



Comments on Your Government

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RIPEC

Rhode Island's State Pension System Reforms are Needed Now to Keep Pension System Sustainable

State and local governments are facing financial stresses. One of the budget drivers are personnel costs, representing 22.0 percent of the State's all funds budget in the proposed FY 2011 budget. One of the most significant drivers of these costs is related to employee benefits, such as health care and pensions. Given this, there has been increased attention on the variables driving personnel costs. To put it in context, this RIPEC Comments is intended to provide a summary of the State's current pension system and to develop strategies to curb future costs to taxpayers while providing appropriate benefits to the State's workforce. A forthcoming report will focus on local pensions.

In the Governor's proposed FY 2011 budget, all funds personnel expenditures amounted to approximately \$1.7 billion, an increase of 43.2 percent since FY 2001. The fastest growing component of total personnel expenditures during this time has been retirement costs. Over the ten-year period, expenditures on retirement have increased 124.6 percent, from \$60.7 million in FY 2001 to \$136.3 million in FY 2011. In FY 2001, retirement costs accounted for 5.2 percent of personnel expenditures. This share has increased to 8.1 percent in FY 2011. Medical costs have also increased at a significant rate since FY 2001, growing by 50.9 percent. Together, these two categories account for approximately one quarter of the growth between FY 2001 and FY 2011. One should note that the State's share for the teacher retirement is not included in these expenditures.

In the FY 2011 proposed budget, retirement costs for State employees and the State's share for teacher pensions accounted for 4.7 percent of the State's general revenue expenditures. This figure includes the savings through the pension changes proposed by the Governor. If the changes are made, in FY 2015, retirement costs would slightly increase to 4.8 percent of the State's general revenue budget. If these pension changes are not made, retirement costs for State employees and the State's share for teacher pensions would amount to 5.5 percent of the State's general revenue expenditures in FY 2011, and 7.8 percent in FY 2015.

Over the past few years, a number of changes have been made to reform the State's pension systems; last year, the General Assembly enacted additional changes to the Employees' Retirement System (ERS). However, these changes may not be enough to sustain the State's pension system.

Given the fiscal crisis facing state and local governments, coupled with dampened market performance, and demographic factors such as longer life expectancies, there is a need to reexamine and reform the pension systems across the State in order to keep State pension contributions affordable. If the State does not take further action to control the ever-growing cost of the State's pension system, there will be fewer resources available to support current programs and services offered by the State to its residents.

March 7, 2010

The State has several different ways to improve their retirement systems, including keeping up with funding requirements, changing the benefit structure, sharing risk with employees, increasing employee contributions, and reevaluating actuarial assumptions.

However, it is also necessary to consider the impact these proposed reforms will have on employment within the State including the effect on State employees, on the State's ability to deliver services, and on the affordability and sustainability of the State's pension fund. Consideration should also be given to the overall impact on the State's pension contribution in out-years.

The long-term sustainability of the Rhode Island pension system is under stress as the funding requirements will continue to take a larger portion of State revenues each year until the system is fully funded in 2029. Policy makers also have to take into consideration the viability of the pension system in Rhode Island against the backdrop of the current economic conditions facing the State as the retirement system absorbs the market losses from 2008 and 2009, the State's limited fiscal capacity, and the impact of increased retirements, which will be measured in the forth-coming experience study. Rhode Island needs to take measures to reduce the annual cost, review the actuarial assumptions and to think about eliminating the risk of the current defined benefit plan. Given the projected out year deficits over the next several years, the State can ill afford the status quo. Any additional pension cost increases caused by these events will occur when the State is least able to respond as it will need to balance a FY 2012 budget that is already out of balance by an estimated \$362.2 million.

This RIPEC *Comments* contains five additional sections in addition to this introduction:

- Summary of Key Findings
- Rhode Island State Pension System
- Recent Events and Proposed Changes to the Pension System
- National Comparison
- Definition and Overview of Terms

Summary of Key Findings

Contributions

FY 2001-FY 2011 Contributions

- Between FY 2001 and FY 2011, the State’s annual required contribution for ERS plans (state general employees and teachers) has increased from \$79.9 million to \$218.0 million, an increase of 172.9 percent.
- The local annual required pension contribution for teachers increased 164.3 percent during the same time period, growing from \$48.2 million in FY 2001 to \$127.3 million in FY 2011.
- In FY 2001, the employer contribution rate for State employees and teachers was 7.99 percent and 12.01 percent, respectively; by FY 2011, the rates had increased to 21.64 percent for State employees and 20.07 percent for teachers. The teacher employer rate is shared by State government (40 percent) and local government (60 percent). Employee contribution rates remained at 8.75 percent for State employees and 9.5 percent for teachers.
- Since 1996, Rhode Island consistently met its actuarially required contributions.

Projected Contributions

- Between FY 2011 and FY 2029 (when the plan is expected to be fully funded), the estimated employer contribution for State employees is projected to increase 268.9 percent, from \$133.2 million in FY 2011 to \$491.4 million in FY 2029, accounting for 88.0 percent of the increase during that time period.
- While the contribution rate for State employees will stay at 8.75 percent of salary, the required contributions will increase from \$53.9 million in FY 2011 to a projected \$102.8 million in FY 2029, based on an increase in compensation. This will account for 12.0 percent of the increase.

Table 1
Projected Contribution for State Employees and Teachers
\$ million

Year	State Employees			Teachers			Contr. Total
	State	Employee	Contr. Total	Employer State	Local	Employee	
2011	\$133.2	\$53.9	\$187.1	\$84.8	\$127.3	\$100.4	\$312.5
2029	\$491.4	\$102.8	\$594.2	\$297.4	\$446.0	\$198.9	\$942.3
<u>Change 2011-2029</u>							
Amount	\$358.2	\$49.0	\$407.2	\$212.5	\$318.8	\$98.5	\$629.8
Percent	268.9%	90.9%	217.6%	250.5%	250.5%	98.2%	201.6%
Share of Increase	88.0%	12.0%	100.0%	33.7%	50.6%	15.6%	100.0%

Note: Does not include any savings associated with pension changes in the FY 2010S and FY 2011 budgets.
Source: RIPEC calculations based on Actuarial Valuation Report

- The total employer contribution for teacher pensions (both the State and local share) in FY 2029 is projected to be \$743.4 million, a 250.5 percent increase over the total FY 2011 contribution of \$212.1 million.

- The State is projected to pick up 33.7 percent of the increase in contribution for teacher pensions between FY 2011 and FY 2029, whereas local government will pick up 50.6 percent.
- While the contribution rate for teachers will stay at 9.5 percent of salary, the required contributions will increase from \$100.4 million in FY 2011 to a projected \$198.9 million in FY 2029, based on an increase in compensation. This will account for 15.6 percent of the increase.

Average Benefits and Age

- The average annual benefit as of June 30, 2008 ranged from \$11,856 for a general municipal employee covered by the MERS plan to \$123,587 for a judge, while the average age of retirees ranged from 59.3 for MERS public safety employees to 73.1 for MERS general employees.

