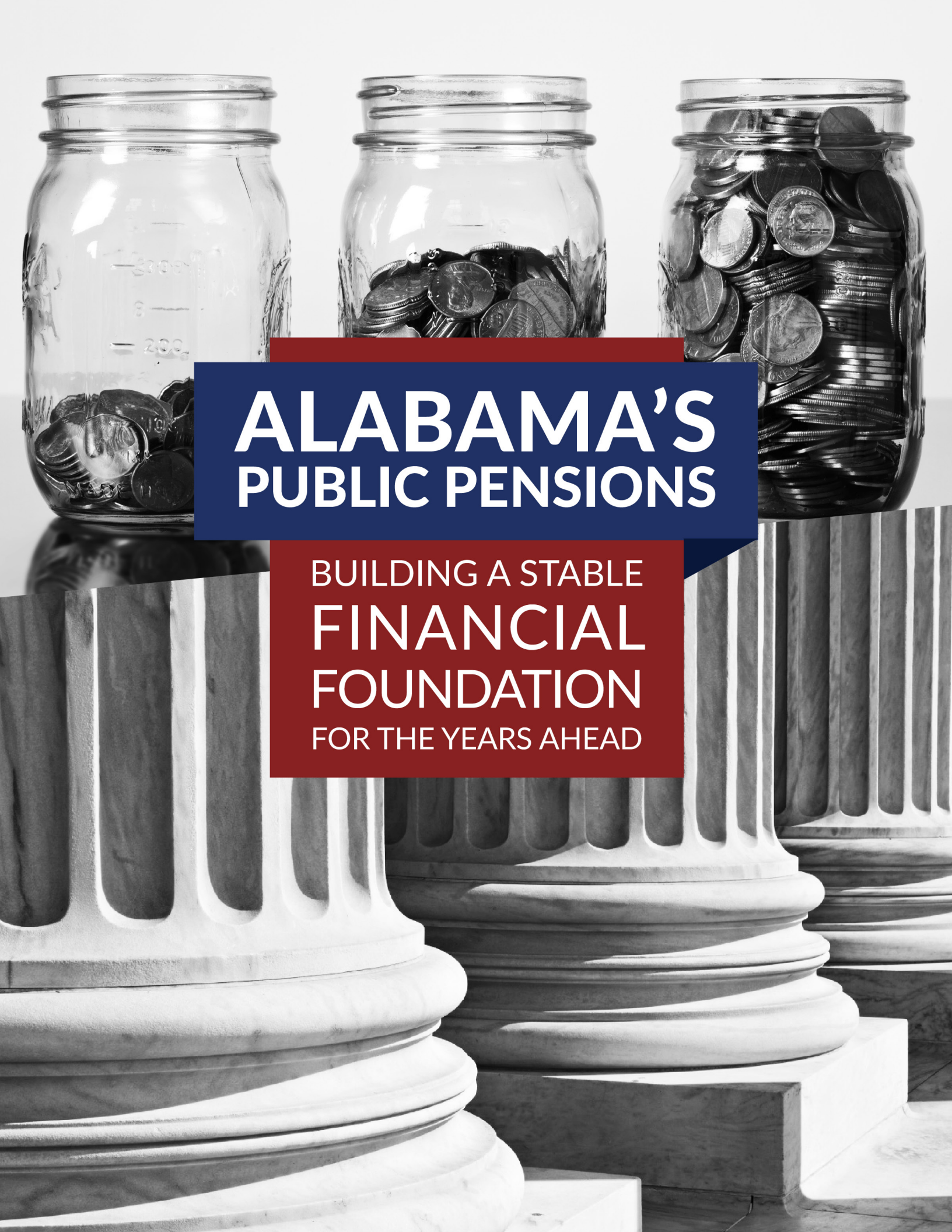

ALABAMA'S PUBLIC PENSIONS

BUILDING A STABLE FINANCIAL FOUNDATION FOR THE YEARS AHEAD

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ALABAMA POLICY INSTITUTE
Established in 1989
25th Anniversary

Alabama's Public Pensions

Building a Stable Financial Foundation for the Years Ahead

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The authors are grateful for the excellent assistance provided by Bijie Jia, Zhaohui Jin, Yanfei Sun, Yanqin Tong and Jiayi Xu, all graduate students at Auburn University. Also, we appreciate the helpful comments provided by Sven Thommesen, Instructor of Finance at Auburn University.

Executive Summary

Unfunded public pensions remain a considerable threat to the finances of states attempting to recover from the Great Recession and slow economic recovery. Yet, despite this threat, unfunded pension liabilities are largely misunderstood and the need for reform is overlooked across all levels of government. While the State of Alabama and many other states have attempted various reforms—some bold, most bland—the measures passed in Alabama thus far have simply been a gauze bandage applied to a gaping wound.

This report assesses the financial condition of the State of Alabama's retirement system and proposes reforms that will put public pensions on a stronger financial foundation. Currently, Alabama's retirement system has an estimated pension shortfall of $15.2 billion. Any definitive resolution to the looming pension funding crisis in Alabama must involve three key elements: a) stop the bleeding by addressing cost-saving measures ignored during previous attempts at reform; b) repair the wound by funding the current pension balance; and c) protect for the future through structural changes that make pension costs more predictable and adequately funded.

In response to this situation, it is proposed that serious consideration be given to the following recommendations for shoring up the financial soundness of the State of Alabama's retirement system:

Cash Balance Pension Plan

A cash balance plan is an alternative to the traditional pension system and centers around a separately managed, individual retirement plan that combines the positive aspects of both a pension and a lump-sum account, coupled with a minimum rate of return on investment guaranteed by the employer. Investments are usually still managed by the employer investment manager (RSA, in Alabama) and contain a revenue splitting percentage (i.e., 75% to the employee and 25% to the employer) for profits above the minimum rate of return. Employees may annuitize any funds remaining upon retirement. Alabama's current pension structure requires too much guesswork, thus obligating taxpayers to cover potentially massive and disastrous shortfalls. While a switch by the State of Alabama to a cash balance pension plan would not result in immediate cash savings, the structural change would bring more predictability and stability to our state retirement system and would greatly reduce the risk of incurring future unfunded pension liabilities.

Judicial Pension Reform

Completely untouched during the pension reform measures enacted in 2011 and 2012, Alabama's judicial pensions are now some of the richest in the country and provide pensions to justices, judges, circuit clerks, and district attorneys that can be as high as four-and-a-half times the pension payment of any other state employee (including attorneys). Rather than receiving a simple benefit percentage per year (i.e., 3.0%) like most state employees, vested judges receive a flat 75% of salary regardless of the number of years of service.

The judicial retirement plan should be amended to bring these benefits more in balance with the pensions of other state employees, given the significant disparity that currently exists. Assuming changes only to future judicial pensions, the State of Alabama could save $12.1 million annually on average over the next 30 years as new judges replace those who retire.

Eliminate Piggyback Agency Participation

Under Ala. Code §16-25-1(3), related to the creation of the Teacher's Retirement System, the definition of the word "teacher" is written to include "any similar employee or officer of the Department of Education or of the Alabama Education Association (AEA)…." This definition allows for a private lobbying group, the AEA, to participate in the state pension system. The inclusion of the AEA in the Retirement Systems of Alabama (RSA) provides an extraordinary benefit to a group of lobbyists that should not be paid for by Alabama's taxpayers. By striking the reference to AEA from this definition, the AEA's executive administration would no longer be able to participate in the RSA programs and would need to select a private retirement plan of their own.

There is still much work left to be done in order for many states, including Alabama, to put any sort of a permanent dent into the pension debt crisis that threatens all other budget priorities. The taxpayers of Alabama are ultimately responsible for the principal repayment of unfunded pension liabilities. If public pensions are not reformed now, future generations could inherit a serious financial crisis. Restoring the financial soundness and integrity of the state's pensions must be a primary goal for state policymakers and should be accomplished with common sense and financially responsible measures.

Overview of Alabama's Public Pension System

The State of Alabama provides for the administration of various public entity retirement plans (with a few private entity exceptions, notably the AEA) through the creation of a centralized investment administrator, the Retirement Systems of Alabama (RSA). Collectively, the three components of the RSA, the Teachers Retirement System (TRS), the Employees Retirement System (ERS) and the Judicial Retirement Fund (JRF), administer the plans for 1,148 "participating units." These participating units are individual cities, counties, universities, city and county Boards of Education, and various local entities such as fire departments, police departments, and municipal waste departments across the State of Alabama. As of 2013, total combined membership in these plans consisted of approximately 420,000 current or former employees.

As of September 30, 2013 (the latest public information available), the TRS, ERS and JRF (collectively referred to as RSA) held assets of $29.4 billion and liabilities of $44.6 billion, resulting in a combined shortfall (commonly referred to as the "unfunded liability") of $15.2 billion (see Table 1). This means that for every dollar that the pension system owes current and future retirees, it currently has only 66 cents.

Table 1: RSA Plan Demographics as of September 30, 2014

($ millions)	TRS	ERS	JRF	Total
Total Assets (Actuarial Value)	$19,629.8	$9,546.5	$243.3	$29,419.6
Total Liabilities (Actuarial Value)	-29,665.8	-14,536.6	-414.2	-44,616.6
Unfunded Accrued Liability	-$10,036.0	-$4,990.1	-$170.9	-$15,197.0
Funded Ratio	66.2%	65.7%	58.7%	65.9%
Membership				
Active Members (currently working)	133,791	84,035	338	218,164
Terminated and Non-vested	44,276	27,269	54	71,599
Retired Members and Beneficiaries	81,745	42,679	375	124,799
DROP Participants	4,436	1,514	0	5,950
Total Participants	**264,248**	**155,497**	**767**	**420,512**

Sources: RSA Comprehensive Annual Financial Reports, 2009 and 2013.

Over the last 10 years, while the amount of assets that RSA manages has increased by 10% (from $26.7 billion in 2003 to $29.4 billion in 2013), the investment returns of the portfolio have failed to reach the minimum benchmark of 8.0% necessary to meet pension obligations. Further, liabilities (meaning the future cost of those pensions) have far out-paced investment growth, resulting in an unfunded liability that skyrocketed by 625% during the same 10-year period. What was a fairly manageable total unfunded liability of $2.1 billion in 2003 has now risen to almost $15.2 billion in 2013 (see Table 2). With Alabama's population at 4.8 million people, the unfunded liability at RSA represents $3,166 for every man, woman, and child in Alabama.

***Table 2*: Funding Levels and Ratios of Alabama's Pension System: FY 2003-2013** *(Billions of Dollars)*

	Teachers' Retirement System (TRS)		Employees' Retirement System (ERS)		Judicial Retirement Fund (JRF)			
	Unfunded Liability	Funded Ratio	Unfunded Liability	Funded Ratio	Unfunded Liability	Funded Ratio	Total Unfunded Liability	Total Funding Level
2003	-$1.247	93.6%	-$0.812	91.1%	-$.038	86.6%	-$2.097	92.7%
2004	-2.182	89.6	-0.983	89.7	-0.041	84.0	-3.213	89.6
2005	-3.779	83.6	-1.700	84.0	-0.044	85.5	-5.523	83.9
2006	-4.124	82.8	-2.170	81.1	-0.041	86.4	-6.335	82.3
2007	-5.321	79.5	-2.599	79.0	-0.051	83.9	-7.971	79.5
2008	-5.992	77.6	-3.173	75.7	-0.064	80.1	-9.229	77.0
2009	-6.955	74.7	-3.828	72.2	-0.088	74.1	-10.871	73.9
2010	-8.167	71.1	-4.545	68.2	-0.112	68.7	-12.824	70.1
2011	-9.346	67.5	-4.911	65.8	-0.158	59.9	-14.415	66.9
2012	-9.465	66.5	-4.768	65.7	-0.146	61.6	-14.379	66.2
2013	-10.036	66.2	-4.990	65.7	-0.171	58.7	-15.197	65.9

Note: Actuarial evaluation date for all years is September 30, except for TRS, 2004-2005 (June 30).

Source: Retirement Systems of Alabama, Comprehensive Annual Financial Reports, 2003-2013.

This massive $13.1 billion increase in RSA's unfunded liability equates to an increase of over $1.3 billion per year, $109 million each month, or nearly $4 million for each day that elected officials did nothing to fix this problem. For a bit of perspective, the total current debt outstanding for the entire State of Alabama (every public school building, every public college or university, every road or bridge, every economic incentive, the Port Authority, Mental Health, the Revolving Loan Fund, the Tobacco bonds, all of the state's general obligation and revenue bonds) is only about $8.8 billion or $4,786 per household. Contrast that number with the unfunded pension liability, where each household in Alabama would need to contribute $8,274 to fully fund the system. The State of Alabama's entire debt is less than 60% of the unfunded pension liability and the problem is only getting worse. The unfordable escalation of this liability will continue as long as investment returns continue to lag the implied investment return hurdle (8.0%) and until the state addresses the necessary changes to the current pension benefit structure.

