Agenda

ND Teachers' Fund for Retirement
Board Meeting

Thursday, October 24, 2013
1:00 pm

Peace Garden Room
State Capitol, Bismarck, ND

1. Call to Order and Approval of Agenda - Pres. Gessner
2. Approval of Minutes of September 26, 2013, Meeting – Pres. Gessner
3. 2013 Valuation Report – Kim Nicholl and Matt Strom, Segal
4. GASB, Moody's, and other pension issues- Kim Nicholl and Matt Strom, Segal
5. Legislative Update – Fay Kopp
6. 2011 Legislative Implementation – Shelly Schumacher
7. Annual TFFR Ends and Statistics Report – Shelly Schumacher
8. Annual TFFR Program Audit Report – Dottie Thorsen, Fay Kopp
9. SIB Search Committee Update – Treas. Schmidt
10. Consent Agenda – Disability Application
    *Executive Session possible if Board discusses confidential information under NDCC 15-39.1-30.
11. Other Business
12. Adjournment
    Next Board Meeting: January 23, 2014

TFFR Centennial Celebration – 4 pm
100 Years of Proud Service to ND Educators

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
SEPTEMBER 26, 2013, BOARD MEETING

BOARD MEMBERS PRESENT:	Mike Gessner, President Kirsten Baesler, State Superintendent Clarence Corneil, Trustee Kim Franz, Trustee Rob Lech, Trustee Mel Olson, Trustee Kelly Schmidt, State Treasurer
STAFF PRESENT:	Connie Flanagan, Fiscal & Investment Officer Fay Kopp, Interim Executive Director Darlene Roppel, Retirement Assistant Darren Schulz, Interim CIO Shelly Schumacher, Retirement Program Manager
OTHERS PRESENT:	Erica Cermak, NDRTA Janilyn Murtha, Attorney General's Office Kayla Pulvermacher, ND United

CALL TO ORDER:

Mr. Mike Gessner, President of the Teachers' Fund for Retirement (TFFR) Board of Trustees, called the board meeting to order at 1:00 p.m. on Thursday, September 26, 2013, at the State Capitol, Fort Totten Room, Bismarck, ND.

THE FOLLOWING MEMBERS WERE PRESENT REPRESENTING A QUORUM: PRESIDENT GESSNER, SUPT. BAESLER, MR. CORNEIL, MRS. FRANZ, MR. LECH, MR. OLSON, AND TREASURER SCHMIDT.

INTRODUCTION OF NEW BOARD MEMBER:

President Gessner welcomed Mr. Rob Lech, Superintendent of Jamestown Public Schools, appointed by Governor Dalrymple to represent active administrators. Mr. Lech gave a brief synopsis of his career.

APPROVAL OF AGENDA:

The Board considered the meeting agenda. President Gessner requested the addition of suggestions from the board for questions to be asked of the Chief Investment Officer (CIO) candidates at the State Investment Board (SIB) meeting to be held September 27, 2013.

SUPT. BAESLER MOVED AND MRS. FRANZ SECONDED TO APPROVE THE AGENDA WITH THE ADDITION OF INPUT FROM THE BOARD FOR QUESTIONS TO BE ASKED OF THE CIO CANDIDATES AT THE SIB MEETING SEPTEMBER 27, 2013.

AYES: MR. CORNEIL, TREASURER SCHMIDT, SUPT. BAESLER, MR. LECH, MRS. FRANZ, MR. OLSON, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

MINUTES:

The Board considered the minutes of the regular board meeting held July 25, 2013.

MRS. FRANZ MOVED AND MR. OLSON SECONDED TO APPROVE THE MINUTES OF THE REGULAR TFFR BOARD MEETING HELD JULY 25, 2013, AS PRESENTED.

AYES: MR. LECH, MR. OLSON, TREASURER SCHMIDT, MR. CORNEIL, SUPT. BAESLER, MRS. FRANZ, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

BOARD EDUCATION – FIDUCIARY DUTIES/ETHICS:

Ms. Jan Murtha, Attorney General's Office, presented information on the fiduciary duties of TFFR board members. Fiduciary responsibilities are set forth in the North Dakota Century Code (NDCC). Fiduciary duties include the duties of loyalty, impartiality, prudence, administration, skill, delegation, and prudent investor rule.

Board discussion followed.

The presentation is on file at the Retirement and Investment Office (RIO).