	2007		2008	
	Age	Benefit	Age	Benefit
State Employees	72.7	\$23,781	72.5	\$25,400
Teachers	67.6	41,341	67.9	42,356
State Police	68.6	75,279	69.9	76,779
Judges	72.2	110,427	71.4	123,587
MERS - General	73.0	11,352	73.1	11,856
MERS - Public Safety	59.8	24,492	59.3	25,908

NOTE: Data excludes disabled retirees, beneficiaries and spouses
SOURCE: Annual Financial Report for the Fiscal Year Ending June 30, 2008

Financial Performance

- The recent market downturn has lowered the rates of return and will put additional pressures on state and local plans to fund the additional liability caused by the decreased asset values.
- Over the past two years, the State’s pension investments have lost a total of \$2.0 billion.
- While investment returns are only one of a number of factors that determine future costs, the poor market performance of invested assets (which constitute the majority of the plans’ funding) will translate into higher future costs for the State.
- Key measures of the overall health of a pension system are its overall funded ratio and what direction the ratios are going.
- As of the most recent valuation, the funded ratio for all retirement plans except for judges increased over the prior year. Between FY 2007 and FY 2008, the funded ratio for state employees increased from 57.5 percent to 61.8 percent and the funded ratio for teachers increased from 55.4 percent to 60.3 percent. Funded ratios for state police increased to 79.6 percent, while the funded ratio for MERS increased to 92.8 percent.
- The recently released study by the PEW Center on the States stated an aggregate funding ratio for state systems across the country of 84.0 percent in FY 2008.

Recent Enacted and Proposed Changes

- The 2009 General Assembly adopted a number of changes to pensions as part of the FY 2010 Enacted budget, including:
 - Modifying the minimum retirement age;
 - Basing average final compensation to five years instead of three;
 - Shifting future service credit accrual for Schedule A members not eligible to retire as of September 30, 2009 to Schedule B;

- Changing the COLA from 3.0 percent, compounded annually to the lower of CPI or 3.0 percent;
- Revising guidelines around purchased credits and disability; and
- Reducing pensions for judges hired after July 1, 2009.
- The Governor's FY 2010 Supplemental budget:
 - Proposes eliminating the COLA for all State employees, teachers, judges and State police who were not eligible to retire as of September 30, 2009;
 - Proposes eliminating supplemental contributions to the retirement system in FY 2009, FY 2010, and FY 2011 resulting from achieved retirement cost savings. When the actuarial rate decreases year-over-year (as would be the case with proposed pension changes), 20.0 percent of the savings is required to be included in the budget as an additional contribution to the pension fund. Without this provision, the State would be required to include \$1.4 million in additional contributions to the Employee Retirement Fund in FY 2010 as a result of previous pension changes; and
 - Does not prevent the General Assembly from annually reviewing and providing an ad hoc COLA to retired State employees not otherwise eligible up to the maximum amount of 3.0 percent or the CPI.

National Comparison

The Wisconsin Legislative Council surveyed 87 state plans (including Rhode Island) in its report that was released in December of 2009. The table below shows some key actuarial and accounting information.

Table 3 Actuarial and Accounting Information 2008 National Comparison*						
			Number of Plans	Percent of Total		
			Number of Plans	Percent of Total		
<u>Interest Assumption (1)</u>					<u>Economic Spread (2)</u>	
From 5%-7%	1	1%	Below 3.50%	1	1%	
Over 7%-8%	63	72%	From 3.50%-4.50%	51	59%	
Over 8%	21	24%	From 4.51%-5.00%	19	22%	
Not determined or not applicable	2	2%	From 5.01%-5.50%	7	8%	
			Not determined or not applicable	9	10%	
<u>Wage Inflation (1)</u>					<u>Actuarial Methods (3)</u>	
Below 3.00%	2	2%	Entry Age	69	79%	
From 3.00%-3.50%	44	51%	Unit Credit	14	16%	
From 3.51%-4.00%	20	23%	Aggregate Cost	4	5%	
From 4.01%-4.50%	12	14%	Method or Other			
Not determined	9	10%				

Note: The bolded numbers indicate where Rhode Island's Employee Retirement System falls

(1) Key economic assumptions are the interest assumption and wage inflation in determining the level of contribution rates.
 (2) The difference between the wage inflation assumption and the interest assumption is often referred to as the "economic spread", which is the assumed real rate of return on invested assets above the wage inflation rate.
 (3) An actuarial method is a procedure for determining the present value of pension benefits that will be paid in the future and allocating that value and the cost of the benefits to specific time periods. There are a number of accepted actuarial methods that presumably will reach the goal of fully funding all pension obligations as they become due, but they allocate costs in different ways during the period of employment of participants in the plan.

*Source: 2008 Comparative Study of Major Public Employee Retirement Systems, Wisconsin Legislative Council, December 2009

- The interest assumption is also sometimes referred to as the “earnings assumption”. Interest rate assumptions range from 7.0 percent to 8.5 percent. The majority of the plans surveyed by the Wisconsin Legislative Council (63 plans, or 72.0 percent) are between 7.1 percent and 8.0 percent. Rhode Island’s ERS uses an interest assumption of 8.25 percent. A total of 21 plans (24.0 percent of the total plans surveyed) uses an interest assumption of more than 8.00 percent.
- A key assumption in pension planning is the assumption of the wage inflation rate or general salary increases in excess of those provided for merit or seniority. Wage inflations range from 2.5 percent to 4.5 percent. Rhode Island’s ERS wage inflation is at 3.0 percent. Forty-four plans, or 51.0 percent, of all surveyed plans are between 3.0 percent and 3.5 percent.
- Another key assumption in pension planning is the “economic spread”, which is the difference between the wage inflation assumption and the interest assumption; or in other words, the assumed real rate of return on invested assets above the wage inflation rate. Rhode Island’s rate is 5.25 percent, which is one of the highest among the 87 surveyed plans by the Wisconsin Legislative Council. Of the 87 plans, only two plans (Illinois SERS and Milwaukee City pension) had a larger spread than Rhode Island (5.50 percent). An additional four plans (Louisiana TRSL, Oregon PERS, Vermont SRS and TRS) had the same economic spread than Rhode Island.

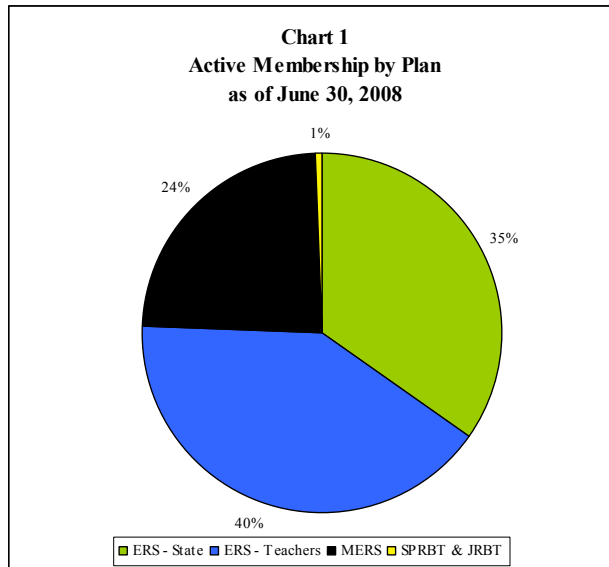
The PEW Center on the States recently released a report on state pension plans, *The trillion dollar gap, Underfunded state retirement systems and the roads to reform*, surveying 231 pension plans in the country. The report found that:

- In aggregate, state systems were 84 percent funded in FY 2008, slightly down from an 85 percent combined funding in FY 2006.
- In 2000, slightly more than half the states had fully funded pension systems. By 2006, the number had shrunk to six states, and in 2008, only four states (Florida, New York, Washington, and Wisconsin) had fully funded systems.
- While only 19 states had funding levels below the 80 percent mark in FY 2006, 21 states (including Rhode Island) were funded below that level in 2008. In eight states (Connecticut, Illinois, Kansas, Kentucky, Massachusetts, Oklahoma, Rhode Island, and West Virginia) more than one-third of the total liability was unfunded. Of the 50 states, only two states - Illinois (54 percent) and Kansas (59 percent) - had a lower funding than Rhode Island’s 61 percent.