Impact on State Budgets

So, what does all of this mean? All totaled between the TRS, the ERS and the JRF, the State of Alabama pays nearly $1.0 billion annually to RSA (estimated $938.2 million in 2015 alone). Annually, substantial funding requests from RSA to the state legislature have become the norm, with an average annual increase of 11.9% in year-over-year funding since 2004 coming out of the combined state budgets. Despite the massive deficit problem looming over Alabama's budget, few seem to be aware of it or grasp its significance. This is because pension fund figures are hidden in layers of budget lines that never see the light of day during the legislative budget process. There is no single line item in the budget for RSA, even though the state's annual contribution to 201 South Union Street represents a substantial percentage of annual state spending. The actual pension expense is spread across each of the employing state agencies, tucked neatly into the "Employee Benefits" line item (directly below Salaries and Wages) with every budget submission to the Executive Budget Office or the Legislative Fiscal Office. This year, the state expects to continue this tradition and to send nearly $1.0 billion to RSA, just to make the minimum required payment (see Table 3).

Table 3: Historical Contributions to Each RSA Pension System: 2000-2016

(Millions of Dollars)

Year	TRS	ERS	JRF	Total	% Change
2000	$265.9	$43.4	$5.6	$314.9	44.6%
2001	277.7	49.1	7.5	334.3	6.2
2002	264.1	46.0	8.2	318.3	-4.8
2003	236.4	48.5	8.6	293.5	-7.8
2004	303.3	52.2	9.0	364.5	24.2
2005	341.4	68.7	8.9	419.0	15.0
2006	422.8	91.0	8.9	522.7	24.7
2007	529.2	115.2	9.3	653.7	25.1
2008	714.1	160.6	9.9	884.6	35.3
2009	749.9	192.5	10.3	952.7	7.7
2010	769.5	191.4	10.8	971.7	2.0
2011	776.7	187.3	10.9	974.9	0.3
2012	629.1	136.1	10.7	775.9	-20.4
2013	624.6	141.1	13.8	779.5	0.5
2014	725.6	163.6	15.7	904.9	16.1
2015*	740.6	182.1	15.5	938.2	3.7
2016*	753.8	197.5	18.4	969.7	3.4

**Figures for 2015 and 2015 are estimates provided by the RSA.*

Sources: Retirement Systems of Alabama, Comprehensive Annual Financial Reports, 2003-2013.

Excluding federal funding (matching funds, grants, etc.), the entire budget for the State of Alabama during fiscal year 2015 (October 1, 2014 through September 30, 2015) is approximately $7.8 billion ($5.9 billion in the Education Trust Fund and another $1.9 billion in the General Fund; see Table 4). Expressed as a percentage of the overall discretionary budget, the state's contribution of $938.2 million to RSA during 2015 is a weighty 12.0% of the entire combined budget. To put this figure into perspective, the state's payment to RSA to cover the cost of past and current pensions is the second-largest expense in all of state government (only behind education) and is larger than any single line item in the entire General Fund, nearly as large as Medicaid and Corrections combined (see Table 5).

Table 4: Budgets for the State of Alabama, by Type and RSA Funding as a Percentage: FY 2006-2015 *(Millions of Dollars)*

	Fund			
Year	Education	General	Total	RSA Contribution as a Percentage of Total Budget
2006	$5,385.8	$1,584.8	$6,970.6	7.5%
2007	6,277.7	1,680.0	7,957.7	8.2
2008	6,729.1	1,883.3	8,612.4	10.3
2009	5,707.3	1,787.3	7,494.6	12.7
2010	5,227.4	1,568.5	6,795.9	14.3
2011	5,368.3	1,610.9	6,979.2	14.0
2012	5,698.4	1,727.6	7,426.0	10.4
2013	5,442.9	1,764.5	7,207.3	10.8
2014	6,067.1	1,811.9	7,879.0	11.5
2015	5,908.2	1,915.1	7,823.9	12.0

Source: State of Alabama, Executive Budget Office (EBO).

***Table 5*: Top 10 Budget Items for the State of Alabama, by Amount and Budget: FY 2015** *(Millions of Dollars)*

	Fund			
	Education	General	Total	Rank
Education*	$5,071.8	—	$5,071.8	1
RSA	750.6	$187.6	938.2	2
Medicaid	—	685.1	685.1	3
Corrections	—	394.3	394.3	4
Mental Health	44.2	105.5	149.7	5
Public Health	13.8	81.2	95.0	6
Unified Judicial System	—	92.3	92.3	7
Human Resources	27.4	58.7	86.1	8
Law Enforcement	0.4	40.8	41.2	9
Fair Trial Tax Transfer	—	39.0	39.0	10
Other	—	230.6	230.6	
Fund Totals	$5,908.2	$1,915.1	$7,823.9	

**Includes state discretionary funds only (excludes federal funds). Education funding equals total ETF amount less itemized expenditures also specified in the State General Fund.*

Past Pension Reform Efforts in Alabama

In 2011 and again in 2012, the Alabama State Legislature passed significant changes to its public pension system that were designed to create cost savings for the state as well as to encourage employees to work longer. In coordination with the Governor and RSA, the legislature passed Pension Reform I (2011) and Pension Reform II (2012) that tackled some of the drivers behind the increasing cost of pensions and massive underfunding in the state system; still, these reforms did not include any substantive changes directed at the primary cause of the pension shortfall—overly optimistic investment returns.

In 2011, House Bill 414 raised the employee contribution rate from 5.0% to 7.5% of salary for existing employees. In 2012, Senate Bill 388 created a Tier 2 employee classification for those employees hired after January 1, 2013 (with no prior state work history) with a significantly altered benefit formula. The new formula

- Raised the minimum retirement age to 62. Previously there was no minimum age, so employees could retire at any age after 25 years of service.
- Lowered the benefit percentage from 2.0125% to 1.65%. The benefit percentage is the annual percentage of pay per year of service that a retiree would receive during retirement.
- Capped the cumulative benefit percentage at 80% of final salary. Previously, there was no cap, meaning that benefits could go above 100% of an employee's final salary with enough years worked.
- Eliminated "pension spiking." This is the practice of running up significant amounts of overtime and comp time during the last few years of service to allow for a lifetime pension payment that is based off an extraordinarily high compensation. The formula was adjusted to the "highest 5 years out of the last 10 years" (previously highest three years) and the maximum salary applicable to a pension annuity was capped at 125% of base salary prior to retirement.
- Decreased the employee contribution rate (rate increased during Pension Reform I) from 7.5% to 6.0% in 2012 for Tier 2 employees (those hired after January 1, 2013).

All totaled, the Executive Budget Office projects that these measures will save the state pension systems over $5 billion over the next 30 years or about $162 million annually on average. However, given that the changes only apply to new employees, it will take time for the state to begin to reap the rewards of these efforts. Even still, these reforms left unresolved some of the lingering causes of pension underfunding and did not go far enough to stop the bleeding by reducing the threat of future unfunded liabilities.

Introduction to Retirement Plans

Over the past century, the average life expectancy of a person living in the United States has increased dramatically, by 30 years, largely due to significant advances in public health, including vaccinations, the addition of fluoride to drinking water, motor vehicle safety, and the recognition of tobacco use as a health hazard, to name a few. According to the Social Security Administration, a person born in 1900 could have expected to live to age 47, while today a person can expect to live to age 79. Most people will still need a source of income during retirement, with the vast majority of people relying on one of three primary sources for income: Social Security, personal savings, or, for the most fortunate, some sort of employer-sponsored retirement plan usually in the form of either a defined benefit plan (a traditional pension) or a defined contribution plan (such as a 401(k) or 403(b) plan).[1]

1 The first private employer-provided retirement plan in the United States was established by the American Express Company in 1875 (see Seburn, 1991), while the first law creating retirement benefits for public employees was passed in New York in 1857 for New York City police officers, and the first state teacher retirement systems were established in North Dakota and California in 1913 (see National Conference on Public Employee Retirement Systems, 2008).

Defined Benefit Pension Plans

One of the two basic types of employer-sponsored retirement plans, the traditional Defined Benefit (DB) pension plan is designed for longer-service employees. The amount paid to a retiree under such a plan is typically based on a fairly simple formula that takes into account the years of employment and the employee's compensation during the last few years of service. To pay for the DB pension plan, employers generally deduct a percentage of an employee's paycheck (the State of Alabama deducts 7.5% for Tier 1 employees and 6.0% for Tier 2 employees, with some exceptions discussed later) and contribute funds to cover the difference determined by the fund's actuaries needed to pay the cost of the future pension. The vast majority of Alabama's state employees are Tier 1, while any new employee who began service after January 1, 2013 is classified as Tier 2.

The portion from the employer is generally referred to as the Annual Required Contribution (ARC). For state employees in 2016, Alabama will contribute an additional 11.94% for Tier 1 and 10.84% for Tier 2 on top of the percentage that employees contribute through automatic withholding. The most recent calculation of the recommended ARC contribution from the TRS system is below in Table 6. The ARC is calculated two years in advance in order to provide the necessary time for agencies to plan for and request funding from the state legislature. It is important to note the components of the ARC payment made by the state each year:

Normal Rate
The present value of the cost of the future pension for an employee

Accrued Liability
The payment to fund the paydown of the previously incurred unfunded liability (charged to all employees, current and future)

Death Benefit
The cost associated with payment of pre-retirement death benefit (usually one year's salary) if death occurs prior to award of any earned retirement benefits, established under Act No. 83-616.

Term Life
The cost of a term life insurance option

Administration
Various administrative costs charged by RSA (salaries, fringe, utilities, travel, marketing, etc.)

Table 6: Required TRS Contribution Rates for Fiscal Years 2015 and 2016

	Contributions for Fiscal Year Ending	
	September 30, 2015	September 30, 2016
Employer Contribution Rates		
Tier 1		
Normal	1.53%	1.84%
Accrued Liability	9.82	9.74
Death Benefit	0.10	0.02
Term Life	0.05	0.01
Administration	0.21	0.33
Total	**11.71%**	**11.94%**
Tier 2		
Normal	0.87%	0.74%
Accrued Liability	9.82	9.74
Death Benefit	0.10	0.02
Term Life	0.05	0.01
Administration	0.21	0.33
Total	**11.05%**	**10.84%**

Each of the Required Contribution components is expressed as a percentage (%) of a person's compensation. For example, for 2016, a DHR social worker (Tier 1) earning $45,000 in salary would have a charge to the employer (in this case, the Dept. of Human Resources) of $5,373 (11.94%). Additionally, the social worker would contribute $3,375 (7.5% of salary). The total contribution of $8,748 (or 19.44% of salary) is then aggregated along with all other employees from the department and remitted to the Retirement Systems of Alabama.

Usually, DB pension plans will offer pension payments that take a flat percentage of salary per year of service (i.e. 2.0%) multiplied by the employee's ending compensation (usually an average of the highest three years over the last 10 years of service) to arrive at a pension payment (annual or monthly) that will last throughout a person's lifetime; or in most cases, if the retiree chooses, their surviving beneficiary's lifetime, but at a reduced payout amount).

Payout Example – Current RSA Tier 2 Defined Benefit Pension Plan

Henry Jennings, a Tier 2 Employee*

- Male, age 62 at retirement; spouse, Elizabeth, age 61
- 30 years of service at the Alabama Department of Transportation (ERS System)
- Average compensation over the last five years of $66,697
- Average compensation over the last 30 years of $47,575
- (Starting salary of $30,000 with an assumed wage inflation rate of 3.0%)
- Account Balance has accrued to $171,663 (this amount represents employee and employer contributions of 6.0% and .74%, respectively, plus 4.0% interest over the life of employment)

At retirement, Henry would have four options from which to choose his future pension payments (election made at time of retirement and is irrevocable, with few exceptions):

Option 1: Maximum Payout to Employee

Approximately $2,751 per month for the remainder of life, all benefits ceasing at death

Option 2: Minimum Payout Equal to Contributions Made

Approximately $2,699 per month for the remainder of life, with a minimum payout guarantee equal to contributions made $171,623 plus 4.0% interest

Option 3: 100% Surviving Spouse Option

$2,343 per month for the remainder of life, and upon death,

$2,343 per month for the remainder of beneficiary's life, all benefits ceasing at death

Option 4: 50% Surviving Spouse Option

$2,531 per month for the remainder of life, and upon death,

$1,265 per month for the remainder of beneficiary's life, all benefits ceasing at death

Source: RSA http://calculator.rsa-al.gov/calc2.asp

Note: The RSA Retirement Benefit Calculator does not offer an option for Tier 2 employees (those hired after January 1, 2013 with no prior state work history). Calculations above are estimates based on assumptions for a Tier 2 employee.