LEGISLATIVE UPDATE:

Mrs. Fay Kopp, Interim Executive Director and Chief Retirement Officer, updated the board on the interim Legislative Government Finance Committee which met on July 30, 2013. This committee is responsible for a study of existing and potential state employee retirement plans including an analysis of defined benefit and defined contribution plans and the consequences of transitioning from one to the other.

The Legislative Employee Benefits Programs Committee (LEBPC) held their first meeting of the interim on August 29, 2013. Basic information was provided by Mrs. Kopp about the TFFR plan, and Mr. Darren Schulz, Interim CIO, provided information on the SIB. The deadline for filing legislative proposals with this committee is April 1 of even numbered years. TFFR's actuary, Segal Company, will provide the 2013 Valuation report at the next LEBPC meeting in early November.

Mrs. Kopp distributed letters that have been received from retired members noting concerns with the lack of a retiree cost of living adjustment.

Board discussion followed.

ANNUAL INVESTMENT REPORT:

Mr. Schulz presented the annual investment review. Total fund investment performance for fiscal year ended June 30, 2013, was 13.63%.

The report is on file at RIO.

TREASURER SCHMIDT MOVED AND MR. CORNEIL SECONDED TO APPROVE THE 2013 ANNUAL INVESTMENT REPORT.

AYES: TREASURER SCHMIDT, SUPT. BAESLER, MR. CORNEIL, MRS. FRANZ, MR. OLSON, MR. LECH, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

The board recessed at 3:10 p.m. and reconvened at 3:20 p.m.

SIB UPDATE:

Mr. Schulz reviewed the agenda for the SIB meeting to be held September 28, 2013. The two finalists for the CIO position will be interviewed by the full board.

Mr. Schulz announced that Mrs. Connie Flanagan, Fiscal and Investment Officer, has accepted a position at the University of Mary, and her last day with RIO will be October 15, 2013. He expressed appreciation for the great job she has done and wished her well in her new job opportunity.

ANNUAL RIO BUDGET AND EXPENSE REPORT:

Mrs. Flanagan reviewed the annual RIO budget and expense report. The report is on file at RIO.

MR. OLSON MOVED AND MR. LECH SECONDED TO APPROVE THE ANNUAL RIO BUDGET AND EXPENSE REPORT.

AYES: MRS. FRANZ, MR. CORNEIL, MR. LECH, MR. OLSON, TREASURER SCHMIDT, SUPT. BAESLER, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

SIB SEARCH COMMITTEE UPDATE:

Treasurer Schmidt updated the board on the progress in hiring the SIB Executive Director/CIO. The final two candidates will be interviewed September 27, 2013.

Board discussion followed.

SIB AUDIT COMMITTEE UPDATE:

President Gessner gave an update on the Audit Committee activities. President Gessner reviewed the agenda for the next meeting to be held September 27, 2013. The auditors are on their third cycle of auditing all of the school districts. Due to the vacant positions in the RIO office, it will take longer to complete the work plan.

Board discussion followed.

TFFR POLICY CHANGES:

Mrs. Kopp brought four draft board policy changes before the Board for consideration as discussed at the July 2013 board meeting.

After review of each policy revision,

SUPT. BAESLER MOVED AND TREASURER SCHMIDT SECONDED TO APPROVE THE AMENDED POLICY B-5 "INVESTMENT POLICY STATEMENT."

AYES: MR. OLSON, MR. LECH, MRS. FRANZ, SUPT BAESLER, MR. CORNEIL, TREASURER SCHMIDT, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

MR. LECH MOVED AND SUPT. BAESLER SECONDED TO APPROVE THE AMENDED POLICY C-7 "EMPLOYER REPORTING ERRORS."

AYES: SUPT. BAESLER, MRS. FRANZ, MR. OLSON, TREASURER SCHMIDT, MR. LECH, MR. CORNEIL, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

TREASURER SCHMIDT MOVED AND MR. CORNEIL SECONDED TO APPROVE THE AMENDED POLICY C-8 "EMPLOYER REPORTS."

AYES: MRS. FRANZ, MR. LECH, TREASURER SCHMIDT, SUPT. BAESLER, MR. CORNEIL, MR. OLSON, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

MR. OLSON MOVED AND MRS. FRANZ SECONDED TO APPROVE THE AMENDED POLICY C-9 "HEAD START PROGRAM EMPLOYEES."