Rhode Island State Pension Systems

Overview

The State of Rhode Island administers defined benefit plans for general State employees and teachers (ERS), judges (JRBT), State police (SPRBT) and participating municipal employees (MERS). Assets across all four plans are comingled for investment purposes, but are accounted for separately and are only used for the payment of benefits to members of that plan.



As of the June 30, 2008 actuarial valuation, there are 34,369 active (vested and non-vested) employees. Teachers constitute the largest share of employees – accounting for approximately 40 percent of total members, closely followed by general state employees covered by ERS (34.8 percent). MERS membership accounts for 23.8 percent of the total, while SPRBT and JRBT membership accounted for 0.5 percent and 0.1 percent of the total, respectively.

Table 4 shows average age and annual benefit by plan for those covered by a plan administered by the State for the fiscal years ending June 30, 2007 and June 30, 2008. As

shown on the table, average retirement age and benefits vary between the plans due to differences in plan structures and wages. In FY 2008, the average age ranged from 59.3 years (MERS public safety employees) to 73.1 (general MERS employees). Benefits ranged from \$11,856 per year for a MERS general employee to \$123,587 per year for retired judges. Over the two-year period, average annual pensions increased by 6.8 percent for State employees, 2.5 percent for teachers, 2.0 percent for State police, 11.9 percent for judges, 4.4 percent for general MERS employees and 5.8 percent for MERS public safety personnel.

Based on the June 30, 2008 valuation of retiree pension systems for Rhode Island, there are 11,970 active state employees, and 10,396 State employee retirees and beneficiaries. The active to retiree ratio is estimated at 1:2. As of the same valuation date, there are 13,999 active teachers, and 9,337 retirees and beneficiaries, with an estimated active-to-retiree ratio of 1:5. The active-to-retiree ratio for general MERS employees is 1:8 and 3:1 for MERS public safety employees.

Table 4
Average Age and Annual Benefit by Plan
Years Ending June 30, 2007 and 2008

	2007		2008	
	Age	Benefit	Age	Benefit
State Employees	72.7	\$23,781	72.5	\$25,400
Teachers	67.6	41,341	67.9	42,356
State Police	68.6	75,279	69.9	76,779
Judges	72.2	110,427	71.4	123,587
MERS - General	73.0	11,352	73.1	11,856
MERS - Public Safety	59.8	24,492	59.3	25,908

NOTE: Data excludes disabled retirees, beneficiaries and spouses

SOURCE: Annual Financial Report for the Fiscal Year Ending June 30, 2008

Plan Funding

The recent market downturn has lowered the rates of return and will put additional pressures on state and local plans to meet the decreased asset values. The actuarial consultant for the State, Gabriel Roeder Smith and Company, notes that there was a net investment loss of \$481.8 million in FY 2008 and a loss of \$1,546.1 million in FY 2009. The impact of the negative returns over the past two years will be phased-in over the five valuations from June 30, 2009 through June 30, 2013; however, prior gains from years FY 2007 and earlier will help offset part of this loss. Over the past ten years, the State employee retirement system in Rhode Island has experienced an average rate of return of 5.2 percent, down from a ten-year average return of 7.4 percent last year. One should note that the actuarial investment return assumption is 8.25 percent. While investment returns are only one of a number of factors that determine future costs, the poor market performance of invested assets (which constitute the majority of the plans' funding) will translate into higher future costs for the State.

Year Ending June 30,	Market	Actuarial
1998	16.1%	16.5%
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	-11.0%	4.9%
2002	-8.4%	0.9%
2003	2.6%	-0.8%
2004	18.7%	0.4%
2005	11.4%	1.8%
2006	11.6%	7.4%
2007	18.3%	12.9%
2008	-5.8%	10.5%
Average Returns		
Last 5 Years	10.5%	6.5%
Last 10 Years	5.2%	6.1%

Source: Employees' Retirement System of Rhode Island Actuarial Valuation Report (June 30, 2008)

Key measures of the overall health of a pension system are its overall funded ratio, and in what direction the ratios are going. A ratio of 1.0 (or 100 percent) reflects actuarial assets equal to the accrued liability. A ratio higher than 1.0 indicates that the plan is over-funded and the accrued assets exceed accrued liabilities. A ratio below 1.0 indicates the plan is underfunded and that liabilities exceed assets. The following discussion converts the ratios to percentages for ease of reading.

Year	State Employees	Teachers	State Police	Judges	Municipal Employees
1998	80.6%	76.2%	92.1%	81.6%	128.8%
1999	84.4%	82.1%	78.2%	74.5%	126.7%
2000	81.6%	80.6%	81.5%	75.9%	124.6%
2001	77.9%	77.4%	86.4%	76.4%	118.1%
2002	71.7%	73.2%	75.5%	68.5%	111.3%
2003	64.5%	64.2%	73.7%	72.0%	100.7%
2004	59.6%	59.3%	75.8%	73.3%	93.2%
2005	56.3%	55.4%	79.0%	87.0%	87.2%
2006	54.6%	52.7%	86.0%	86.8%	87.0%
2007	57.5%	55.4%	76.1%	83.8%	90.5%
2008	61.8%	60.3%	79.6%	81.7%	92.8%

SOURCE: State of Rhode Island Employees' Retirement System Fiscal Year Ended June 30, 2009; Auditor General of Rhode Island

As of the most recent valuation, the funded ratio for all retirement plans except for judges increased over the year prior. Between FY 2007 and FY 2008, the funded ratio for State employees increased from 57.5 percent to 61.8 percent and the funded ratio for teachers increased from 55.4 percent to 60.3 percent. Funded ratios for state police increased to 79.6 percent, while the funded ratio for MERS increased to 92.8 percent.

Although there was an increase in the funded ratio over the past two years for most plans, the funded ratios have declined throughout the majority of the past decade. The current ratio for State employees and teachers is roughly 22 percentage points lower than the apex in FY 1999. Since 1998, the funded ratio for State police declined 12.5 percent. Although MERS remains the most funded of all the State-administered retirement systems, the erosion in the MERS system has been the greatest over the course of the decade; since FY 1998 the funding ratio has declined from 128.8 percent to 92.8 percent, a decline of 36.0 percentage points. One should note that this is partially due to new plans entering the system that have not been fully funded before. The funded ratio for judges is approximately the same as in FY 1998.

As Table 6 shows, the ERSRI ratio for State employees declined from 80.6 percent in 1998 to 61.8 percent in 2008. One way to describe the 2008 funded ratio for the State Employee Retirement Fund is that accrued assets represented slightly less than two thirds of the total liabilities of the Fund. The decline in the funded ratio is attributable to a number of factors. First, a significant portion of the increase in the unfunded liability can be explained by underperformance in asset growth compared to assumptions (currently at 8.25 percent annual growth). Second, demographic and socio-economic factors have had a significant impact on the overall fiscal health of the plans – people are retiring earlier and they are living longer than anticipated.

Contribution Rates

Benefit increases to employees and retirees, without corresponding contributions to provide adequate resources for the additional benefits, can have a significant impact on the long-term viability of defined benefit programs. Similarly, if any of the actuarial assumptions are not met (e.g., poor market performance or larger-than-anticipated wage increases), the contribution amount needed to ensure the long-term viability of the fund increases. In a defined benefit plan, the employer bears the risks (and rewards) of changes to the assumptions through increases (or decreases) in their contribution rate. Effectively, the employer fills the gap between funds needed to meet the obligations of the retirement system and those available from employee contributions and investment performance. Thus, while the employee rate is set at a defined percentage of pay, the employer contribution will vary.