Henry chooses Option #3 (100% to his Surviving Spouse) and will receive $28,116 ($2,343 per month) for the rest of his life, and his beneficiary, his wife Elizabeth, will continue to receive the same amount for the remainder of her life (provided that she survives Henry). The election of a beneficiary is chosen at the time of Henry's retirement and is irrevocable with a few exceptions (death, divorce, etc.), and any change to a beneficiary would significantly affect the beneficiary payout based on a new actuarial calculation of the beneficiary's life expectancy at the time of the new beneficiary election. All payments will cease upon the deaths of both Henry and his surviving spouse, Elizabeth, with no additional payments or account balance remaining to distribute to heirs of an estate.

Defined Contribution Plan

In contrast, the other basic type of employer-sponsored retirement plan is a defined contribution plan. Defined Contribution (DC) plans, such as a 401(k) plan in the private sector, are designed to build up a pot of money that is owned by the individual with the intent that those funds would be used to supplement retirement in whichever fashion the retiree chooses, be it through the purchase of a long-term bond from a highly-rated institution, a lifetime annuity from an insurance company, or through a variable mix of withdrawals from a diversified investment portfolio. To pay for the DC plan, an employee will normally contribute a portion of their salary (i.e., 6.0 %) which would then be matched by the employer (i.e., 50% matching up to 3.0% of total contributions), resulting in 9.0% of a person's annual salary (6.0% employee contribution plus 3.0% employer match) contributed towards the 401(k) plan.

Payout Example – Typical Defined Contribution (i.e. 401(k) plan)

Henry Jennings, a Tier 2 Employee

- Male, age 62 at retirement; spouse, Elizabeth, age 61
- 30 years of service at the Alabama Department of Transportation (ERS System)
- Average compensation over the last five years of $66,697
- Average compensation over the last 30 years of $47,575
- (Starting salary of $30,000 with an assumed wage inflation rate of 3.0%)
- Employee contributions of 6.0% of salary, with a 50% employer match (up to 3.0% maximum)
- Funds accrue into a separate retirement account that is owned by Henry and professionally managed by a third-party investment manager hired by his employer (i.e., Fidelity Investments, Vanguard, etc.)
- Account Balance has accrued to $445,296 (assumes equal employee and employer contributions of 6.0% and 3.0% annually, invested and averaging an 8.0% annual return)

Over the last 30 years, through steady and diligent deductions from his paycheck each month and weathering the ups and downs of the investment market, Henry's account has grown to just under half a million dollars ($445,296) where it is currently valued today. At retirement, Henry would have multiple options for spending and investing his accrued account balance, each of which would provide a similar monthly pension allowance as to his current pension plan.

Note: Due to the unique tax situations of each individual, the options below do not consider tax consequences of each of these investments, whether purchased inside or outside of a qualified pension plan. Rather, the options below are intended to provide a snapshot of available investment options for pensioners and to compare similar investments, as rated by credit-worthiness as opposed to suitability.

Option 1: Long-term Municipal Bond or Annuity

To keep the comparison between the Defined Benefit Pension Plan and the Defined Contribution (401k) plan simple, let's assume that Henry chooses to purchase a long-term, fixed-rate bond from a highly-rated institution (i.e., U.S. Government, State of Alabama, or Auburn University) which pays a fixed rate of 4.0% for the next 30 years.

Henry's 30-year, 4.0%, fixed-rate bond would provide $1,484 per month for the next 30 years, regardless of death and would leave 100% of the original balance ($445,296) to his surviving spouse or to his estate. Should Henry choose to enhance his lifetime income and reduce the residual payment to his heirs, he could increase his monthly pension payment to $2,730 per month, by purchasing a 20-year annuity with 0% remaining at the end of the 20-year period. Further, while this 4.0% rate is based on current interest rates, 30-year U.S. Treasury yields have averaged 4.50% over the last 15 years, significantly higher than rates today, while state and municipal bonds typically trend with a slightly higher interest rate than U.S. bonds.

By purchasing this 30-year fixed-rate bond and locking in his monthly pension allowance, Henry would allow for a pension package similar to that which is provided by RSA (in the calculation above) with a few additional benefits, namely that he would still have his entire account balance ($445,296) remaining at the end of the 30-year period, with minimal risk of issuer default given the high-grade credit rating.

Option 2: Variable-Rate Annuity

Another alternative would be for Henry to purchase an immediate pay variable annuity with a 100% Surviving Spouse option (based on joint life expectancy) at a 4.0% rate, which would provide the same income for the rest of his life as the long-term, fixed-rate bond, with a caveat that the payout is for his lifetime as opposed to a number of years (period certain) with the bond purchase. His beneficiary, wife Elizabeth, will also continue to receive the same amount for the remainder of her life if Henry chooses the survivor benefit option. Assuming historical market returns, this election could also leave the entire principal

balance ($445,296) as a residual lump-sum amount that Henry could leave for his heirs. While this choice does assume an element of market risk, many variable annuities contain a high-water mark (or low-water mark) feature that will prevent the account balance from ever falling below a certain amount. Should Henry choose to do so, he could also elect to annuitize the entire amount and spend down the principal portion (similar to what a pension would provide) to increase his lifetime monthly pension amount.

- Note, the 4.0% annuity rate is based on current rates provided by 3 "AA" credit rated insurance carriers (same credit rating as the State of Alabama) and is considered the safest in the industry.
- Further, the 4.0% rate is based on today's rates (all-time lows), but would be based on interest rates at the time of retirement (historical 20-year average is just over 6.0%)

Defined Benefit vs. Defined Contribution Plan

A primary difference between defined benefit and defined contribution plans is the party who bears the risk. In the case of a DB pension plan, the employer bears the risk of having insufficient funds to cover future pension payments. The employer invests the funds (usually through a third-party investment professional), but is ultimately responsible for paying the retiree's pension, regardless of the performance of the overall investment portfolio. Consequently, if the investment returns are spectacular, the employer keeps all of the upside and the retiree does not benefit as the employer now pays less of a matching portion (i.e., no change to the 6.0% deducted from the employee's paycheck).

In the case of a public-sector pension plan, if the public entity is unable to provide the benefits promised, then ultimately the taxpayers are on the hook to cover any shortfalls. In the case of a private-sector pension plan, if the employer is unable to provide the benefits promised, the shortfall will be covered by the Pension Benefit Guarantee Corporation (PBGC), a U.S. Government-backed insurance fund, subject to maximum pension income threshold limits ($60,136 in 2015). However, in the case of a defined contribution plan (i.e. 401(k) plan), the risk that the benefits are less than expected is shifted to the retiree since future account values are determined solely by the employee contribution, the employer match, and the investment earnings. The benefits at the time of retirement are simply what the market delivers, irrespective of years of service and the last few years of pay.

Given the serious financial challenges in the private and public pension industry, there is growing concern among individuals nationwide over the status of their retirement systems. Indeed, there is a major shift in the attitude of workers about funding their retirements. According to the PBGC, in 1979, 75% of workers stated that they were not worried about retirement, while today 61% say that they are worried. The dramatic reversal in attitude about retirement is understandable insofar as many people have not yet seen their homes and portfolio investments fully recover from the recent financial crisis and the worst recession since the Great

Depression. These two events also had a devastating impact on pension plans throughout the country. As a result of these and other factors, there have been legal battles over the extent to which pension benefits can be modified in financially troubled cities like Detroit, Chicago, and Stockton, and states like Illinois, Florida, and New Jersey. The recent approval (November 2014) of the municipal bankruptcy exit plan for the City of Detroit by U.S. Bankruptcy judge Steven Rhodes involved slashing municipal pension plans by 4.5% and reducing legislatively enacted cost-of-living adjustments, where federal judges ruled that pension commitments were not protected by the U.S. Constitution (regardless of whether pensions are protected in the state constitution) and were "just another debt" in the municipal bankruptcy landscape.

National Pension Reform Landscape

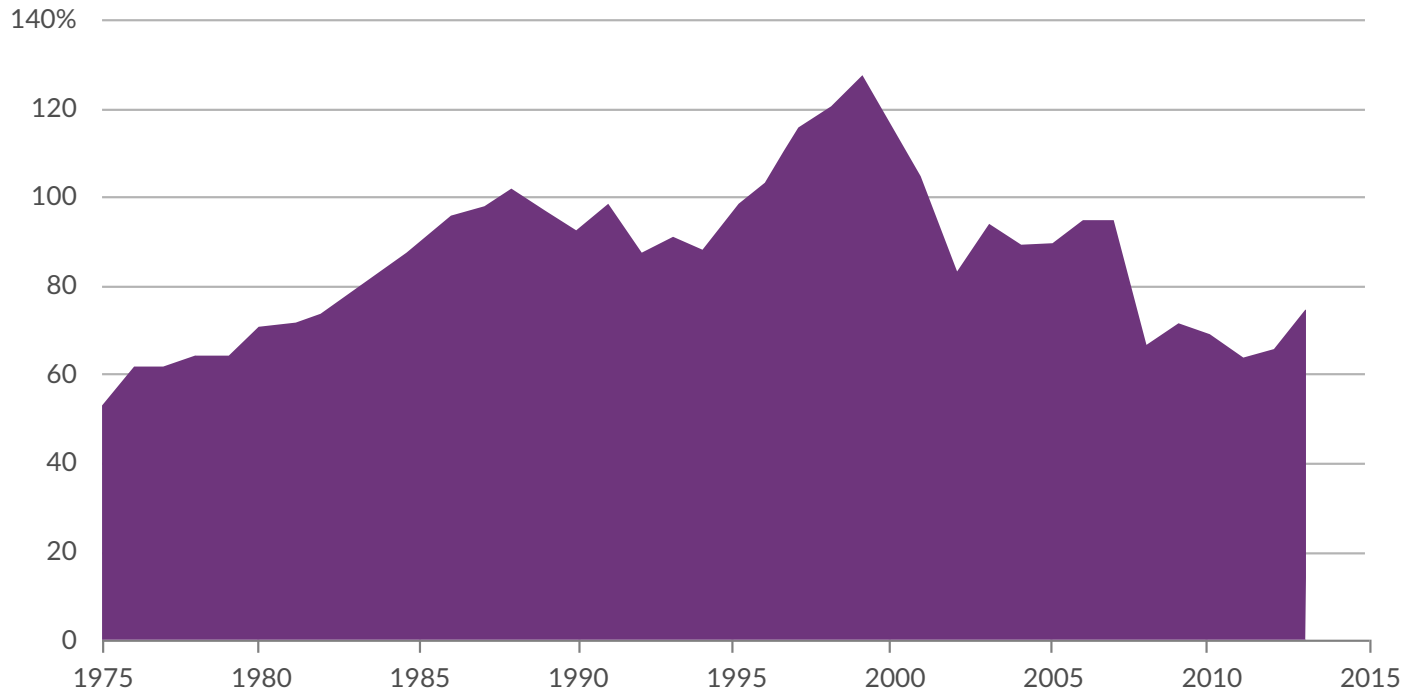
Throughout the country, virtually every state is facing a similar dilemma of how to deal with massive pension underfunding levels. Over the past several years, many states have begun to address the issue with various pension reform measures designed to curtail the symptoms plaguing the system (ie., high pension costs, poor investment returns), while at the same time delicately balancing the need for states to continue to be able to recruit and retain a high-quality workforce.

Dangerously Low Funding Levels of Public Pension Funds

Clearly, the most significant problem facing public defined benefit pension plans is their current funding status. In an ideal world, where funding challenges are of no concern, states would be free to offer very generous benefits (including pensions). However, the financial reality is that states have to live within their means and Alabama is no exception. Since the burst of the Internet bubble in the early 2000's and the "pop" of stock valuations that gave rise to lofty state pension fund valuations, state pension funded ratios have declined by nearly 35% (see Figure 1). Whereas in 2000 many state pension systems held assets valued in excess of 100% of the present value of the expected future cost of employee pensions, this figure has plummeted over the last decade.

As of 2013, the average state pension is funded at 72.0%. The blended funded rate of Alabama's three systems (TRS, ERS and JRF) is 65.9% today. See Figures 2a and 2b for state funding levels for employees and teachers, respectively. As a general rule of thumb, the funded ratio considered ideal by most pension experts is not 100%, but 80%, with the latter figure generally considered to be a common threshold of sustainability. In common speak, 80% is the point that is not too rich, nor too poor. At 80%, employees generally do not have the financial support to justify additional benefits (which would drive down the funded ratio), nor do employers have the means to justify further cuts in benefits (which would increase the funded ratio).