AYES: SUPT. BAESLER, MR. CORNEIL, MRS. FRANZ, MR. OLSON, TREASURER SCHMIDT, MR. LECH, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

TFFR CENTENNIAL:

Mrs. Kopp informed the board that TFFR’s centennial was recognized at the NDRTA annual convention in Fargo on August 28. In addition, ND United will celebrate TFFR’s 100-year anniversary at the NDU Common Core Assessment Conference on October 17, 2013, from 3:00-3:30 p.m. at Century High School. The North Dakota Council of Educational Leaders (NDCEL) will honor TFFR from 9:00-9:30 a.m. at their annual conference on October 18 at the Ramkota Inn. Mrs. Kopp will present a centennial slide show highlighting TFFR’s history. Board members are welcome to attend.

The TFFR Board will also observe their centennial at the October 24 board meeting. RIO staff is also invited to attend.

OTHER BUSINESS:

Mrs. Kopp commented on the board reading materials on public pension plans across the country.

The next board meeting will be held October 24, 2013. Segal will be presenting the results of the 2013 valuation.

ADJOURNMENT:

With no further business to come before the Board, President Gessner adjourned the meeting at 4:35 p.m.

Respectfully Submitted:

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Mr. Mike Gessner, President
Teachers’ Fund for Retirement Board

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Darlene Roppel
Reporting Secretary

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **October 17, 2013**

SUBJ: **2013 Valuation Report**

TFFR actuarial consultants, Kim Nicholl and Matt Strom, Segal Company, will be at the October TFFR Board meeting to present the 2013 valuation report. Enclosed is a copy of the report.

Please review and plan to discuss at the meeting.

Enclosure

North Dakota Teachers' Fund for Retirement

Actuarial Valuation and Review as of July 1, 2013

Segal Consulting

Segal Consulting

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October 24, 2013

Board of Trustees
North Dakota Teachers' Fund for Retirement
1930 Burnt Boat Drive P.O. Box 7100
Bismarck, ND 58507-7100

Dear Trustees:

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the North Dakota Teachers' Fund for Retirement (TFFR) as of July 1, 2013.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion the results presented also comply with the North Dakota Century Code, and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board (GASB). The undersigned are independent actuaries. All are Fellows of the Society of Actuaries, Enrolled Actuaries, and Members of the American Academy of Actuaries, and all are experienced in performing valuations for large public retirement systems. They all meet the Qualification Standards of the American Academy of Actuaries.

ACTUARIAL VALUATION

The primary purposes of the valuation report are to determine the adequacy of the current employer contribution rate, to describe the current financial condition of TFFR, and to analyze changes in TFFR's financial condition. In addition, the report provides information required by TFFR in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25) and it provides various summaries of the data. Valuations are prepared annually, as of July 1 of each year, the first day of TFFR's plan and fiscal year.

FINANCING OBJECTIVES

The member and employer contribution rates are established by statute. The member rate was increased from 7.75% to 9.75% effective July 1, 2012, and is scheduled to increase to 11.75% effective July 1, 2014. The employer rate was increased from 8.75% to 10.75% effective July 1, 2012, and is scheduled to increase to 12.75% effective July 1, 2014. The 11.75% member contribution rate and 12.75% employer contribution rate will remain in effect until TFFR is 100% funded on an actuarial basis. At that point, the employer and member contribution rates will revert to 7.75%.

The rates are intended to be sufficient to pay TFFR's normal cost and to amortize TFFR's unfunded actuarial accrued liability (UAAL) over a period of 30 years beginning July 1, 2013, although at any given time the statutory rates may be insufficient. A 30-year period is the maximum amortization period allowed by GASB 25 in computing the Annual Required Contribution.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

In order to determine the adequacy of the 10.75% statutory employer contribution rate, it is compared to the GASB 25 Annual Required Contribution (ARC). The ARC is equal to the sum of (a) the employer normal cost rate and (b) the level percentage of pay required to amortize the UAAL over a closed 30-year period that began July 1, 2013. For this calculation, payroll is assumed to increase 3.25% per year. As of July 1, 2013, the ARC is 10.26%, compared to 9.49% last year. This is less than the 10.75% rate currently required by law. The ARC calculation reflects the scheduled increases in member and employer contribution rates that will be effective July 1, 2014. This is a change from prior valuation reports where the ARC calculation did not reflect the scheduled contribution increases.

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) decreased from last year. The funded ratio at July 1, 2012 was 60.9%, while it is 58.8% as of July 1, 2013. Based on the market value of assets rather than the actuarial value of assets, the funded ratio increased to 61.4%, compared to 57.6% last year.