Employer contributions are determined by two factors. The normal cost, which is the present value of member benefits accrued over the current year, constitutes the base of the employer cost. If the actuarial assumptions are met and there is no unfunded liability, the normal cost is sufficient to fully fund the pension system. In addition to the normal cost, the employer's contributions must pay down a system's unfunded liability and they must make up the difference that is not picked up by the employee, if actuarial assumptions are not

The State is statutorily required to make its actuarial required contribution (ARC), which represents its share of the normal cost not covered by employee contributions, plus amortization of the unfunded liability (RIGL 36-10-2). Currently, the State is required to fully fund the pension systems by FY 2029. Annually, the financial status of the systems is assessed and employer contributions are modified based on actual plan experience. Additionally, there is a

periodic review to determine if the plans have met the internal assumptions. If they have not, the assumptions may be revised and the system is rebalanced.

Table 7
Summary of Contributions to the Employees' Retirement System of Rhode Island
FY 1993 - FY 2011 State Employees and Teachers Only

Fiscal Year	State Employees			Teachers (State Share)			Teachers (Local Share)		
	Required Contribution \$ million	Change	Percent Contributed	Required Contribution \$ million	Change	Percent Contributed	Required Contribution \$ million	Change	Percent Contributed
1993	\$41.3	-2.1%	100.0%	\$25.3	8.3%	100.0%	\$43.2	-12.8%	100.0%
1994	47.6	15.3%	100.0%	32.7	29.6%	100.0%	47.1	9.1%	100.0%
1995	52.6	10.5%	66.0%	36.9	12.8%	81.0%	50.2	6.6%	100.0%
1996	42.9	-18.3%	100.0%	30.8	-16.6%	100.0%	47.2	-5.9%	100.0%
1997	45.4	5.7%	100.0%	34.9	13.3%	100.0%	48.9	3.6%	100.0%
1998	51.3	13.0%	100.0%	35.0	0.4%	100.0%	52.0	6.3%	100.0%
1999	48.5	-5.4%	100.0%	30.2	-13.7%	100.0%	42.4	-18.6%	100.0%
2000	44.4	-8.6%	100.0%	40.7	34.8%	100.0%	57.7	36.1%	100.0%
2001	44.5	0.4%	100.0%	35.4	-13.1%	100.0%	48.2	-16.5%	100.0%
2002	31.8	-28.6%	100.0%	30.8	-13.0%	100.0%	44.4	-7.8%	100.0%
2003	45.1	41.9%	100.0%	38.2	24.3%	100.0%	55.5	25.0%	100.0%
2004	55.7	23.4%	100.0%	45.0	17.8%	100.0%	70.7	27.3%	100.0%
2005	66.1	18.7%	100.0%	48.8	8.4%	100.0%	73.0	3.3%	100.0%
2006	91.3	38.1%	100.0%	54.5	11.7%	100.0%	83.8	14.8%	100.0%
2007	118.3	29.6%	100.0%	72.0	31.9%	100.0%	107.9	28.8%	100.0%
2008	131.6	11.2%	100.0%	82.2	14.2%	100.0%	123.2	14.2%	100.0%
2009	127.1	-3.4%	100.0%	79.2	-3.7%	100.0%	118.7	-3.7%	100.0%
2010*	127.8	0.6%	ND	81.8	3.3%	ND	122.7	3.3%	ND
2011	133.2	4.2%	ND	84.8	3.7%	ND	127.3	3.7%	ND

Note: Does not include any savings associated with pension changes as submitted in the FY 2010 S and FY 2011 budgets.

Source: Testimony - March 12, 2008 to Special House Commission to Study All Aspects of The State Pension Retirement System, Frank Karpinski, Executive Director, Employees' Retirement System of Rhode Island; Actuarial Valuation Report as of June, 2008

* State Employees Original Estimated Employer payment \$148.4 FY 2010; Teacher Original Estimated Employer payment \$249.0 FY 2010

Past decisions by the State have affected the unfunded pension liability, such as in FY 1995 when the ARC was not made in full. In addition, early retirement incentives in 1989 and 1990 had an impact on the health of the fund by providing benefits without corresponding contributions. It was estimated that the actuarial cost of the early retirements were in excess of \$230.0 million.

Furthermore, the State, either acting through the Retirement Board or the Legislature, modified various portions of the retirement system over the last ten plus years including a change in the assumption of the rate of return from 8.0 percent to 8.25 percent and the "wage inflation factor" from 3.5 percent to 3.0 percent. The original amortization schedule, which began in 1985 to fully fund the system by 2015, was changed for the June 30, 1999 valuation. The Legislature changed the schedule to fully fund the system by 2029. The State has followed that funding requirement. The State also conducted various "experience studies" beginning in 1997 and subsequent years as well, which resulted in the State changing to an "Entry Age Normal" actuarial cost method in the June, 1999 valuation, as well as other changes.

The State’s action softened the impact of the results of the 1997 experience study, which showed previous demographic assumptions to be outdated, and would have had a material impact on the contribution. However, it still resulted in the employer contributions growing substantially over the past years as noted.

FY 2002 Rates, based upon the June 30, 1999 valuation reflect re-amortizing the UAAL and changing the funding methodology. As Table 7 shows, there has been a significant increase in the required contribution in recent years, placing additional pressure on the State’s operating budget. The FY 2011 State contribution to both the State employee and teacher pensions is estimated to be \$218.0 million, an increase of 172.9 percent since FY 2001.

As stated before, a key assumption in pension planning is the “economic spread”, which is the difference between the wage inflation assumption and the interest assumption; or in other words, the assumed real rate of return on invested assets above the wage inflation rate. Rhode Island’s rate is 5.25 percent, which is one of the highest among the 87 surveyed plans by the Wisconsin Legislative Council. Of the 87 plans, only two plans (Illinois SERS and Milwaukee City pension) had a larger spread than Rhode Island (5.50 percent). An additional four plans (Louisiana TRSL, Oregon PERS, Vermont SRS and TRS) had the same economic spread than Rhode Island.

**Table 8
Employer/Employee Contribution Rates
Rhode Island Retirement Systems**

Year	State Employees		Teachers	
	Employer	Employee	Employer	Employee
2001	7.99%	8.75%	12.01%	9.50%
2002	5.59%	8.75%	9.95%	9.50%
2003	7.68%	8.75%	11.97%	9.50%
2004	9.60%	8.75%	13.72%	9.50%
2005	11.51%	8.75%	14.84%	9.50%
2006	14.84%	8.75%	16.47%	9.50%
2007	20.69%	8.75%	23.88%	9.50%
2008	21.64%	8.75%	20.07%	9.50%
2009	21.64%	8.75%	20.07%	9.50%
2010	21.64%	8.75%	20.07%	9.50%
2011	21.64%	8.75%	20.07%	9.50%

Note: Teacher employer rate is shared by state government (40%) and local government (60%)