Figure 1: **Average Funded Ratio of Defined Benefit Plans for State and Local Governments**



Source: Financial Accounts of the United States, Federal Reserve Board, September 18, 2014.

Life Expectancy Increases

Years ago when pension plans were designed, life expectancies were significantly shorter than they are today. A person aged 65 in 1950 was expected to live another 14 years (Figure 3). Life expectancy in the U.S. has steadily increased and today a person aged 65 is expected to live an additional 19 years, or five more years than just six decades ago. According to the actuaries at Ernst & Young, one of the country's largest accounting and actuarial providers, a 65-year-old man has a 50% chance of living to age 88 and a 25% chance of living to age 96, while a 65-year-old woman has a 50% chance of living to age 90 and a 25% chance of living to age 97 (see Table 7). Even more remarkable is the joint life expectancy of a 65-year-old couple that has a 50% chance that at least one 65-year-old spouse will live to age 94 and a 25% chance that at least one will live to 100." Longer life expectancy, however, means longer retirements and higher pension costs.

Figure 2a: **State Public Employee Retirement Systems Funded Ratios, 2013**

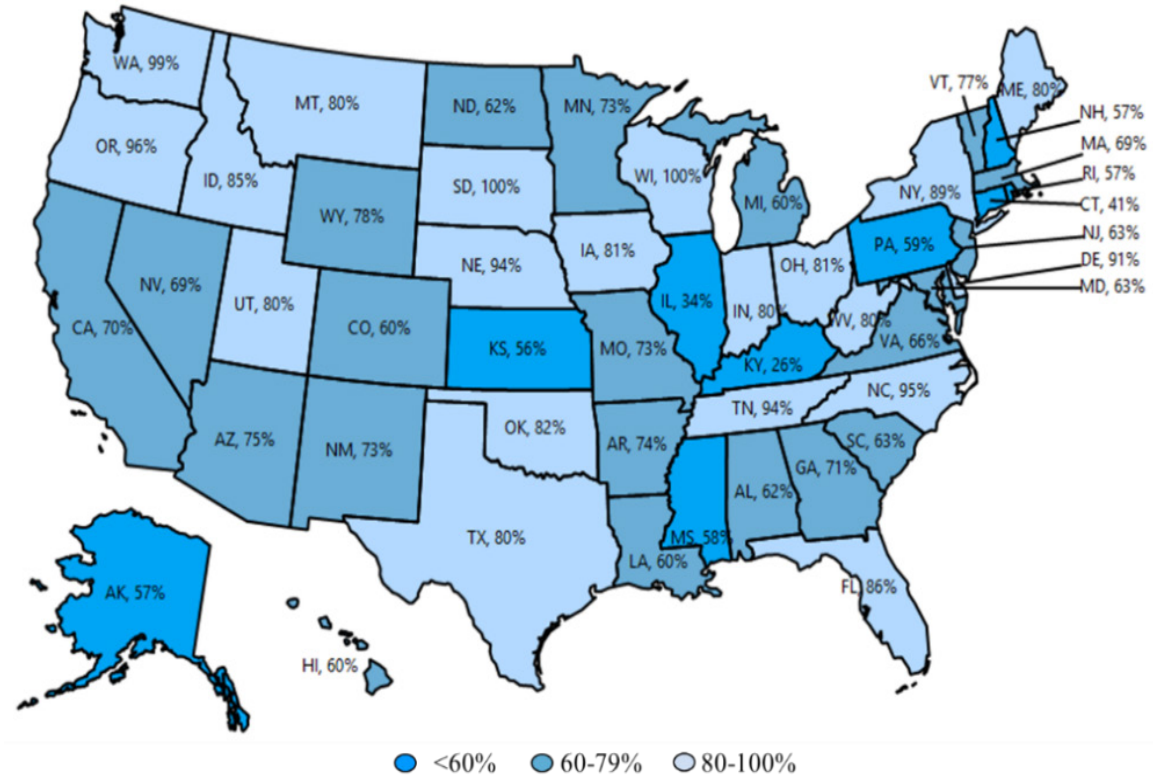
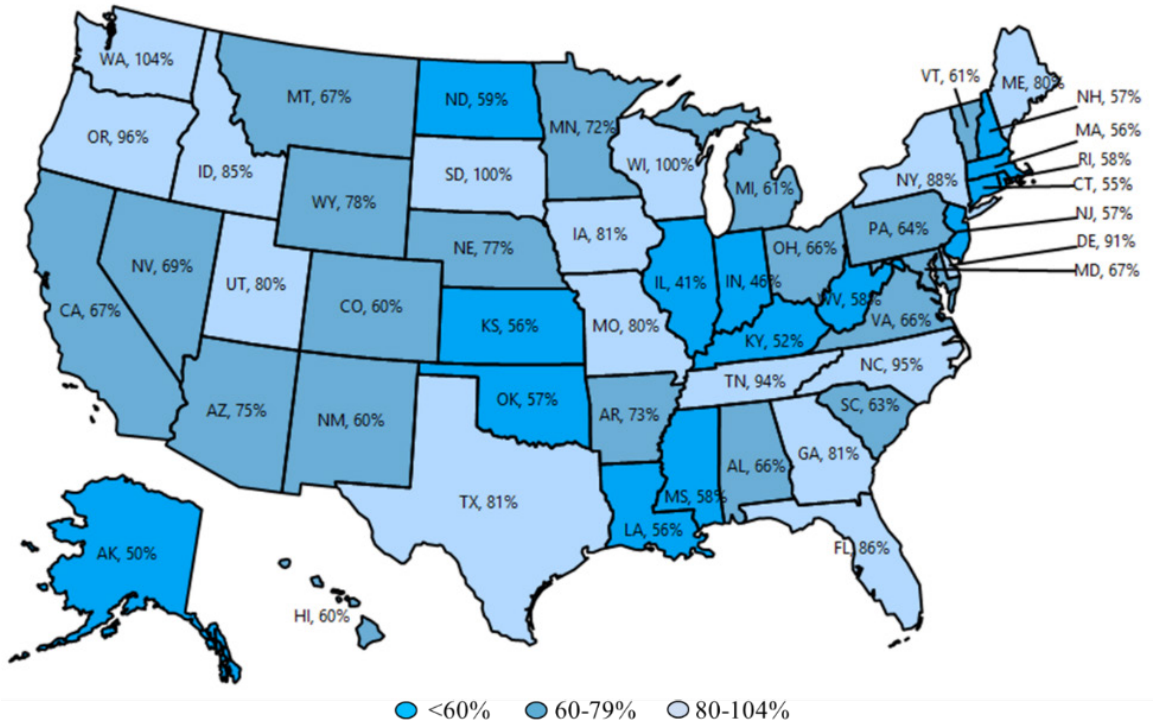


Figure 2b: **State Teacher Retirement Systems Funded Ratios, 2013**



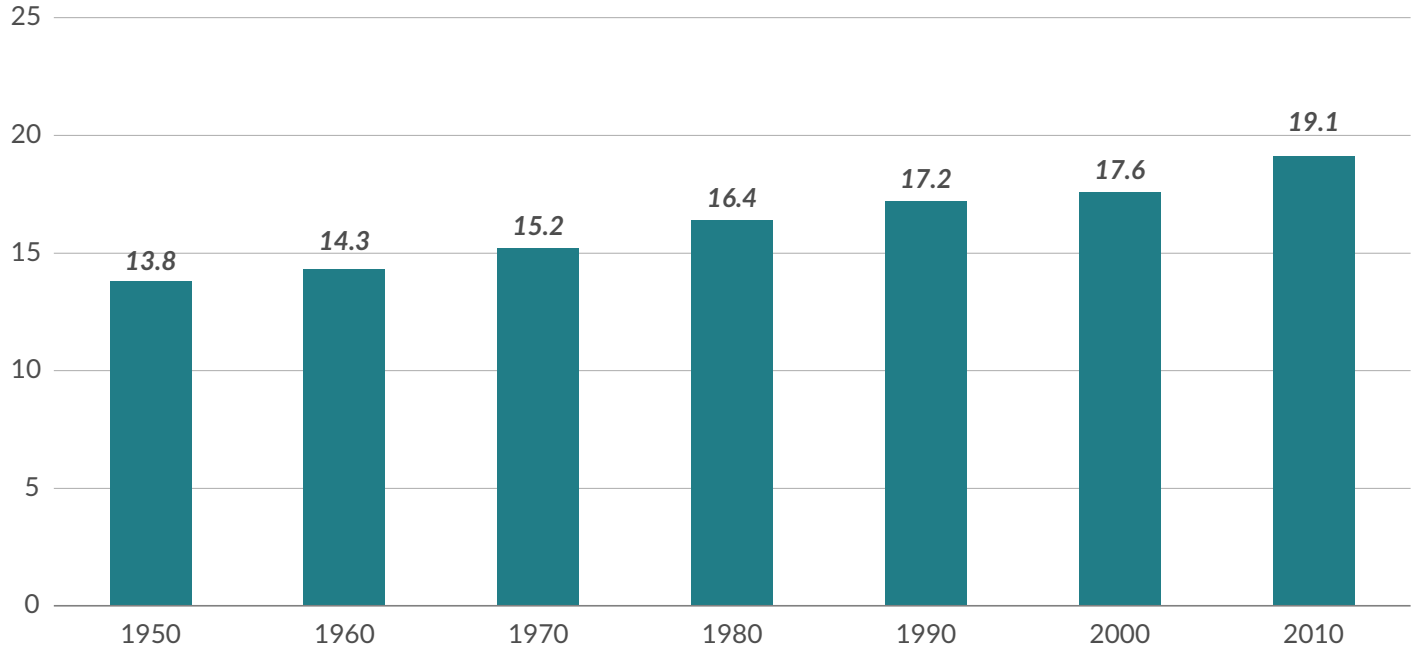
Source: Center for Retirement Research at Boston University, State Annual Reports, and Authors.

Table 7: Percentage of Population Expected to Live to Indicated Age

	Likelihood of Reaching Given Age		
	50%	25%	10%
65-Year-Old Male	88	96	101
65-Year-Old Female	90	97	102
65-Year-Old Couple	94	100	104

Source: Ernst & Young Insurance and Actuarial Services practice (uses Annuity 2000 mortality tables with Scale G2 mortality improvements).

Figure 3: People Living Longer: Additional Years of Life Expectancy for Persons Aged 65



Source: U.S. Bureau of the Census.

Funded Ratios and Unfunded Liabilities: What Does it all Mean?

It is important to realize how the funded ratio and the funding gap are calculated. Pension assets today are known, but the future pension liabilities are unknown. In order to report accurate values on financial statements the fund will hire an actuary to calculate the present value of the future pension payments. The actuary will use a set of assumptions about future retirement benefit payments, hiring trends of the employer, inflation, and future life expectancies of pensioners. The difference between the assets currently on the books and the calculated present value of the liabilities is termed the "unfunded liability" or the "funding gap" and the ratio of the assets to the liabilities is termed the "funded ratio." One of the most debated assumptions that an actuary will make is that of which discount rate to use when determining the present value of those future pension payments. Typically, the discount rate will closely mirror the expected return on investments. With each of the Alabama plans, this rate is 8.0%.

In the rare event that current assets are actually greater than projected liabilities, this would be termed a "funded overage." While extremely rare in public pensions (high-funded ratios tend to lead to increased pension benefits, which negates the overage), private sector plans will commonly have funded overages. This is an interesting difference to note—in a defined contribution plan or a similar individual account, employees have designated accounts and personally own the assets held inside those accounts. The assets held by a defined benefit pension plan are not owned by the employees, but by the pension plan. So, in the rare case of a fund overage (and absent a change in benefits to decrease the overfunding), the pension plan could theoretically take those excess funds off of the table and distribute them elsewhere (even back into the company's checking accounts or the owner's pockets through a dividend). In theory, if RSA were overfunded (in excess of 100%), then the State of Alabama could sweep those excess funds into the General Fund or the Education Trust Fund.

Legally speaking, the state is not obligated to pay the full amount (100%) of the Annual Required Contribution (as other states have failed to do), although the State of Alabama has managed to do the fiscally responsible measure of contributing 100% of the ARC every year into each of the three RSA systems (TRS, ERS, JRF). Even with the many challenges associated with administering the pensions of thousands of current and former employees and managing an investment portfolio of this size, the state should maintain its contribution into the pension system at 100% of the actuarially determined ARC amount. To do otherwise would only exacerbate the current condition of our pensions and the state's unfunded liabilities.