The plan has a net asset gain of $77 million from previous years that has not yet been recognized in the actuarial value of assets because of the five-year smoothing. This unrecognized asset gain is due to market gains during FY 2010, FY 2011 and FY 2013, offset by an asset loss in FY 2012. As these gains are recognized over the next four years, the funded ratio is expected to continue to improve, assuming the plan earns 8.00% in the future.

REPORTING CONSEQUENCES

TFFR is required to report in its Comprehensive Annual Financial Report (CAFR) for the current fiscal year ending June 30, 2013 that actual contributions received in FY 2013 were more than the ARC. The FY 2013 statutory rate of 10.75% was 113.3% of the 9.49% ARC determined by the last valuation. There are no other accounting consequences for the state or the other school districts that sponsor TFFR, since it is a cost-sharing, multiple-employer retirement system.

BENEFIT PROVISIONS

The actuarial valuation reflects the benefit and contribution provisions set forth in the North Dakota Century Code. These have not changed from the prior valuation.

ASSUMPTIONS AND METHODS

Actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by the Plan's actuary. On January 21, 2010, the Board adopted new assumptions, effective for the July 1, 2010 valuation. These actuarial assumptions and methods comply with the parameters for disclosure in GASB 25. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of the Plan.

Effective with the July 1, 2013 actuarial valuation, the Trustees adopted an Actuarial Funding Policy, which provides direction on how to calculate an Actuarially Determined Contribution (ADC). The ADC will be compared to statutory contribution rates as a measure of funding adequacy.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates, and funding periods.

DATA

Member data for retired, active, and inactive participants was supplied as of July 1, 2013, by the staff of the Retirement and Investment Office (RIO). We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. Asset information was also supplied by the RIO staff.

Sincerely,

Segal Consulting, a member of the Segal Group

By:

Kim Nicholl

Kim Nicholl, FSA, MAAA, EA
Senior Vice President and Actuary

Matthew A. Strom

Matthew A. Strom, FSA, MAAA, EA
Consulting Actuary

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SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

Significant Issues in the Valuation Year

1. Effective with the July 1, 2013 actuarial valuation, the Trustees adopted an Actuarial Funding Policy, which includes the following:
    - Actuarial Cost Method: The Entry Age Normal method shall be applied to the projected benefits in determining the Normal Cost and the Actuarial Accrued Liability. The Normal Cost shall be determined as a level percentage of pay on an individual basis for each active member based on the benefit provisions applicable to that member.
    - Asset Smoothing Method: The investment gains or losses of each valuation period, as a result of comparing the actual market return to the expected market return, shall be recognized in level amounts over 5 years in calculating the Actuarial Value of Assets. Deferred investment gains or losses cannot exceed a corridor of 20% of the Market Value of Assets (i.e., the Actuarial Value of Assets cannot be more than 120%, nor less than 80%, of the Market Value of Assets as of any valuation date).
    - Amortization Policy: The Unfunded Actuarial Accrued Liability shall be amortized over a "closed" 30-year period that began July 1, 2013.
2. Prior to adoption of the Actuarial Funding Policy, the Actuarial Cost Method used for valuation purposes was "Ultimate" Entry Age Normal with normal cost determined for each member based on the ultimate schedule of benefits (e.g., the normal cost for a Tier 1 Grandfathered member was based on the benefits applicable to Tier 2 members). The change in Entry Age Normal valuation approach resulted in a decrease in actuarial accrued liability of $11,150,759.
3. The employer statutory contribution rate for the fiscal year beginning July 1, 2013 under the North Dakota Century Code is equal to 10.75% of payroll for employers. Compared to the annual required contribution of 10.26% of payroll, the contribution sufficiency is 0.49% of payroll as of July 1, 2013.
4. The 2011 legislative changes included increases to the statutory contribution rates: 2% each for employer and member effective July 1, 2012 and an additional 2% each for employer and member effective July 1, 2014. Employer and member contributions will be reset to 7.75% each once the Fund reaches a 100% funded ratio, measured using the actuarial value of assets. The 10.26% annual required contribution stated above reflects the actuarial present value of the increased statutory contributions scheduled to occur July 1, 2014.
5. The funding ratio based on the actuarial value of assets over the actuarial accrued liability as of July 1, 2013 is 58.8%, compared to 60.9% as of July 1, 2012. This ratio is a measure of funding status, its history is a measure of funding progress, and is the ratio required to be reported under GASB 25. The total 8% increase in the statutory contribution rates is expected to improve the funding ratio of the plan over time.