Source: Actuarial Valuation Report as of June 30, 2008

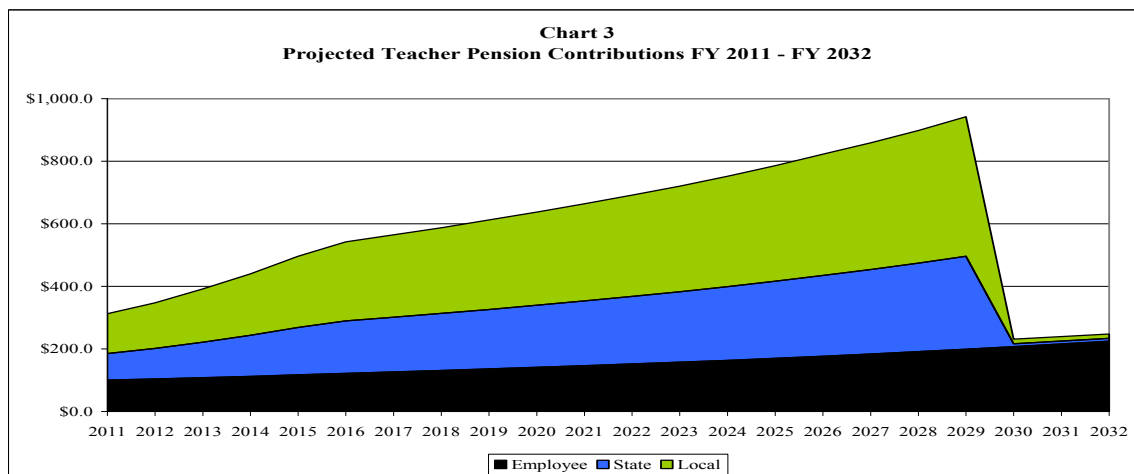
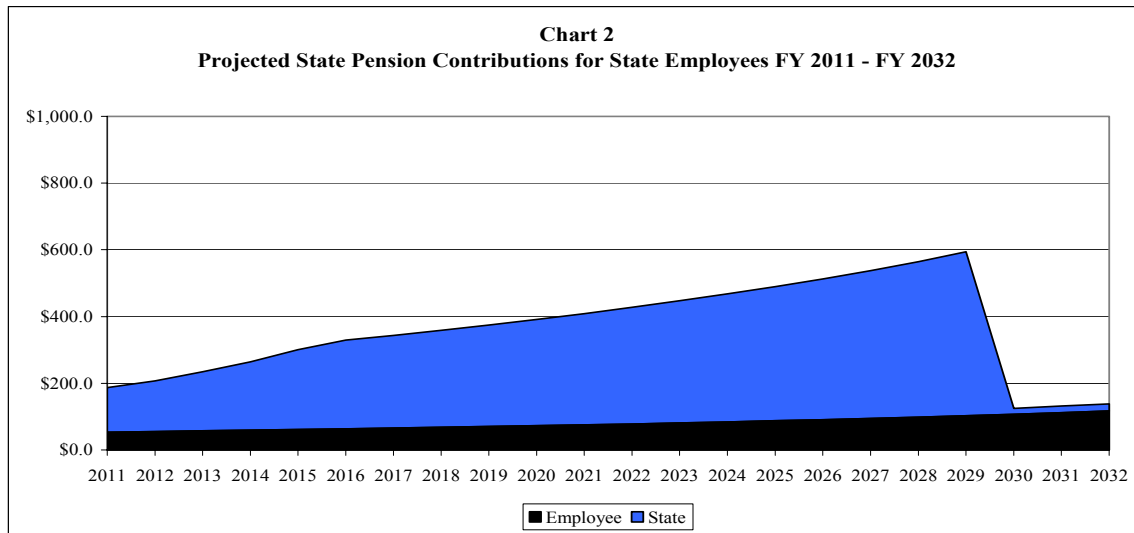
Table 8 shows the employer and employee contribution rates over the past decade for State employees and teachers (the employer rate for teachers is shared between the municipality and the State as noted on the table).

Since 2001, State employee contribution rates have remained at 8.75 percent of salary. The State’s contribution rate for the State employee retirement system has increased from a low of 5.59 percent in 2002 to 21.64 percent in 2011. A similar trend is seen in the Teacher Retirement Program, where teachers have contributed 9.5 percent of salary to the fund, and the State and local combined contribution has varied from 9.95 percent in 2002 to 23.88 percent in 2007. As noted above, the employer bears the risk when the actuarial assumptions are not met, which is reflected in the higher contribution rate.

Based on the most recent actuarial valuation (including changed assumptions relating to the most recent retirements related to Article 4 in the FY 2010 budget), the employer contribution rate is projected to increase to 41.82 percent of payroll in FY 2029, after which time the system is projected to be fully funded. The following charts show projected contributions for the State and State employees (Chart 2); and for teachers (Chart 3) from FY 2011 to FY 2032. After 2029, the employer contribution should represent the normal cost without the amortization of the unfunded liability.

Between FY 2011 and FY 2029, compensation in both plans is projected to approximately double, as are employee contributions (which are based on a constant percentage of employee compensation). Contributions by State employees are projected to increase from \$53.9 million in FY 2011 to \$102.8 million in FY 2029. Conversely, employer contributions for State employees are projected to increase 268.9 percent, from \$133.2 million in FY 2011 to \$491.4 million in FY 2029. In 2030, the contribution rate for the State is projected to decline to 1.44 percent of payroll.

During that time, the employer share (both State and local) for teachers is projected to increase from a total of \$212.1 million in FY 2011 to \$743.4 million in FY 2029, representing a growth rate of 250.5 percent over the time period. The contribution by teachers is projected to increase from \$100.4 million in FY 2011 to \$198.9 million in FY 2029. In 2030, the employer contribution rate is projected to decline to 1.11 percent of payroll.



Rhode Island Pension Calculations

State Employees and Teachers

Each category of employee – general State employees, teachers, judges, State Police, and municipal employees – has different calculations for retirement benefits; different contribution rates by both the employee and the State; and different retirement benefit eligibility requirements. The following outlines how Rhode Island calculates the pension benefit for a typical State employee. There are effectively three plans depending on date of hire since changes to new hires were made as of July 1, 2005 (Schedule A v Schedule B) and retirement eligibility as of September 30, 2009 (which modifies service credit accrual for Schedule A employees).

Provisions	Eligible to Retire as of September 30, 2009		Not Eligible to Retire Schedule A/B
	Schedule A	Schedule B	
Social Security Coverage	Yes	Yes	Yes
Vesting Requirement	10 Years	10 Years	10 Years
Average Final Compensation	Highest three consec. years	Highest three consec. years	Highest five consec. years
Normal Retirement Age	60/10; 00/28	65/10; 59/29	62; 65/10*
Formula Calculation			
- Years 1-10	1.70%	1.60%	For Schedule A employees: all credits earned prior to September 30, 2009 are preserved. Future accrual of credits will be earned under Schedule B.
- Years 11-20	1.90%	1.80%	
- Years 21-25	3.00%	2.00%	
- Years 26-30	3.00%	2.25%	
- Years 31-34	3.00%	2.50%	
- Year 35	2.00%	2.50%	
- Years 36-37	-	2.50%	
- Year 38	-	2.25%	
Maximum Benefit	80.00%	75.00%	
Early Retirement Option	None	55/20	Lower of 100% CPI or 3% 3.0 Years
Formula Calculation	NA	Actuarial	
COLA	3.0% Fixed	Lower of 100% CPI or 3%	
COLA Delay	2.5 Years	3.0 Years	

* There is a minimum retirement age for all state employees of 62 except for Schedule B employees who retire with less than 29 years of service credit; their retirement eligibility remains at 65 with 10 years of service credit. Correctional officers and nurses at MHRH have a minimum retirement age of 55 with 25 years of service. For all other employees, the new law provides a proportional downward revision in retirement age based on years of service.
Source: Employees' Retirement System of Rhode Island

Because the methods are similar but the variables applied differ in calculating retirement benefits, the following outlines the methodology and an example of how the retirement benefit would differ under the two schedules with a final average compensation of \$56,000 and the same calculations with an average final compensation of \$70,000 (note – these salaries represent estimated average salaries for state employees and teachers, respectively).

