mackinac Center for Public Policy, June 23, 2011, <http://www.mackinac.org/15284>.

⁶³ See "Social Security, Pensions and Retirement Security," Andrew Biggs, Testimony before the Senate Committee on Finance, Subcommittee on Social Security, December 18, 2013 (<http://www.finance.senate.gov/imo/media/doc/Biggs%20--%20Senate%20Finance%20Testimony%20on%20Social%20Security%20and%20>

It has been noted that a retirement system's goal should focus on income security as opposed to wealth maximization.⁶⁴ To meet the goals of "Safety, Security and Stability" in retirement for Alabama employees, the management and financial stewardship of a newly established retirement system should be shifted out of the government. Such a change does not preclude allowing employees a variety of options in how to structure their retirement savings—which should reflect the risk tolerance of individuals—instead, transitioning out of a government-managed DB plan eliminates the perverse incentives, political gaming, and flawed accounting that has undermined the certainty of a public-sector pension for retirees.

Recommendations

There are several principles Alabama should follow to improve the funding of the current DB system while ensuring workers have more options and ownership over their retirement savings.

- 1) Fair-Market Valuation. only an economic accounting of the liability can provide a true picture of plan funding status and indicate the amount of contribution necessary to fully fund the system. Alabama should value the plan liability based on the likelihood of benefits being paid under Alabama state law. The discount rate chosen should match the risk and timing of plan payments, such as the yield on US Treasury bonds.
- 2) Close the Defined Benefit plan to new hires. New hires should be shifted to a defined contribution plan—an option that should be extended to current workers. Each day the system remains open, Alabama's liability for public-sector workers increases. As managed to date, the DB plan presents an active risk to taxpayers and an uncertain future for employees. Employee contributions have been invested for purposes other than ensuring full

Pensions%20--%20Dec%2019%202013.pdf) and remarks of Jeffrey Brown in "Public Pension Reform: Addressing Pressing Fiscal Realities from a Long-Term Perspective," by Thomas L. Gais and Paul Yablonski, TIAFF-CREF Institute, pp. 15–16.

⁶⁴ Ibid.

- funding. Ancillary economic benefits do not justify state speculation with employee contributions. The new Defined Contribution plan can incorporate design elements of the DB plan including automatic enrollment, investment in life-cycle funds, and the option for partial or full annuitization.
- 3) Develop a strategy to fund earned benefits that have been earned to date. Given the size of the funding gap, increased contributions will be necessary, as will be possible changes to benefit formulas.
 - 4) Change the asset investment strategy in the Closed Defined Benefit plan. The asset investment strategy should hedge the risks present in the liability. This means adopting a portfolio that matches investments with the risk of the liability changing due to wage changes or interest rate/inflation fluctuations. High-risk investments do not make up for losses with certainty. They come with the risk of funding gaps. The volatility of investments affects the volatility of funding.
 - 5) Improve disclosure. Current reporting on the Alabama pension system does little to clarify the true performance of the plan for employees. Alabama's annual pension reports market golf tourism to a distracting degree. The reports' emphasis on tourism reveals a skewed fiduciary philosophy that views pension contributions as a source of lending for pet projects and state economic investments. Pension reports should clearly indicate funding status and investment performance for employees and the public.

Conclusion

Alabama's pension system is deeply underfunded for reasons that extend to all state and local pension plans in the United States. The valuing of liabilities based on expected asset returns results in unrecognized funding gaps, due to insufficient contributions and risky investment policies. In addition this accounting mishap encourages plan fiduciaries to embrace greater investment risk to make up for losses. The RSA has increased its exposure to high-risk investments over the decade. In addition it has used plan contributions to attract business to Alabama. The secondary economic benefits of such economically targeted investments have come

at the price of poor investment performance for the pension fund. Effectively, Alabama has subsidized economic development with employee pension contributions, and passed on the risk of higher taxes and lower benefits to Alabama residents. The only way for Alabama to fix its pension funds is to close the current DB system, fully account for plan liabilities, and uncover how much will be required to pay for benefits earned to date. The state of Alabama should establish a Defined Contribution plan for employees, eliminating the risk of political manipulation of retiree benefits, and ensuring younger workers have more control over their retirement savings.