GASB 67 & 68 – Improving Pension Disclosure and Financial Transparency

In 2012, the Governmental Accounting Standards Board (GASB) approved two new standards that will substantially improve the accounting and financial reporting of public employee pensions by state and local governments. Statement No. 67, Financial Reporting for Pension Plans, and Statement No. 68, Accounting and Financial Reporting for Pensions, revise and establish new financial reporting requirements for most governmental pension plans. With the introduction of the new GASB standards 67 and 68 and on the advice of their external actuarial firm, the Retirement Systems of Alabama adopted a new funding policy in 2013 that, among other things, implements a new funding amortization period for calculating the unfunded liability. Previously, each of the RSA funds (TRS, ERS and JRF) used an open-ended, 30-year term to fully amortize (pay down) any unfunded liability. However, there was a catch in the term "open-ended" in that the term "open" meant that every year when new employees came in to the system, the 30-year period would automatically renew itself to a new 30-year term. Essentially, RSA was borrowing this amount (similar to most people's home mortgages) and then refinancing the mortgage every year to avoid paying down the principal. In reality, the open-ended method means the debt will never be paid in full, just rolled over and over. The new funding policy mandates a "closed amortization period" (still 30 years but will not automatically renew each year), whereby the majority of the unfunded liability as of September 30, 2012 will begin to pay down faster than under the previous method.

From a policy standpoint, the adoption of the new funding policy at RSA was a tremendous step in the right direction, although the success of the measure will ultimately be determined by whether or not the State of Alabama pays the higher Annual Required Contribution payments as a result. Failure to do so would put the third and fourth generations on the hook for the cost of pensions given 50 years prior. Further, any benefit given to an employee should be paid for over the course of that person's expected period of employment. While this policy change at the RSA Boards was made with little fanfare, it will inevitably become a heated legislative discussion as this single measure is expected to increase the state's obligation by hundreds of millions of dollars annually. Note, the payment increases are significantly skewed toward the second-half (last 16 years) of the new 30-year period, resulting in small, incremental payments toward this additional liability in the first few years, then rising substantially in the later years.

Note: The primary purpose of this paper is to discuss additional pension reform options, as opposed to measures for providing greater financial transparency, although both are worthy topics. The topics of discount rates and amortization periods are tricky, yet also some of the most important assumptions made in all of pension actuarial science and critical to the transparency and accuracy of the financial statements of an entity. The choice between using a discount rate of 8.0% vs. 7.5% could ultimately lead to a difference in calculated liability of billions of dollars. Due to the significant impact that the discount rate will have on the calculation of a pension's total unfunded liability, the debate over the appropriate discount rate to use in Alabama will be a topic for a separate discussion.

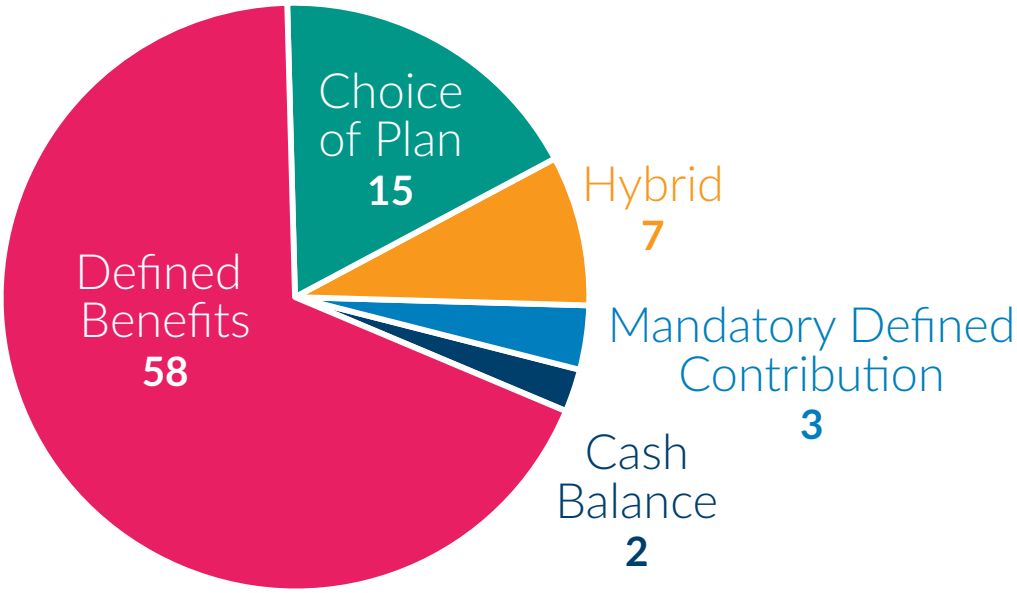
A Way Forward for Alabama

In our view, there is a way for Alabama to move forward with reducing much of the risk and uncertainty associated with a defined benefit pension plan, at least for new employees, while at the same time alleviating much of the impact associated with the current unfunded liability. While these measures won't entirely resolve the problem, they will help to prevent future funding challenges from arising that would unnecessarily exacerbate the current situation.

Recommendation #1 – Implement a Cash Balance Pension Plan with a continued payment toward the existing unfunded accrued liability

While the vast majority of states still maintain a defined benefit pension plan as the primary method of paying for the retirement of employees, a significant shift in public sector sentiment toward pension reform has been underway in recent years. As Figure 5 shows, 58 of the 85 state retirement systems in the U.S. still maintain some form of a traditional defined benefit pension plan.[2] However, in recent years, 22 states have made tremendous progress toward reform by introducing so-called "hybrid" retirement plans, which typically blend the surety of benefits of a traditional defined benefit pension plan with the portability and risk transfer of a defined contribution plan. In some states employees are required to participate in both types of plans, while in other states the defined benefit pension plan has been retained and employees are offered the alternative of participating in a defined contribution plan instead.

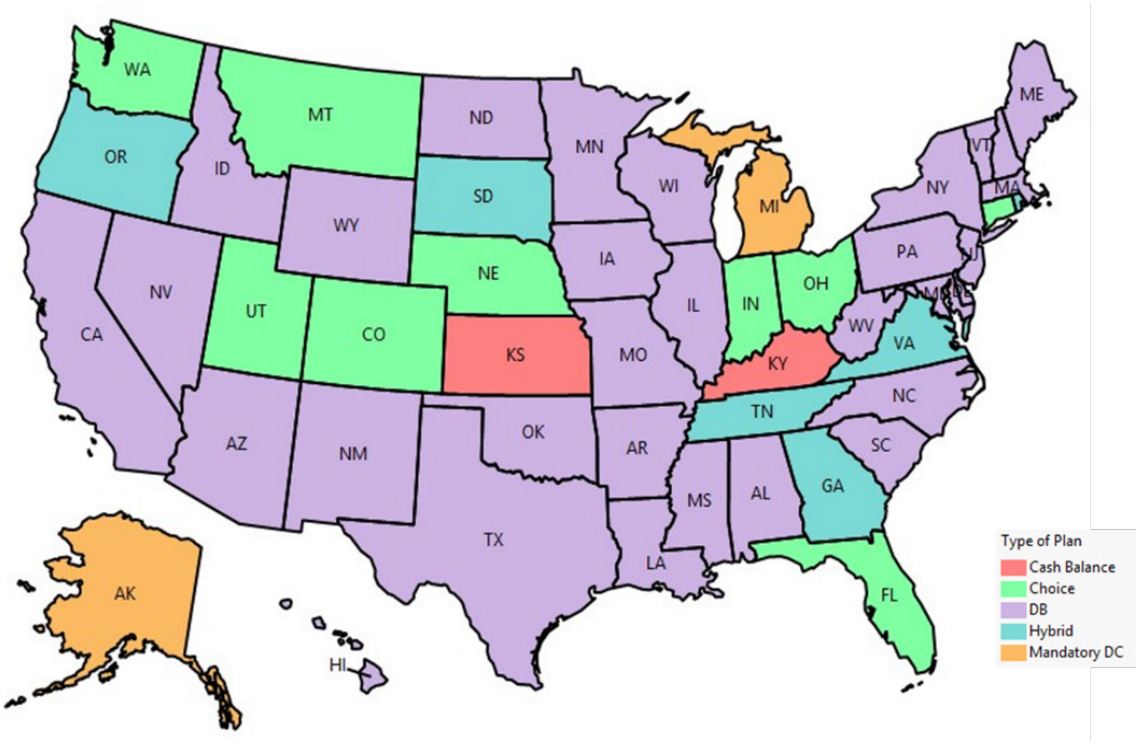
Figure 5: Distribution of 85 State Pension Plans by Type, 2013[2]



Source: Appendix 1.

2 More detail about pension plans in the different states is provided in Appendix 1. Also, the District of Columbia has a defined contribution plan that its government employees are required to join (see Munnell, Aubry, and Cafarelli, 2014).

Figure 6: Type of State Retirement Plan, 2013



Source: Appendix 1.

Under a cash balance plan, the employer continues to bear all of the investment risk as with a defined benefit plan; but like a defined contribution plan, employees establish individual retirement accounts (as opposed to an annuity under a typical pension plan). Contributions in a cash balance plan continue to come from both the employer and the employee with a minimum investment return (i.e. 5%) typically guaranteed by the employer.

The State of Alabama should implement a cash balance pension plan for all new employees (and offer an opt-in provision for any current employee who wishes to participate), similar to the plans recently implemented in Kansas and Kentucky.[3] We recommend that Alabama follow the lead of these two states and move to a similar cash balance pension plan with one significant modification—the continued payment of the necessary required contribution by all employers to fully pay down the unfunded accrued liability. Note that the required contribution is paid by the employer, not the employee, and would cover all employees (current and future). Under a cash balance pension plan, both parties share the risk by combining aspects of a defined benefit plan and a defined contribution plan. The new cash balance pension plan (mandatory for all new employees and optional for any current employee that chooses to opt-in) would essentially have three primary components:

3 The National Council on Teacher Quality recommends that states offer teachers the option of a flexible and portable defined contribution plan, and considers Alaska's defined contribution plans for teachers to be fully portable, flexible, and fair to all workers. They add that cash balance pension plans may be the best new "hybrid" model as they provide greater flexibility and a safety net to teachers while also offering more financial stability to states and districts (see Doherty, Jacobs, and Madden, 2012).

1. An individual account (lump-sum account) that would contain the initial employee contribution and the employer match, and
2. A state-guaranteed minimum rate of interest (5.0%), and
3. Profit-sharing component to be split between the employee (75%) and the employer (25%) if and when the return on investments for the year exceeds the guaranteed rate of interest

An alternative approach to reform would be to simply replace the traditional defined benefit plans with a defined contribution plan, such as a 403(b), as Alaska and Michigan have already done. Defined contribution plans, by definition and by design, are always fully funded. However, such a shift in pension plans would likely face strong opposition as it would transfer all (100%) of the risk associated with future promised benefits from the state (ultimately, the taxpayers) directly to public employees. While this approach certainly has some merit and has gained dominance in the private sector, many public employees would prefer to have their retirement savings managed by the sophisticated arm of the state retirement system's investment professionals and actuaries.

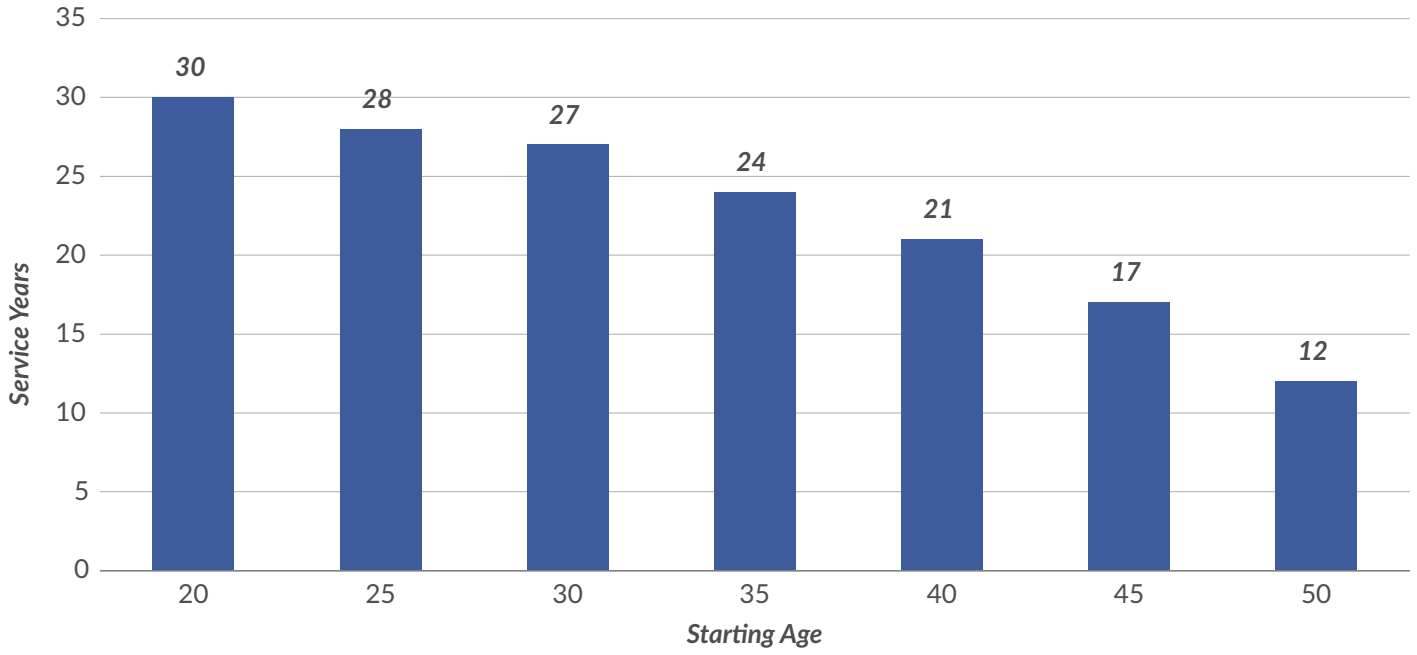
Rationale

Each of Alabama's defined benefit pension plans (TRS, ERS, and JRF) has become significantly underfunded over the past decade and has resulted in cuts in benefits for both current and new members. Funding levels in the 60% range are not only financially unhealthy and unsustainable, they inevitably lead to the deprivation of benefits that have been earned and were contractually promised by employers to their employees years ago.