Schedule A applies to those who had at least 10 years of service as of July 1, 2005, about half of the active membership in the State Employee pension fund (one should note that most of the employees who retire now are in Schedule A). An eligible employee can collect benefits at any age as long as they have at least 28 years of service, or at age 60 with 10 years of service. The

maximum benefit for an employee is 80 percent, regardless of the number of years served. There are no penalties or adjustments for early retirement. There is a cost of living provision for those who retire, providing 3.0 percent compounding interest, with an initial delay for the COLA of at least 2 years.

Schedule B applies to those employees hired after July 1, 2005 or who had less than 10 years of service as of July 1, 2005 (approximately 3,500 employees). An eligible employee can collect benefits at age 59 with 29 years of service or at age 65 with 10 years of service. The maximum benefit for an employee is 75 percent, regardless of the number of years served. Employees may retire at age 55 with 20 years of service with an actuarially reduced benefit as well. There is a cost of living provision for those who retire, providing 100 percent of the CPI or 3.0 percent, whichever is less, with an initial delay for the COLA of 3 years.

As noted on Table 9, Schedule A employees who were not eligible to retire as of September 30, 2009 will accrue future service credits under the Schedule B plan although they will keep credits earned as of September 30, 2009. There were no changes to service credit accrual for Schedule B employees. For employees who were not eligible to retire as of September 30, 2009, average final compensation (AFC) is now calculated using the five highest years of compensation (v. the three highest years).

Years Worked	Schedule A (\$56,000)		Schedule A (\$70,000)		Schedule B (\$56,000)		Schedule B (\$70,000)	
	Accrual Rate/Yr	Total Credit	Accrual Rate/Yr	Total Credit	Accrual Rate/Yr	Total Credit	Accrual Rate/Yr	Total Credit
1 - 10	1.70%	17.00%	1.70%	17.00%	1.60%	16.00%	1.60%	16.00%
11 - 20	1.90%	36.00%	1.90%	36.00%	1.80%	34.00%	1.80%	34.00%
21 - 25	3.00%	51.00%	3.00%	51.00%	2.00%	44.00%	2.00%	44.00%
26 - 30	3.00%	66.00%	3.00%	66.00%	2.25%	55.25%	2.25%	55.25%
% AFC		66.00%		66.00%		55.25%		55.25%
Total		\$36,960		\$46,200		\$30,940		\$38,675

Source: Employees Retirement System; RIPEC calculations

NOTE: The 2009 General Assembly enacted pension changes that affect all employees NOT eligible to retire as of September 30, 2009. These changes affect the minimum retirement age, calculation of final average salary, COLA, service credit purchases, and disability provisions. In addition, the changes preserve Schedule A credits earned as of September 20, 2009 but move future accrual rates to Schedule B.

For example, under Schedule A, a Rhode Island State employee with 30 years of service, eligible to retire as of September 30, 2009, and an average final compensation of \$70,000 would receive estimated benefits of \$46,200, which would be approximately 66 percent of the retiree's average final compensation. As one can see from the calculation, Schedule A was designed as a "back-

loaded” program, where nearly 50 percent of the benefit was earned in the last ten years of service.

The same employee used in the first scenario would have a different pension benefit under Schedule B. Using the same assumptions as above, the employee would receive estimated benefits of \$38,675, or 55.3 percent of the retiree’s average final compensation. As one can see from this calculation, Schedule B is no longer as heavily “back-loaded” as Schedule A. In fact, given these assumptions, the pension benefit earned by the employee under Schedule B would be 83.7 percent of the value of the pension under Schedule A.

Table 11 shows how the pension benefit would be calculated for an employee with 15 years of service prior to September 30, 2009 and 30 total years of service, using the same salary assumptions as above. Estimated benefits in this scenario would equal 56.75 percent of the employee’s average final compensation, or \$31,780 per year for an employee with an AFC of \$56,000 and \$39,725 per year for an employee with an AFC of \$70,000. When compared to the original Schedule A, estimated benefits are 14.0 percent lower; however, estimated benefits are 2.7 percent higher than an employee with all credits earned under Schedule B.

Years Worked	Schedule A (\$56,000)		Schedule A (\$70,000)	
	Accrual Rate/Yr	Total Credit	Accrual Rate/Yr	Total Credit
<i>Credits Earned Under Schedule A</i>				
1 - 10	1.70%	17.00%	1.70%	17.00%
11 - 15	1.90%	26.50%	1.90%	26.50%
<i>Credits Earned Under Schedule B</i>				
16 - 20	1.80%	35.50%	1.80%	35.50%
21 - 25	2.00%	45.50%	2.00%	45.50%
26 - 30	2.25%	56.75%	2.25%	56.75%
% AFC		56.75%		56.75%
Total		\$31,780		\$39,725
<i>Percent of old Schedule A</i>		<i>86.0%</i>		<i>86.0%</i>
<i>Percent of Schedule B</i>		<i>102.7%</i>		<i>102.7%</i>
<small>Source: Employees Retirement System; RIPEC calculations</small>				

Judges

Up until enactment of the FY 2009 Appropriation Bill, justices eligible to retire from service in the Rhode Island Supreme Court, the Superior Court, the Family Court, the District Court or any combination of service among these courts, received either 75 percent of AFC (those on reduced pay, having worked 20 years, or served 10 years and reached age 65) or 100 percent of their AFC (those on full pay, having worked 20 years and have reached age 65, or have served for 15 years and reached the age of 70).

**Table 12
Rhode Island Retirement for Judges**

Provisions	Prior to July 2, 1997	July 2, 1997 - January 1, 2009	After Jan 1- June 30, 2009*	July 1, 2009 and After**
<u>Reduced Pay</u>				
Average Final Compensation	Salary at Retirement	Highest 3 Consecutive Years	Highest 3 Consecutive Years	Highest 5 Consecutive Years
Normal Retirement Age	20/0, 10/65	20/0, 10/65	20/0, 10/65	20/0, 10/65
Formula Calculation	75% of AFC	75% of AFC	70% of AFC	65% of AFC
<u>Full Pay</u>				
Average Final Compensation	Salary at Retirement	Highest 3 Consecutive Years	Highest 3 Consecutive Years	Highest 5 Consecutive Years
Normal Retirement Age	20/65 15/70	20/65 15/70	20/65 15/70	20/65 15/70
Formula Calculation	100% of AFC	100% of AFC	90% of AFC	80% of AFC
*Members take an additional 10% reduction to 80% if they wish to elect the spouse's death benefits (full pay), and a reduction to 60% for reduced pay.				
**Members take a 70% benefit if they wish to elect the spouse's death benefit (full pay), and reduction to 55% for reduced pay.				
Source: State Appropriations Act, H-7390 Substitute A as Amended and Enacted, Article 35; FY 2010 as Enacted				

Article 35 of the FY 2009 Appropriations Act (H-7390 Sub A as Enacted) instituted a number of changes to the retirement plans applicable to judges, depending on beginning date of service. First, for those engaged as a judge prior to January 1, 2009, the calculation of benefits remained unchanged. Members appointed on or after January 1, 2009 receive a 90.0 percent benefit (full pay), and take an additional 10.0 percent reduction to 80.0 percent if they wish to elect the spouse's death benefit. For judges on reduced pay, the benefits would be 70.0 percent, and reduced to 60.0 percent if they wish to elect the spouse's death benefit.