6. For the year ended June 30, 2013, Segal has determined that the asset return on a market value basis was 13.4%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 2.7%. This represents an experience loss when compared to the assumed rate of 8%. As of June 30, 2013, the actuarial value of assets ($1.762 billion) represented 95.8% of the market value ($1.840 billion).

7. The portion of deferred investment gains and losses recognized during the calculation of the July 1, 2013 actuarial value of assets contributed to a loss of $91,132,324. In addition, the demographic and liability experience resulted in a $4,300,712 loss.

8. As mentioned above, the current method used to determine the actuarial value of assets yields an amount that is 95.8% of the market value of assets as of June 30, 2013. 95.8% falls within the 20% corridor, so no further adjustment to the actuarial value of assets is necessary. Guidelines in Actuarial Standard of Practice No. 44 (Selection and Use of Asset Valuation Methods for Pension Valuations) recommend that asset values fall within a reasonable range around the corresponding market value. The actuarial asset method complies with these guidelines.

9. This actuarial valuation report as of July 1, 2013 is based on financial data as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the cost of the Plan, while increases in asset values (in excess of expected) will decrease the cost of the Plan.

10. The Fund's cash flow (contributions minus benefit payments, refunds, and expenses) as a percentage of the market value of assets is -1.9% as of June 30, 2013, compared to -3.1% as of June 30, 2012. The scheduled increases in the employer and member contribution rates will continue to improve the cash flow percentage, assuming all other experience emerges as expected.

Summary of Key Valuation Results

	2013	2012
Demographic Data for Plan Year Beginning July 1:		
Number of retirees and beneficiaries	7,489	7,151
Number of inactive vested members	1,500	1,483
Number of inactive non-vested members	563	468
Number of active members	10,138	10,014
Total payroll supplied by System	$526,698,342	$505,285,069
Statutory Contributions (% of Payroll) for Plan Year Beginning July 1:		
Employer	10.75%	10.75%
Member	9.75%	9.75%
Assets:		
Market value	$1,839,583,960	$1,654,149,659
Actuarial value	1,762,321,644	1,748,080,771
Return on market value as determined by Segal	13.4%	-1.4%
Return on actuarial value	2.7%	-1.4%
Ratio of actuarial value to market value	95.8%	105.7%
Net cash flow % relative to market value	-1.9%	-3.1%
Actuarial Information:		
Normal cost %	10.15%	9.83%
Normal cost	$56,751,722	$52,667,248
Actuarial accrued liability	2,997,139,087	2,871,870,286
Unfunded actuarial accrued liability	1,234,817,443	1,123,789,515
Funded ratio	58.8%	60.9%
Effective amortization period*	28 years	25 years
GASB 25 Information:		
Annual required employer contribution rate for year beginning July 1*	10.26%	9.49%
Margin/(deficit)*	0.49%	1.26%
Gains/(Losses):		
Asset experience	-$91,132,324	-$169,448,005
Liability experience	-4,300,712	9,785,010
Benefit changes	0	0
Assumption/method changes	11,150,759	0
Total gain/(loss)	-$84,282,277	-$159,662,995

**Reflects increases in member and employer contribution rates effective July 1, 2014. Prior valuations did not reflect future increases in contribution rates. The effective amortization period and GASB 25 information shownabove for 2012 have been restated in this valuation report.*

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, inactive participants, retirees, and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the participant population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2004 – 2013

Year Ended June 30	Active Members	Inactive Vested Members	Inactive Non-vested Members	Retirees and Beneficiaries	Ratio of Actives to Retirees and Beneficiaries
2004	9,826	1,346	175	5,373	1.83
2005	9,801	1,377	168	5,586	1.75
2006	9,585	1,409	143	5,893	1.63
2007	9,599	1,439	142	6,077	1.58
2008	9,561	1,459	229	6,317	1.51
2009	9,707	1,490	292	6,466	1.50
2010	9,907	1,472	331	6,672	1.48
2011	10,004	1,463	407	6,933	1.44
2012	10,014	1,483	468	7,151	1.40
2013	10,138	1,500	563	7,489	1.35

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 10,138 active members with an average age of 43.2 and 13.2 average years of service. The 10,014 active members in the prior valuation had an average age of 43.7 and 13.7 average years of service.