Traditional defined benefit pension plans disfavor the mobile workforce (usually younger workers) by requiring a longer minimum period of service before becoming vested (10 years with the State of Alabama), and by basing pension benefits on the level of compensation during the final years of service before retirement (usually the highest three years over the last 10 years of service). These plans do not allow for an individual to create their own separate account, and the assets remain the property of the employer up until the time at which the employee becomes vested. With a defined contribution plan or a cash balance plan, however, the individual retains the ownership of the account and all of the portability features as the vesting requirements on the employer match portion are usually much shorter (three to five years is typical) and roll over each year so that only the portion over the last few years is ever not fully vested. Further, by not retiring while at peak compensation, by definition, any worker in a pension plan who may wish to switch jobs at some point during their estimated 30-year career would not receive one of the biggest benefits of working—their full pension. In contrast, a cash balance pension plan provides benefits that accrue more uniformly over their careers and are completely transferable and portable.

Traditional defined benefit pension plans provide an advantage to employees who work for the same employer for their entire career (i.e. 30 years), while defined contribution plans (401k, 403b, cash balance, hybrid plans) are more portable and are beneficial for employees who change jobs over the course of their career. To make this point more concrete, consider the information in Figure 7. This figure shows the "tipping point," that is the minimum number of service years required for employees of the State of Kentucky to earn more pension benefits under the traditional pension plan as opposed to a cash balance pension plan. A person who starts working at age 25 has to work for 28 years for the same employer without any disruption (until age 53) before the pension benefits of a traditional pension plan exceed those of a cash balance pension plan, assuming the continuation of historical investment returns. Even a new employee at age 40 has to work for 21 years (until age 61) to gain more pension benefits under a traditional pension plan than with a cash balance pension plan.

***Figure 7*: Minimum Number of Service Years Required for Kentucky Employees to Earn More Employer-Financed Benefits under the Traditional versus Cash Balance Plan**



Source: Richard W. Johnson and Benjamin G. Southgate, "How Will State and County Government Employees Fare under Kentucky's New Cash Balance Pension Plan?" Urban Institute, 16 (Apr. 2014). Retrieved from www.urban.org/UploadedPDF/413105-How-Will-State-and-County-Government-Employees-Fare-under-Kentuckys-New-Cash-Balance-Pension-Plan.pdf.

The principal purpose of a cash balance pension plan isn't necessarily to reduce current pension expenses, but to reduce the long-term risk of pension underfunding as it currently exists. Pension science isn't perfect, and assumptions can turn out to be inaccurate, underestimated, or even grossly miscalculated. The perfect example of this is longevity risk, which is when the average retiree simply lives longer than originally expected (remember the earlier example of U.S. life expectancy increasing by over 30 years since 1900).

Under a cash balance pension plan, there is mutual sharing of these risks between the public employer (ultimately, the taxpayers) and the employees by transferring individual account balances to the individual, as opposed to simply guaranteeing a pension payment. If the account has great investment performance, then any excess would be split between the state and the individual, while the state would guarantee a minimum investment return and bear all of the downside risk below this point. In years when the state does generate a profit, this money would be set aside for years where investment returns come in below the guaranteed minimum. Neither party bears all of the risk, nor should it. This mutual risk-sharing provides greater incentives for public employees to hold legislators accountable for granting the benefits responsible for its cost and, for those charged with operating the retirement system, accountability for its performance.

As PEW points out (2013, "Kentucky's Successful Public Pension Reform" September), "the goal of the Kentucky Pensions Task Force was not just to find a way to deal with the existing problems but to also look for a long-term solution—a way to keep the state's retirement promises affordable and sustainable." The outcome was that Kentucky's policymakers chose to adopt a cash balance plan for new employees hired after January 1, 2014. The basic features of the new Kentucky plan are as follows:

1. Employees contribute 5.0% of salary each year
2. Employers match 4.0% of salary each year
3. Accounts are credited with 4.0% interest each year
4. When average investment returns over the past five years exceed 4.0%, accounts are credited with 75% of the surplus
5. Employees may annuitize balances at the retirement age
6. Employees who leave accounts in the plan after separation earn 4.0% a year. Based on these features, it becomes easier for the state to predict future costs because assumptions such as those regarding employee turnover and salary growth are not required—employee benefits are not based on a formula, but accrue an account balance that they may choose to convert to an annuity (pension) or receive in a lump-sum.

Of course, if Alabama decided to implement a cash balance pension plan, these features of Kentucky's retirement system could be modified. To keep Alabama's plan to be cost-neutral, we recommend one of two options.

Alabama could set the employee contribution rate for all employees participating in the cash balance pension plan equal to the current rate that Tier 2 employees are paying under the traditional pension plan (6.0%). We recommend that Alabama increase the 4.0% interest credit from the Kentucky plan to a 5.0% interest credit to retirement. It is important to emphasize that the contractual obligation from the state of a guaranteed 5.0% interest credit, coupled with the potential for additional upside gain, is a far more realistic and measurable outcome for an employee than the employee simply assuming that promised pension benefits will magically appear when they are ready to retire.

The rate of compensation at which employers would contribute to the plan, the Employer Contribution Rate, would be calculated for Tier 3 employees in an identical manner as with Tier 2 employees with the Normal Rate portion of the employer contribution (0.74% for TRS in FY16), essentially serving as the "company-match," to borrow a term from the private sector. Employees would contribute 6.0% of their compensation, just as Tier 2 employees currently do, for a total of 6.74% (6.0% + 0.74%) of an employee's salary annually accruing into the separately managed account. Employees will receive a 5.0% minimum annual return guarantee on their account balances along with 75% of any returns earned by the manager above the 5.0% guarantee, all with limited risk. Furthermore, account balances are likely to be increased by 0.75%-1.00% as the profit-sharing portion of the fund returns in excess of 5.0%.

A higher employer match would be unaffordable for the state under the new plan unless the 30-year payback period for the Accrued Liability was extended to 40 years. While this alternative would prolong the "due date" of paying down the accrued liability, the reduced payback requirement would allow for a significantly increased employer match to go directly to the participating employees in the cash balance plan (see Table 8). For example, extending the payback period from 30 to 40 years would lower the rate being paid on the Accrued Liability by 2.44% (from 9.74% to 7.30%) and would increase the employer match (normal rate) credited to the employee's account by 2.44% (from 0.74% to 3.18%), which is more comparable to employer matches commonly found in the private sector.

Just as when calculating the required Employer Contribution Rates under the traditional pension plan, the cash balance plan does not require the 5.0% guaranteed minimum rate of return to be included in the employer rate. Rather, this minimum is contractual and required only upon the occurrence of actual returns falling below this minimum threshold. In this instance, the Accrued Liability portion of the employer rate would increase to account for the additional liability, but none of the other components would be impacted. Further, the current traditional pension plan offered by RSA also provides for a minimum rate of return (4.0%), and a pensioner is free to choose the cash interest plan, which would provide for the return of employee contributions plus interest at 4.0% instead of the monthly pension.

Table 8: Required Contribution Rates: Current v. Cash Balance Pension Plan

(Year Ending September 30, 2016)

Employer Contribution Rates	Traditional Pension Plan	Cash Balance Pension Plan	Difference
Tier 1			
Normal*	1.84%	1.84%	-
Accrued Liability**	9.74%	9.74%	-
Death Benefit	0.02%	0.02%	-
Term Life	0.01%	0.01%	-
Administration	0.33%	0.33%	-
Total Employer Contribution Rate	**11.94%**	**11.94%**	**0.00%**
plus Employee Contribution Rate	7.50%	7.50%	-
Total Contribution Rate	**19.44%**	**19.44%**	**0.00%**
Tier 2			
Normal*	0.74%	0.74%	-
Accrued Liability**	9.74%	9.74%	-
Death Benefit	0.02%	0.02%	-
Term Life	0.01%	0.01%	-
Administration	0.33%	0.33%	-
Total Employer Contribution Rate	**10.84%**	**10.84%**	**0.00%**
plus Employee Contribution Rate	6.00%	6.00%	0.00%
Total Contribution Rate	**16.84%**	**16.84%**	**0.00%**

Tier 3 *(new employees after Jan. 1, 2016)*	*Tier 3 rates if Tier 2 rates are maintained*	*Tier 3 rates if payback extended to 40 years*
Normal*	0.74%	3.18%
Accrued Liability**	9.74%	7.30%
Death Benefit	0.02%	0.02%
Term Life	0.01%	0.01%
Administration	0.33%	0.33%
Total Employer Contribution Rate	**10.84%**	**10.84%**
plus Employee Contribution Rate	6.00%	6.00%
Total Contribution Rate	**16.84%**	**16.84%**

Notes:

** All required contribution rates to be actuarially determined by pension system actuary.*

*** Accrued Liability would be carried over under the new plan until completely paid off, at which time this entire percentage would be eliminated from the contribution rate.*

Table 9: Pension Plan Comparisons

(Henry Jennings, a Tier 2 Employee)

Pension Plan Comparisons	Current Traditional Tier 2 Pension Plan	Cash Balance Pension Plan		Defined Contribution Plan
		Tier 2 Rates vs. 40-yr Payback		
Plan Specifics				
Retirement Age	62			
Years of Service	30			
Average Compensation (last 5 years)	$66,697			
Average Compensation (all 30 years)	$47,575			
Employee Contribution Rate	6.0%	6.0%	6.0%	6.0%
Employer Contribution Rate	0.74%	0.74%	3.18%	3.00%
Employer Guarantee	4.0%	5.0%	5.0%	0.0%
Assumed Market Rate		8.0%	8.0%	8.0%
Plan Comparison				
Monthly Pension Amount - Gross				
20- year annuity monthly payments with 100% to Surviving Spouse, 0% Remaining to Heirs	**$2,751***	**$1,795**	**$2,445**	**$2,730**
20- year bond monthly interest payments with 100% to Surviving Spouse, 100% Remaining to Heirs		**$976**	**$1,329**	**$1,484**
Lump-Sum Account Balance (Initial)	$171,623	$292,737	$398,713	$445,296
Investment Risk to Pensioner	AA-/None	AA-/Market		AA-/Market
Surviving Spouse Option	100%	100%		100%
Employee Profit-sharing Percentage	0%	75% (25% to state)		100%

Notes:

- *Pension Plan Comparison is a side-by-side analysis of the three basic pension plan options afforded to a typical employee and uses standardized and identical assumptions on longevity, years of service, and compensation level.*
- *Monthly Pension Amount for Cash Balance Plan and Defined Contribution Plan assume an investment in a long-term, fixed-rate bond paying 4.0% annually.*
- *Monthly Pension Amount Remaining to Heirs is the percentage (%) of remaining account balance left to heirs of the state after all lifetime payments have been made to the retiree.*

**Lifetime annuity*

In the event of a catastrophic investment returns scenario where market returns fell sharply (i.e., the early 2000's after the dot-com bubble burst), the state pension system would actually be better off under the cash balance system than under the traditional pension plan system. Since the required minimum rate of return under the cash balance plan is only 5.0%, as opposed to the required minimum rate of return necessary in order to meet pension obligations under the traditional pension system of 8.0%, any downturn in the market would have a profound buffer against a negative impact to the state. Further, the state's share of investment returns over the 5.0% guarantee would be placed in a fund for use in years where returns are down. Granted, as discussed previously, there is an element of risk that has shifted to the employee (as opposed to the state bearing all of the risk as it does now), but this equal sharing of market risk is reasonable and in line with other pension system models.