The FY 2010 Budget as Enacted made additional changes to the pension. Members appointed on or after July 1, 2009 would receive an 80.0 percent benefit (full pay), or a 70.0 percent benefit if they wish to elect the spouse's death benefit. For members on reduced pay, the benefits would be 65.0 percent, or a 55.0 percent benefit if they wish to elect the spouse's death benefit. In addition, the average final compensation calculation will be based on the five highest consecutive years of service.

State Police

The State Police pension fund is currently 79.6 percent funded, which represents a decline from 92.1 percent in 1998. The State currently contributes 26.03 percent of State Police salaries into their pension funds, while the employees contribute 8.75 percent. State Police officers hired prior to July 1, 2007 receive 50.0 percent of the officer's salary for the position from which he or she retired, once he or she has served either 20 years or has attained the age of 62 – whichever comes first.

Article 22 of the FY 2009 Appropriations Act (H-7390 Sub A as Enacted) instituted a number of changes to the retirement plans for the State Police. Any member of the State Police, other than the superintendent, who is hired on or after July 1, 2007 and who has served for 25 years, shall be entitled to a retirement allowance of 50.0 percent of the final salary. In addition, any member may serve up to a maximum of 30 years, and shall be allowed an additional amount equal to 3.0 percent for each completed year served after 25 years to a maximum retirement allowance not to exceed 65.0 percent of the final salary.

Recent Events and Proposed Changes to the Pension System

Over the past several years a number of changes have occurred within the State's pension systems that have affected the status and cost of the plans. One factor is the downsizing of the workforce that has occurred due to retirement incentives (such as revisions to post-retirement medical benefits). This has reduced the number of active members and increased the number of beneficiaries, increasing the liability and decreasing payroll, thus increasing the employer contribution rate.

However, the State has also enacted changes designed to reduce future costs, such as moving Schedule A employees to the credit accrual schedule for Schedule B employees as of September 30, 2009 and changing the average final salary calculation to the five highest consecutive years v. the three highest consecutive years. Below is a summary of the changes adopted as part of the FY 2010 Budget as Enacted (note: these changes only affect those employees not eligible to retire as of September 30, 2009).

- Establishes a minimum retirement age of 62 for State employees and teachers, with some exceptions. The minimum is then proportionally modified based on years of service in order to reduce the impact on employees that are closer to retirement.
- Bases average final compensation of the five highest consecutive years instead of the three highest consecutive years.
- Preserves credits earned under Schedule A as of September 30, 2009, and requires that all future service credits are earned under Schedule B.
- Purchased credits will add years of service credits but cannot be used to reduce retirement eligibility from age 62 and must be purchased at full actuarial cost after June 16, 2009.
- The Schedule A COLA is unchanged. Members ineligible to retire as of September 30, 2009 will be provided Schedule B COLA.
- Disability status must be documented to the Retirement Board. For individuals determined to be permanently and totally disabled, the current benefit of 66.66 percent of salary is continued. For individuals determined to be partially disabled and able to work another job, the benefit is reduced to 50.0 percent of salary.
- Changes to Judges' Pensions will only apply to those hired after July 1, 2009. Average final compensation will be based on the five highest consecutive years of service. Full pension benefits will be 80.0 percent of AFC and reduced pension benefits will be 65.0 percent of AFC.

As part of the FY 2010 Supplemental Budget, the Governor has submitted Article 16, which includes a number of further modifications to the pension system. This article eliminates the Cost-of-Living-Adjustment (COLA) for State employees, teachers, judges, and State Police who retire after September 30, 2009, with the exception of those employees who were eligible to retire prior to September 30, 2009. Furthermore, it does not prevent the General Assembly from annually reviewing and providing an ad hoc COLA to retired State employees not otherwise eligible up to the maximum amount of 3.0 percent or the CPI.

The article also provides that no supplemental contributions be made to the Retirement System for FY 2009, 2010 and FY 2011. Rhode Island General Law requires that for any fiscal year in which the actuarially determined State contribution rate for State employees or teachers is lower

than that for the prior fiscal year, the Governor shall include an appropriation to that system equal to 20.0 percent of the rate reduction for the State's contribution rate to be applied to the actuarial accrued liability of the system.

State Employees	\$10.2
State Police	0.4
Judges	0.2
Teachers - State Share	12.3
Teachers - Local Share	18.5
Total General Revenue Savings	\$41.7
SOURCE: Senate Fiscal Office "FY 2010 Supplemental Budget Analysis; State Budget Office	

Based on Budget Office estimates, this article would generate \$41.7 million in savings, \$18.5 million of which is by reducing education aid by the estimated local share of savings (in effect, if passed, the article would be net-neutral to municipalities). The General Assembly has not acted as of yet on any pension changes proposed in the Governor's FY 2010 Supplemental Budget.

National Comparison

This section is based on two recently released reports on state pension systems. The reports are from the PEW Center on the States, *The trillion dollar gap, Underfunded state retirement systems and the roads to reform*, released in February 2010; and the *2008 Comparative Study of Major Public Employee Retirement Systems* from the Wisconsin Legislative Council, released in December 2009.

Table 14
Actuarial and Accounting Information
2008 National Comparison*

	Number of Plans	Percent of Total		Number of Plans	Percent of Total
<u>Interest Assumption (1)</u>			<u>Economic Spread (2)</u>		
From 5%-7%	1	1%	Below 3.50%	1	1%
Over 7%-8%	63	72%	From 3.50%-4.50%	51	59%
Over 8%	21	24%	From 4.51%-5.00%	19	22%
Not determined or not applicable	2	2%	From 5.01%-5.50%	7	8%
			Not determined or not applicable	9	10%
<u>Wage Inflation (1)</u>			<u>Actuarial Methods (3)</u>		
Below 3.00%	2	2%	Entry Age	69	79%
From 3.00%-3.50%	44	51%	Unit Credit	14	16%
From 3.51%-4.00%	20	23%	Aggregate Cost	4	5%
From 4.01%-4.50%	12	14%	Method or Other		
Not determined	9	10%			

Note: The bolded numbers indicate where Rhode Island's Employee Retirement System falls

(1) Key economic assumptions are the interest assumption and wage inflation in determining the level of contribution rates.

(2) The difference between the wage inflation assumption and the interest assumption is often referred to as the "economic spread", which is the assumed real rate of return on invested assets above the wage inflation rate.

(3) An actuarial method is a procedure for determining the present value of pension benefits that will be paid in the future and allocating that value and the cost of the benefits to specific time periods. There are a number of accepted actuarial methods that presumably will reach the goal of fully funding all pension obligations as they become due, but they allocate costs in different ways during the period of employment of participants in the plan.

*Source: 2008 Comparative Study of Major Public Employee Retirement Systems, Wisconsin Legislative Council, December 2009

The Wisconsin Legislative Council surveyed 87 state plans (including Rhode Island) in its report that was released in December of 2009. Table 14 provides selected actuarial and accounting information about the surveyed plans. The interest assumption is also sometimes referred to as the "earnings assumption". Interest rate assumptions range from 7.0 percent to 8.5 percent. The majority of the plans surveyed by the Wisconsin Legislative Council (63 plans, or 72.0 percent) are between 7.1 percent and 8.0 percent. Rhode Island's ERS uses an interest assumption of 8.25 percent. A total of 21 other plans (24.0 percent of the total surveyed plans) uses an interest assumption of more than 8.0 percent.

A key assumption in pension planning is the assumption of the wage inflation rate or general salary increases in excess of those provided for merit or seniority. Wage inflations range from

2.5 percent to 4.5 percent. Rhode Island's ERS wage inflation is at 3.0 percent. Forty-four plans, or 51.0 percent, of all surveyed plans are between 3.0 percent and 3.5 percent.