Inactive Members

In this year's valuation, there were 1,500 participants with a vested right to a deferred or immediate vested benefit.

In addition, there were 563 participants entitled to a return of their employee contributions.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of June 30, 2013

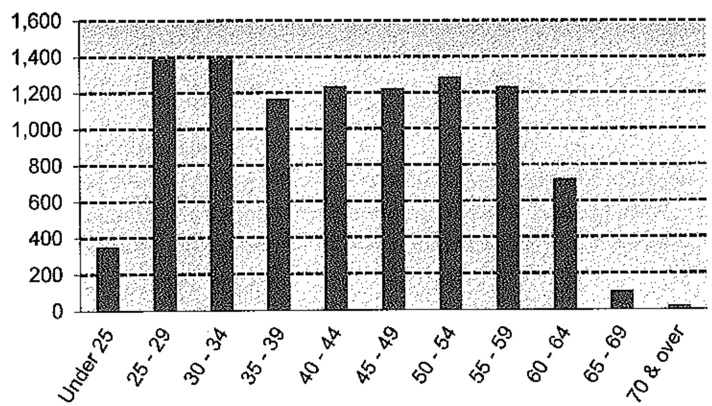
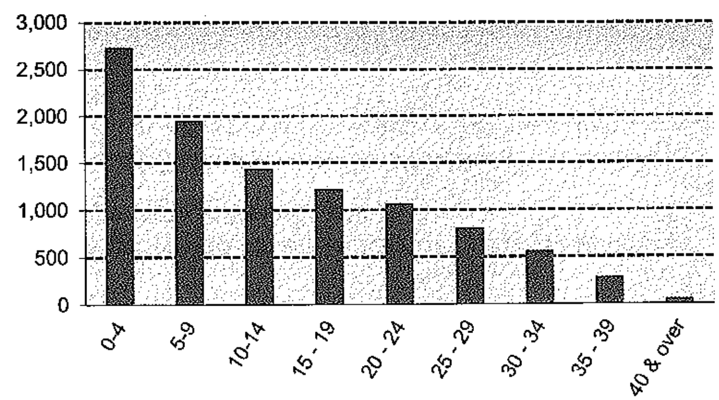


CHART 3

Distribution of Active Members by Years of Service as of June 30, 2013

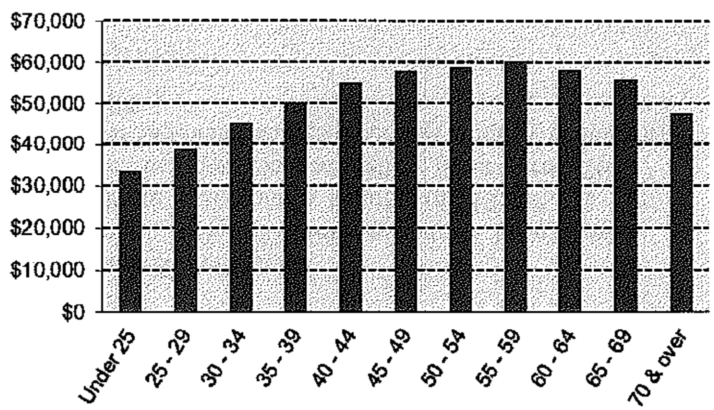


Distribution of Active Members by Age and Average Compensation

In this year's valuation, there were 10,138 active members with an average compensation of $51,953. The 10,014 active members in the prior valuation had an average compensation of $50,458.

CHART 4

Distribution of Active Members by Age and Average Compensation as of June 30, 2013



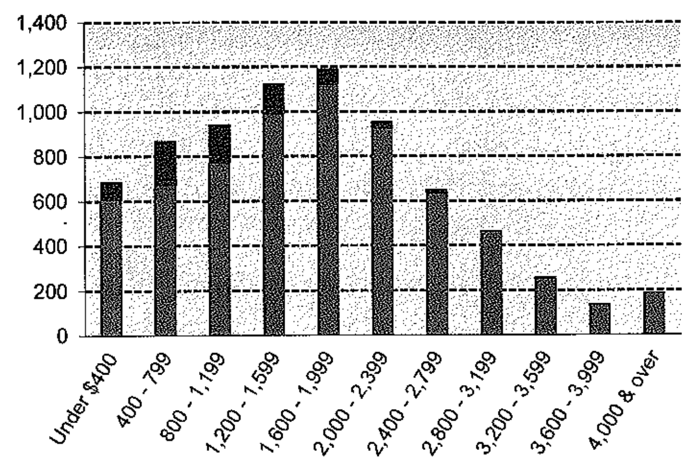
Retirees and Beneficiaries

As of June 30, 2013, 6,878 retirees and 611 beneficiaries were receiving total monthly benefits of $12,897,372. For comparison, in the previous valuation, there were 6,568 retirees and 583 beneficiaries receiving monthly benefits of $11,902,594.