Payout Example – Cash Balance Pension Plan

Remember our gracious ALDOT employee from the previous pension payment examples? The example below compares his payout under the proposed cash balance pension plan, using the extended payback option.

Henry Jennings, a Tier 3 employee

- Male, age 62 at retirement, spouse, Elizabeth, age 61
- 30 years of service at the Alabama Department of Transportation (ERS System)
- Average compensation over the last 5 years of $66,697
- Average compensation over the last 30 years of $47,575
- (Starting salary of $30,000 with an assumed wage inflation rate of 3.0%)
- Employee contributions of 6.0% of salary (equal to the current traditional pension plan), with a state-guaranteed minimum return of 5.0% plus a profit-share of 75% of any investment profits returned above the 5.0% minimum

Cash Balance Account

- Funds accrue into a separate retirement account that is owned by Henry and continues to still be professionally managed by a third-party investment manager hired by his employer (i.e. RSA in the case of the State of Alabama.)
- Account Balance has accrued to $398,713 (assumes employee and employer contributions of 6.0% and 3.18%, respectively, annually averaging an 8.0% investment return).
- Employer guarantees a minimum investment return of 5.0%. In the case above, investments returned 8.0%, of which 7.25% ((8.0% return - 5.0% floor x 75% share) + 5.0% floor) would go to the employee and .75% to the State to cover administrative expenses and offset risk related to the 5.0% guarantee.
- If returns are below 5.0%, then the employee will earn the minimum 5.0% investment return, and the shortfall will be completely absorbed by the State and paid for through an increased Employer Contribution Rate during future years.

Option 1: Long-Term, Fixed-Rate Bond and Annuity

30-Year Bond Purchase – Interest Payments only until maturity of the bond (30 years), full account balance to remain intact upon death of retiree or spouse

- 30-year, fixed-rate bond with a 4.0% interest rate
- Payment amount of $2,445 per month for the next 30 years to Henry and 100% to his surviving spouse, regardless of how long Henry or his surviving spouse live with 0% of the original account balance remaining to his heirs, or
- Payment amount of $1,329 per month for the next 30 years to Henry and 100% to his surviving spouse,with 100% of the original account balance ($398,713) remaining that will be left to heirs (tax-free) upon the death of the retiree and spouse

Option 2: Variable Rate Annuity

Variable Annuity Purchase – Immediate lump-sum purchase of a variable annuity to receive a pension similar to that currently offered in the traditional pension plan.

- Henry elects to purchase an immediate-pay, 4.0% variable annuity through his local bank that will allow for a guaranteed minimum rate of interest and a 100% Surviving Spouse Option
- Provides essentially the same income for the rest of his life as the long-term bond, with a caveat that the payout is for a lifetime as opposed to a number of years (period certain) with the bond purchase. His beneficiary, wife Elizabeth, will also continue to receive the same amount for the remainder of her life, with the 100% survivor benefit option.
- Final account balance amount dependent upon market performance, but most annuities are sold with a minimum balance "low-water mark" feature (i.e. initial balance plus any unspent interest)

Argument against a Cash Balance Plan – Transition Costs

A common argument made against the switchover to a defined contribution plan or cash balance plan (usually made by the existing pension fund manager) is that "transition costs are too high." The entire transition cost argument centers around the same logic of a Ponzi scheme in that the scheme needs the dollars from new investors to be able to pay back the returns to the previous investors. In the case of the Alabama pension systems (TRS, ERS and JRF), there is some truth to this argument in that technically any fund that has less than 100% of the total assets needed to pay pensions would require all employees to contribute a portion of their salary to pay back the unfunded liability that was incurred while managing the pensions of the existing employees. The cash balance pension plan that we are proposing would have zero transition costs as it would contain a provision to continue to fund the entire balance of the existing unfunded liability (commonly referred to as the "Accrued Liability").

Under the Required Contribution Rates (page 27) that each state employer pays to RSA, the vast majority of the total 11.94% rate for TRS employees (Tier 1) is made up by the Accrued Liability (9.74%). It's important to note that this additional contribution is paid for by the employer, not the employee. This is the respective portion that each employer has to pay annually for the next 30 years to pay for RSA's previous under-performance (relative to the 8.0% benchmark hurdle) in order for the pension system to meet all of its obligations.

For the current system to remain solvent and to prevent unfairly punishing existing employees, any new pension plan that is created must bring with it an obligation to help pay for the existing unfunded liability that should be spread out equally amongst all employees (current and future). If a new pension plan implemented for new employees only did not carry any of the burden associated with paying off the existing unfunded liability, then clearly an undue and grossly unfair penalty would be put on the employers of all of the current employees, which could ultimately lead to additional problems at the workplace (i.e., age discrimination on the basis of the less expensive, new employee classification).

The cash balance pension plan proposed here would contain a provision to eliminate any transition costs by continuing to fund the entire balance of the unfunded liability in addition to creating a new class of employees (Tier 3) for any employee beginning service after January 1, 2016 that would each own a separately managed, individual retirement plan that has the positive benefits of both a pension and a lump-sum account (see Table 9). New Tier 3 employees would automatically become members of the new cash balance pension plan upon beginning employment and any existing employees could opt-in (at their sole discretion), thereby retaining the benefits previously earned under the old system and accruing new benefits under the new plan going forward. Any existing employee choosing not to opt-in would simply continue in the traditional pension plan system with no plan changes.

Note, the cash balance pension plan as presented in this paper largely bases assumptions and examples on a Tier 2 employee from the TRS system. While the cash balance plan examples do not discuss specific changes to ERS (including State Policemen) or JRF (including DAs and Clerks), this is not meant to imply that these plans would not benefit equally from the introduction of the cash balance pension plan.

State of Alabama – Cash Balance Pension Plan Savings Calculation

In order to avoid the "transition costs" associated with bringing on a new plan, our recommended version of the cash balance pension plan requires the state to continue to repay the unfunded liability in the exact same manner as is currently prescribed in the current RSA pension system. However, once the unfunded liability is paid off (approximately 29 years in 2044), the state's annual contribution (estimated by RSA to be $969.7 million in 2016) will be freed from the payment of the prior debt (the current unfunded liability) and will directly flow to bottom-line savings to the pension system.

Until a formal piece of legislation is drafted and the retirement system actuaries are able to digest the new required contribution rates, any estimate of planned savings will largely be based on a set of assumptions. Because both plans require the same employer and employee contributions to fund pensions, near-term savings would be minimal; however, given the significantly reduced investment performance risk, future pension liabilities would be greatly reduced under the cash balance plan. The new cash balance plan replaces the 8.0% rate with a 5.0% minimum guarantee to participating employees. In exchange, employees gain portability and individual account ownership. They will also receive 75% of any returns above the 5.0% guarantee with limited downside. Furthermore, taxpayers are relieved from the higher risk of future unfunded pension liabilities.

Recommendation #2 – Judicial Pension Reform

While the pension reform measures enacted in Alabama were substantial, the pensions tied to the Judicial Retirement Fund (JRF) were left completely intact and no changes were made, despite the fact that judges in Alabama have one of the richest pension programs in the entire country. While the average state employee receives 2.0% per year of service (state policemen receive 2.875%), judges in this state can receive as much as 7.5% per year of service on top of salaries that are some of the highest in all of state government. Furthermore, the benefit becomes unreasonably high given that the new pension reform measures—lowering the 2.0% annual pension benefit or state employees down to 1.65% for all new employees after January 1, 2013—did not impact judges at all.

Under current Alabama law, judges, justices, circuit clerks and district attorneys participate in a separate pension system, the JRF. As of September 30, 2014, there were 338 active employees (from justices down to circuit clerks) as well as 375 current retirees that participated in the JRF. While every other state employee (teachers, police, fire, social workers, accountants, lawyers doctors, and every person in between) receives a future pension benefit based on final compensation and the number of years of service multiplied by a percentage (i.e., 30 years x 2.0% = 60% of base pay), these 713 "special" state employees enjoy a fringe benefit unlike anyone else in the state.

The Alabama Judicial Retirement Fund pays a flat 75% of final salary once the person reaches retirement eligibility (see Table 10). Further, a person in JRF can reach retirement eligibility and receive their full benefit with only 10 years of service, based on current law that allows judges to retire based on their age, as opposed to years of service. Further, should any of these judges become disabled, they are eligible to receive a pension in as little as five years (for 30% of total compensation). In the State of Alabama, a person could not save a single dime for retirement, be appointed as a probate judge at age 60 (a position that doesn't even require a law degree), serve for only 10 years until age 70 and receive a full pension (75% of salary) that would have taken a "regular" state employee over 45 years to reach (at the new 1.65% rate).

Table 10: Current Judicial Pension Calculation (JRF): All Justices, Clerks, and District Attorneys

Pension Calculation			Disability Pension Calculation	
Judicial Service (Years) – may include transfer service	Attained Age	Pension Benefit	Judicial Service (Years) – may include transfer service	Pension Benefit
10	70		-	-
12	65		5	30%
15	62		6	35
16	61	75%	7	45
17	60		8	55
24*	Any Age		9	65
25 or more	Any Age		10 or more	75

**Provided the justices or judge purchases up to one additional year to obtain a total of 25 years of creditable service. The cost is equal to the annual contribution of the justice or judge and the state at the time of purchase multiplied by the year or fraction thereof of service credit needed to obtain 25 years of service credit.*

Largely because of the disproportionate amount of pension benefits awarded to judges, the JRF maintains the worst funding percentage of any of the state's three pension systems, at only 58.7% as of September 30, 2013. Further, with no enacted changes to the plan such as those pension reform measures adopted by the State of Alabama for all other employees during 2011 and 2012, the funding levels for the JRF have only one direction to go—downward.

Since 2010, the Alabama Court System (AOC) has faced budget cuts as grave as any agency in state government. In an opinion letter titled "Help me stop the funding crisis in Alabama's courts," Alabama Supreme Court chief justice, Roy Moore, wrote to the three major Alabama newspapers in March 2014 to plead for the legislature's help with additional funding for the state's court system. Justice Moore compared the financial health of the court system today versus 10 years prior when he was previously elected and noted that the AOC is funded at 26% less today than 10 years ago ($89 million in 2014 versus $120 million in 2001) and that the court system has had to resort to layoffs of 305 critical personnel, which ultimately could result in "cases being delayed and justice denied to thousands of victims, children, families, and businesses each year."

One of the contributing factors to the financial difficulties facing the AOC is the staggering cost of judicial pensions to the annual budget (see Table 11). The various court systems that employ judges, clerks, and district attorneys throughout the state also have to contribute the matching portion of an employee's salary to cover their future pension costs, per the state's annual required contribution. However, due to the extraordinarily generous pensions afforded to judges, the ARC payment for judicial employers is nearly triple that of the ERS or TRS.

Table 11: Current Judicial Pension Calculation (JRF): All Justices, Clerks, and District Attorneys

Employer Contribution Rates (Tier 1)	ERS	TRS	JRF
Normal	0.33%	0.74%	13.41%
Accrued Liability	12.36	9.74	26.41
Death Benefit	0.02	0.02	-
Term Life	0.01	0.01	-
Administration	0.35	0.33	1.26
Total	13.07%	10.84%	41.08%

**Contributions are for Fiscal Year Spending ending September 30, 2016.*
***All rates are for Tier 1 employees.*
Source: RSA Actuarial Statements (Cavanaugh Macdonald)

While the ERS and TRS are paying 13% and just under 11%, respectively, for the employer portions of the cost of their employee pensions, for every dollar in salary, the court system will have to pay an additional 41% just to cover the cost of judges' pensions. For their trouble, judges are asked to pay a bit more out of their paychecks than "regular" employees (judges pay 8.0%, whereas everyone else pays 7.5%). Worse yet, unless serious judicial pension reform measures are enacted immediately, and absent a gigantic increase in the employee contribution rate, judicial pensions will eventually consume the majority of the budget allocated towards judicial personnel costs (pension costs will actually surpass salaries).