Another key assumption in pension planning is the "economic spread", which is the difference between the wage inflation assumption and the interest assumption; or in other words, the assumed real rate of return on invested assets above the wage inflation rate. Rhode Island's rate is 5.25 percent, which is one of the highest among the 87 surveyed plans by the Wisconsin Legislative Council. Of the 87 plans, only two plans (Illinois SERS and Milwaukee City pension) had a larger spread than Rhode Island (5.50 percent). An additional four plans (Louisiana TRSL, Oregon PERS, Vermont SRS and TRS) had the same economic spread than Rhode Island.

Rhode Island's Employee Retirement System (ERS) is one of 69 plans (79 percent of the 87 surveyed plans) that use the entry age actuarial method. An actuarial method is a procedure for determining the present value of pension benefits that will be paid in the future and allocating that value and the cost of the benefits to specific time periods. There are a number of accepted actuarial methods that presumably will reach the goal of fully funding all pension obligations as they become due, but they allocate costs in different ways during the period of employment of participants in the plan.

According to the released report by the PEW Center on the States, *The trillion dollar gap, Underfunded state retirement systems and the roads to reform*, state systems, in aggregate, were 84 percent funded in FY 2008, slightly down from an 85 percent combined funding in FY 2006. In 2000, slightly more than half the states had fully funded pension systems. By 2006, the number had shrunk to six states, and in 2008, only four states (Florida, New York, Washington, and Wisconsin) had fully funded systems.

Furthermore, while only 19 states had funding levels below the 80 percent mark in FY 2006, 21 states (including Rhode Island) were funded below that level in 2008. In eight states (Connecticut, Illinois, Kansas, Kentucky, Massachusetts, Oklahoma, Rhode Island, and West Virginia) more than one-third of the total liability was unfunded. Of the 50 states, only two states - Illinois (54 percent) and Kansas (59 percent) - had a lower funding than Rhode Island's 61 percent.

Definition and Overview of Terms

A **Pension Plan** is a program to provide a benefit to employees who meet minimum requirements based on age and years of service to receive a portion of their salary post-employment. A pension plan represents a liability – an obligation to pay future benefits to employees. Pension plans acquire assets through contributions from employees and employers, as well as earnings on the assets invested. Assets grow when investments increase at a faster rate than assumed, benefits decline, or a combination of both. An unfunded liability occurs when liabilities exceed the assets available.

There are essentially two types of pension plans, which are very different from each other in terms of who bears the risk, how a benefit is calculated, how the funds are invested, and how they influence behavior.

A **Defined Benefit Plan** is a plan that promises a benefit to employees based on eligibility, years of service (often, under these types of plans, credit is given for outside service, such as that in the military), retirement age, and a salary base. This benefit is paid regardless of the performance of the assets in the pension fund. These plans are typically pre-funded by contributions from both employees and the employer. The plans typically have disability components, COLA provisions, and Social Security offset provisions. A defined benefit plan is generally considered a low risk to the employee in that the employer bears the risk and reward of the fund performance and actuarial performance, while the employees generally bear inflation risk and potential job loss before eligibility.

Because defined benefit plans provide guaranteed lifetime income to retirees, they provide more income for career employees which, in turn, increases the likelihood of longer service. However, this also means that, should an employee leave service prematurely, that employee stands to lose a significant investment. Therefore, defined benefit plans tend to encourage longer terms of service, reduce mobility, and can create a more expensive climate and workforce due to longer employment, which results in higher salaries and lower turnover.

Generally speaking, public employee defined benefit programs tend to have higher benefit levels than those in the private sector. In the public sector, employees participating in Social Security have a median accrual rate of 1.9 percent while those not participating in Social Security have an estimated rate of 2.2 percent, and private sector defined benefit employees have a 1.5 percent rate. These percentages are typically applied to each year of service and the final average salary. One should note that all private sector employees must participate in Social Security while public sector employee participation is not mandatory.

*A **defined benefit** pension plan promises a benefit to employees who meet a series of criteria.*

*A **defined contribution** plan promises a contribution to a retirement savings fund by the employer.*

*A **hybrid** plan attempts to take elements of both plans to spread the risk among employers and employees.*

A **Defined Contribution Plan** is a plan that promises a contribution to a retirement savings fund by the employer. Typically, the employer contributes a percentage of salary, often with a minimum contribution by the employee for the employer match. Most plans require workers to affirmatively elect to enroll in a defined contribution plan although an increasing number of plans automatically enroll employees (designed to increase participation). Private sector plans are almost entirely 401(k) plans.

The benefit amount is determined primarily by contribution rates and the rate of return on accumulated assets invested. Again, these plans are typically funded by contributions from both

There are essentially four types of defined contribution plans:

401(k) Plans permit primarily private sector employees to defer a portion of their pay to a qualified tax-deferred plan. Employers often make contributions to these plans, but the employee typically directs the investments of the funds.

401(a) Money purchase plans, with employee and employer contributions structured as mandatory or voluntary - the employer decides on the method of participant contribution, as well as whether participant contributions will be made on a pre-tax (picked-up contributions) or an after-tax basis. These types of plans are available to governmental units.

403(b) Plans permit public education employees to defer a portion of their pay to a qualified tax deferred plan. These funds are invested in annuity contracts through insurance companies or through mutual funds. Employers often make contributions to the plans.

457(b) Plans permit employees to defer their pay. Employees are immediately vested in the funds, which will not be taxed until the funds are paid from the plan.

the employee and the employer. However, the employee bears the risk (and reward) based on the asset performance in the funds. Whatever is in the fund is what is available for retirement. A distinct advantage of this type of plan is that it is portable. It can also be drawn down in installments or in one lump sum.

A **Hybrid Plan** is designed to distribute the share of risk and reward between employer and employee by combining components of a defined benefit with a defined contribution plan.

Annual required contributions (ARC) – Actuaries annually calculate a contribution amount that would maintain or improve the funding status of a pension plan, ensuring that the amounts set aside in reserve would not only cover current benefits but a portion of estimated unfunded liabilities. A government's ability to maintain its ARC is critical and determines whether or not the entity is keeping pace with benefits accumulated. Should a government contribute less than actuarially required, the assets in the pension fund would eventually be insufficient to meet obligations, and this cost will fall on future generations of taxpayers. The most common reason for a government to underfund its contribution is financial crisis. However, to minimize significant fluctuations in the ARC, state and local governments often use smoothing techniques,

which use the average of the plan's assets over a number of years to determine the contribution rates.

Funded ratio - represents the percentage of plan liabilities covered by the plan assets. Low ratios will eventually require additional funding, either from government or employee contributions. Most experts indicate that a funded ratio of 80 percent or better represents a relatively sound position for government pensions.

Unfunded Actuarial Accrued Liability (UAAL) – The dollar amount of benefits accrued for which no funds are set aside to cover. An unfunded liability indicates the degree of accumulated liabilities over assets. Unfunded liabilities can occur when state and local governments fail to make the full contribution to the fund, actual returns on investments of the assets are lower than assumed, or there is an increase in benefits. Demographic factors, such as age of retirement and longevity can increase the liability as well. Faltering pension assets due to low contributions, poor investment returns, and inaccurate demographic factors can translate into greater fiscal and budgetary problems for the future.

Cost of living provisions (COLA) – for pension benefits are designed to ensure that the benefit does not erode over time due to inflation costs. These provisions vary among the states, and differ if states have multiple tiers or schedules for their pension systems.