These graphs show a distribution of the current retirees and beneficiaries based on their monthly amount and age, by type of pension.

CHART 5

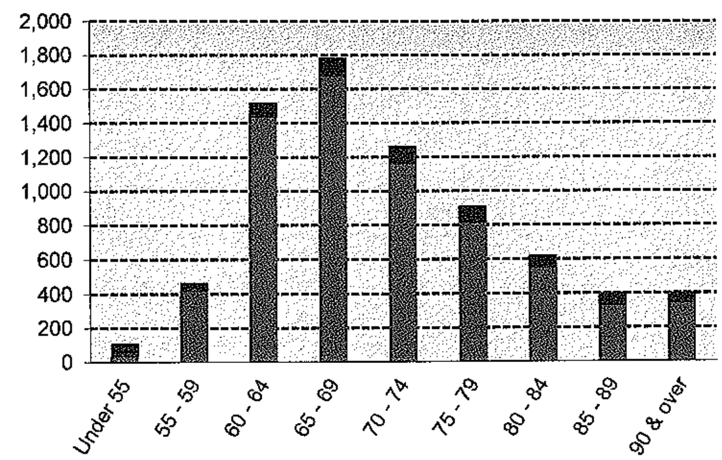
Distribution of Retirees and Beneficiaries by Type and by Monthly Amount as of June 30, 2013



Beneficiary
Disabled Retiree
Retiree

CHART 6

Distribution of Retirees and Beneficiaries by Type and by Age as of June 30, 2013

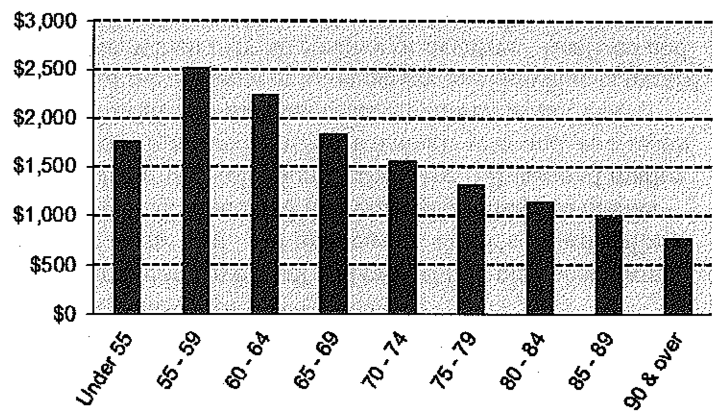


Distribution of Retirees and Beneficiaries by Age and Average Monthly Benefit Amount

As of June 30, 2013, the average monthly benefit amount among 6,878 retirees and 611 beneficiaries was $1,722. In the previous valuation, the average monthly benefit amount among 6,568 retirees and 583 beneficiaries was $1,664.

CHART 7

Distribution of Retirees and Beneficiaries by Age and Average Monthly Amount as of June 30, 2013



B. FINANCIAL INFORMATION

It is desirable to have level and predictable plan costs from one year to the next. For this reason, TFFR's Board utilizes an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date and the value from the prior year.

CHART 8

Determination of Actuarial Value of Assets for Years Ended June 30, 2013 and June 30, 2012

			2013		2012	
1.	Market value of assets available for benefits			$1,839,583,960		$1,654,149,659
2.	Calculation of unrecognized return*	Original Amount**	% Not Recognized		% Not Recognized	
	(a) Year ended June 30, 2013	$87,575,593	80%	$70,060,475		--
	(b) Year ended June 30, 2012	-159,245,999	60%	-95,547,599	80%	-$127,396,799
	(c) Year ended June 30, 2011	219,705,461	40%	87,882,184	60%	131,823,277
	(d) Year ended June 30, 2010	74,336,281	20%	14,867,256	40%	29,734,512
	(e) Year ended June 30, 2009	-640,460,510			20%	-128,092,102
	(f) Total unrecognized return			$77,262,316		-$93,931,112
3.	Actuarial value of assets (Current Assets): (1) – (2f)			$1,762,321,644		$1,748,080,771
4.	Actuarial value as a percent of market value: (3) ÷ (1)			95.8%		105.7%