Judicial Pension Reform Action Items

(for new justices and judges first appointed or elected after November 1, 2015)

1. **Implement a benefit factor for judges to a flat 3.0% for all years of service (equal to Tier 1 fire, law enforcement, and correctional officers).**
   - Strike the mandatory 75% pension provision based on age and regardless of years of service.
   - Leave the 80% lifetime maximum benefit factor accrual (same as with other plans).
2. **Implement a benefit factor for disabled judges to a flat 3.0% for all years of service (equal to Tier 1 fire, law enforcement, and correctional officers).**
   - Strike the mandatory 75% pension provision based on age and regardless of years of service.
   - Leave the 80% lifetime maximum benefit factor accrual (same as with other plans).
3. **Increase the elected court official contribution rate back to 8.50%, as provided for previously in §12-18-82.**
   - Current employee contribution rate is 8.0%
4. **Transferred Service should count for determining eligibility but not for calculating benefits.**
   - Current RSA rules state that a member transferring service from one plan to another (ERS to TRS, TRS to JRF, JRF to ERS, etc.) will be credited with cumulative years of service for eligibility purposes, but not for calculating retirement benefits.
   - "In the event a member elects to make such a transfer, the service shall count as judicial service for determining retirement eligibility, but not in calculating retirement benefits."
5. **Use Pension Reform II as a model template and bring judicial pension back into some form of equilibrium with other state employees, teachers, police, fire, and law enforcement.**
   - Implement a minimum retirement age of 62.
   - Previously there was no minimum age and employees could retire at any age after 25 years of service.
   - No "pension spiking"
   - "Highest 5 years out of the last 10 years" language for compensation calculation
   - Cap the maximum pension annuity at 125% of base salary prior to retirement.

State of Alabama – Judicial Pension Reform Savings Calculation

As with the introduction of the cash balance pension plan legislation, until a formal piece of judicial pension reform legislation is drafted and the retirement system actuaries are able to digest the new required contribution rates, any estimate of planned savings will largely be based on a set of assumptions. With that said, the expected future savings to the State of Alabama by implementing the above mentioned reform measures to judicial pensions are fairly quantifiable today.

Since we are only proposing changes to future judicial retirement packages, as opposed to impacting any existing justices, judges, clerks, or district attorneys, savings would begin to accrue immediately for each new employee. While slow to begin with, as the savings are only for new employees, we estimate approximately $12.1 million in average annual savings over the next 30 years as new hires come on to the new plan (similar to the previous Pension Reform legislation).

Judicial Pension Reform Plan Savings Calculation

$32.3 million = "Expected" annual cost of all active judicial pensions upon retirement

- Currently, 338 active judges (and another 145 active clerks and district attorneys)
- Average years of service (at retirement) = 18.2 years
- Average judicial salary = $127,398
- Average judicial pension = $95,549 ($127,398 x 75%)
- Total current cost = $95,549 x 338 judges = $32.3 million

- (minus)

$23.5 million = "Expected" annual cost of all active judicial pensions upon retirement under the new plan *(3.0% annual benefit factor based on years of service)*

- Same 338 active judges, each will enter retirement (no increase or decrease in # of judges)
- Same average years of service (at retirement) = 18.2 years
- Same average judicial salary = $127,398

- Average judicial pension = $69,559 ($127,398 x 3.0% x 18.2 years)
- Total current cost = $69,559 x 338 judges = $23.5 million

$12.1 million = Average Annual Savings

Note: This savings calculation excludes any savings related to clerks and district attorneys and does not factor in any savings related to the additional 0.50% contribution increase, which will substantially increase the calculation.

Recommendation #3 – Eliminate Piggyback Agencies (Lobbyists)

Under Alabama Code §16-25-1(3), related to the creation of the Teacher's Retirement System, the definition of the word "teacher" is as follows:

> Any teacher, principal, superintendent, supervisor, college professor, administrative officer, or clerk employed in any public school or public college within the state or employed in any private nondenominational school operated nonprofit for the education of children of school age residing within a district where no public school is available for the children or any similar employee or officer of the Department of Education or of the Alabama Education Association, or any attendance worker 50 percent or more of whose salary is paid from public school funds or any employee receiving a regular stated compensation from the retirement system. This mention of the AEA does not refer to individual participants that are former employees (i.e. retired state employees, superintendents, etc.); rather, the lobbyists that represent these individuals.

These six words, inserted into the definition of the word "teacher," allow for a private lobbying group, the AEA, to participate at taxpayer expense in the RSA. By striking these six words from Ala. Code §16-25-1(3), the administration of the AEA would no longer be able to participate in the RSA programs. Currently, since every member of the AEA that teaches, or has taught, is a member by position, this language serves really only one purpose—to fund pensions for the executive administration of the AEA, not even the teachers themselves.

To be clear, RSA serves in an administrator-only role for every third-party entity that participates alongside the State of Alabama in the RSA retirement system, with the exception of one entity—the AEA. This means that if the investment performance of RSA falls short of the 8.0% required rate of return necessary to fully fund pensions, the participating employers (i.e., the City of Dothan, Madison County, etc.) are on the hook for the shortfall, not the RSA. RSA simply invests to the best of their ability and the results are what they are. However, for all state employees and teachers, the state (and ultimately the taxpayers of Alabama) fully guarantees the pensions to those employees. Any pension shortfall that may arise at AEA today or in the future isn't the responsibility of the AEA, but will be borne solely by the taxpayers of Alabama.

Conclusion

While a handful of pension reforms have already been enacted to help shore up the finances of the Retirement Systems of Alabama, there is still more that needs to occur to ensure the solvency of the pension system and protect future generations from paying today's bills. While making better investment choices and improving annual returns is part of establishing a financially sound footing, increasing returns isn't the entire solution to the problem. The structure of the pension system should account for changes in the economy and demographics, and spread risk more fairly.

Any permanent solution to this problem must involve a transfer of some portion of the longevity risk to the individual and away from the state. People are living much longer than was anticipated when the pensions were originally awarded. While this is a positive trend and in no way the fault of the employee, the fact remains that there is a significant cost increase associated with the increase in longevity. Some states have responded to this problem in various ways, including increasing employee contribution rates, lowering pension payments, raising the retirement age for full benefits, and eliminating cost of living increases for retirees.

A better approach would be to tackle the underfunding problem through a few incremental changes to the plan that will protect the future of the State of Alabama's retirement systems. We recommend that the Alabama State Legislature immediately pass legislation to address the following three areas:

1. Cash Balance Pension Plan
2. Judicial Pension Reform
3. Eliminating Piggyback Agency Participation (Lobbyists)

The end result of these reform measures will be a much more financially sound and viable retirement system for all members and taxpayers in the years ahead. These reforms would also greatly reduce the financial resource drain that RSA currently places on the budgets of the state's Education Trust Fund and the General Fund. While much of the savings aren't immediate, as they primarily involve new employees only, the cumulative savings effect of these three suggested reform measures could be well in excess $1 billion annually after paying back the current pension liability.

Appendix 1. Type of Retirement Plan by State (as of September 2014)

State	Plan Name	Defined Benefit Plan	Mandatory Defined Contribution Plan	Cash Balance Plan	Choice of Plan	Hybrid Plan
Alabama	Employee Retirement System	X				
	Teacher Retirement System	X				
	Judicial Retirement Fund	X				
Alaska	Public Employee Retirement System	Old members before June 30, 2006	X New members on or after June 30, 2006			
	Teacher Retirement System	Old members before June 30, 2006	X New members on or after June 30, 2006			
Arizona	State Employee Retirement System	X				
Arkansas	Public Employee Retirement System	X				
	Teacher Retirement System	X				
California	Public Employee Retirement System	X				
	State Teacher Retirement System				X Optional–DB or alternative hybrid plan for employees of public schools	
Colorado	Public Employee Retirement Association	Old members before January 1, 2006			X New state employees on or after January 1, 2006; New community college employees on and after January 1, 2008; DB or DC	

Connecticut	State Employee Retirement System	Tier I, II, IIA, and III, Members hired before July 1, 2011			X Members hired on or after July 1, 2011 can choose DB, Hybrid or DC	
	Teacher Retirement System	X				
Delaware	State Employee Pension Plan	X				
Florida	Florida Retirement System				X Created in 2000; effective in June 2002, DB or DC	
Georgia	Employee Retirement System					X New members as of Jan. 1, 2009, DB and DC
	Public School Employees Retirement System	X				
	Teacher Retirement System	X				
Hawaii	Employee Retirement System	X				
Idaho	Public Employee Retirement System	X Base Plan				2001: Voluntary contributions to 401(k) Choice Plan
Illinois	State Employee Retirement System	X				
	Teacher Retirement System	X				
	State Universities Retirement System				X As of Jan. 1, 1998, DB or DC	
Indiana	Public Employee Retirement Fund				X Effective Mach 1, 2013, Hybrid or DC	Prior to March 1, 2013 DB and DC
	Teacher Retirement Fund					X DB and DC
Iowa	Public Employee Retirement System	X				
Kansas	Public Employee Retirement System	Old members		X Only plan for new members effective Jan. 1, 2015		

Kentucky	Employee Retirement System			X New members after Jan. 1, 2014		
	Teachers' Retirement System	X				
Louisiana *(tried to mandate DC participation but was blocked by the courts)*	State Employee Retirement System	X				
	Teacher Retirement System	X				
	School Employee Retirement System	X				
Maine	Public Employee Retirement System	X				
Maryland	State Retirement and Pension System	X				
	Teacher Retirement System	X				
Massachusetts	State Employee Retirement System	X				
	Teacher Retirement System	X				
Michigan	State Employee Retirement System	Members before March 31, 1997	X New members after March 31, 1997			
	Public School Employee Retirement System	Members before July 1, 2010			X New members as of September 4, 2012 [existing DB/DC Hybrid or DC]	Members after July 1, 2010 and before September 4, 2012
Minnesota	Public Employee Retirement Association	X				
	Teacher Retirement Association	X				
Mississippi	Public Employee Retirement System	X				
Missouri	State Employee Retirement System	X				
	Public School Retirement System	X				
	Public Education Employee Retirement System	X				

Montana	Public Employee Retirement System	Old members before 2002			X New members after July 1, 2002, DB or DC	
	Teacher Retirement System	X				
Nebraska	Public Employee Retirement System (state and county)				X As of Jan. 1, 2003, new members option, DC or CB	
	School Employee Retirement System	X				
Nevada	Public Employee Retirement System	X				
New Hampshire	Retirement System	X				
New Jersey	Public Employee Retirement System	X				
	Teacher Pension and Annuity Fund	X				
New Mexico	Public Employee Retirement Association	X				
	Educational Retirement Board	X				
New York	New York State and Local Employee Retirement System	X				
	Teacher Retirement System	X				
North Carolina	Teacher and State Employee Retirement System	X				
North Dakota	Public Employee Retirement System	X			Voluntary DC created in 1999, optional for elected officers after 2000, and expanded to all new members after Oct. 1, 2013	
	Teacher Fund for Retirement	X				

Ohio	Public Employee Retirement System				X In 2000 and thereafter, three choices, DB, DC, and combined DB/DC	
	Teacher Retirement System				X In 2000 and thereafter, three choices, DB, DC, and combined DB/DC	
	School Employee Retirement System	X				
Oklahoma	Public Employee Retirement System	X				
	Teacher Retirement System	X				
Oregon	Public Employee Retirement System					X
Pennsylvania	State Employee Retirement System	X				
	Public School Employee Retirement System	X				
Rhode Island	Employees' Retirement System					X July 1, 2012, DB/DC
South Carolina	Retirement System	X				
South Dakota	Retirement System					X DB/DC
Tennessee	Tennessee Consolidated Retirement System	Members before 2014				X DB/DC, Members after 2014
Texas	Employee Retirement System	X				
	Teacher Retirement System	X				
Utah	State Employee Retirement System (noncontributory)	Members before 2011			X Members after July 2011 can choose hybrid or DC	

Vermont	State Employee Retirement System	X				
	State Teacher Retirement System	X				
Virginia	Virginia Retirement System					X DB/DC Jan. 1, 2014 effective for new employees
Washington	Public Employee Retirement System	Plan 1 DB, membership established before Oct. 1, 1977 and Plan 2 DB, membership established on or after Oct. 1, 1977			X Plan 3 DB/DC or Plan 2 if hired on or after September 1, 2002 and Plan 2 could choose Plan 3	
	School Employee Retirement System	Plan 2 DB, membership established on or after Oct. 1, 1977			X Plan 3 DB/DC or Plan 2 if hired on or after September 1, 2002 and Plan 2 could choose Plan 3	
	Teacher Retirement System	Plan 1 DB, membership established before Oct. 1, 1977 and Plan 2 DB, membership established on or after Oct. 1, 1977			X Plan 3 DB/DC or Plan 2 if hired on or after September 1, 2002 and Plan 2 could choose Plan 3	
West Virginia	Teacher Retirement System	X				
	Public Employee Retirement System	X				
	Teacher's Defined Contribution Retirement System		Created in 1991 closed to new members in 2005			
Wisconsin	Retirement System	X				
Wyoming	Public Employee Pension Plan	X				
	Number of Plans *(Total of 85 plans)*	**58 plans**	**3 plans**	**2 plans**	**15 plans**	**7 plans**

Source: Center for Retirement Research at Boston University, State Annual Reports and Authors.

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