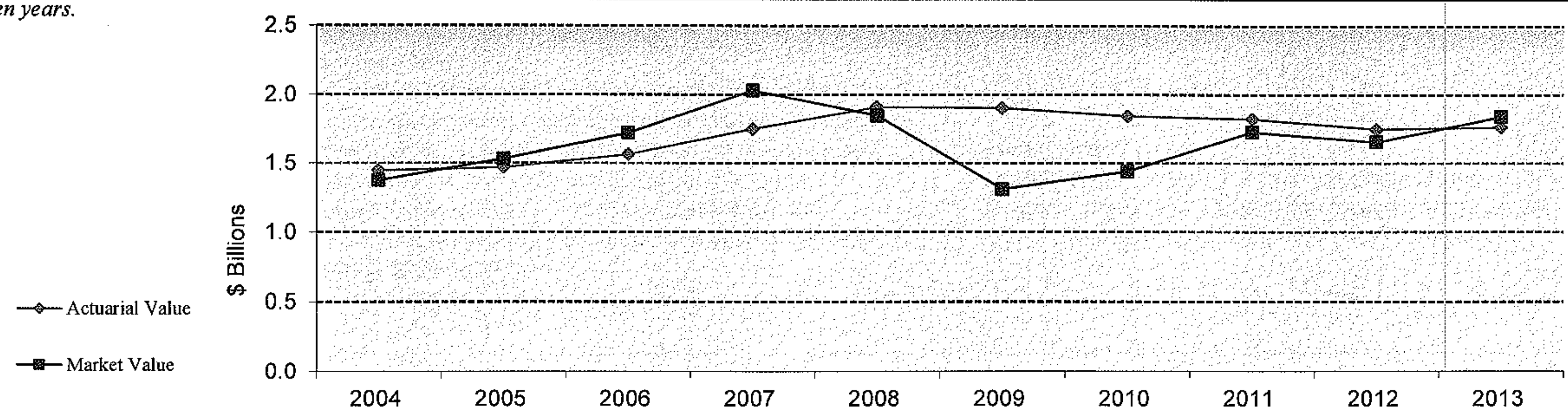
* *Recognition at 20% per year over 5 years*
***Total return minus expected return on market value*

Both the actuarial value and market value of assets are representations of the TFFR's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the TFFR's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past ten years.

CHART 9

Actuarial Value of Assets vs. Market Value of Assets as of June 30, 2004 – 2013



Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the TFFR's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 8.00%. The actual rate of return on an actuarial basis for the Plan Year ended June 30, 2013 was 2.74%.

Since the actual return for the year was less than the assumed return, the TFFR experienced an actuarial loss during the year ended June 30, 2013 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Actuarial Value Investment Experience for Year Ended June 30, 2013

1. Actual return	$47,388,243
2. Average value of assets	1,731,507,086
3. Actual rate of return: (1) ÷ (2)	2.74%
4. Assumed rate of return	8.00%
5. Expected return: (2) x (4)	$138,520,567
6. Actuarial gain/(loss): (1) – (5)	-$91,132,324

Because actuarial planning is long-term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last twenty years, including five-year, ten-year, fifteen-year and twenty-year averages.

Chart 11
Investment Return

Year Ended June 30	Market Value	Actuarial Value
1994	1.2%	7.0%
1995	13.6%	9.1%
1996	15.6%	11.3%
1997	18.5%	12.6%
1998	13.2%	12.6%
1999	11.5%	13.5%
2000	11.6%	13.3%
2001	-7.6%	8.6%
2002	-8.6%	3.0%
2003	2.1%	0.6%
2004	18.9%	1.9%
2005	13.3%	3.3%
2006	14.6%	8.5%
2007	20.4%	14.4%
2008	-7.0%	11.6%
2009	-27.0%	1.7%
2010	13.9%	-0.5%
2011	23.5%*	1.4%
2012	-1.4%*	-1.4%
2013	13.4%*	2.7%
Average Returns		
Last 5 years:	2.7%	0.8%
Last 10 years:	6.6%	4.1%
Last 15 years:	5.2%	5.4%
Last 20 years:	6.9%	6.6%

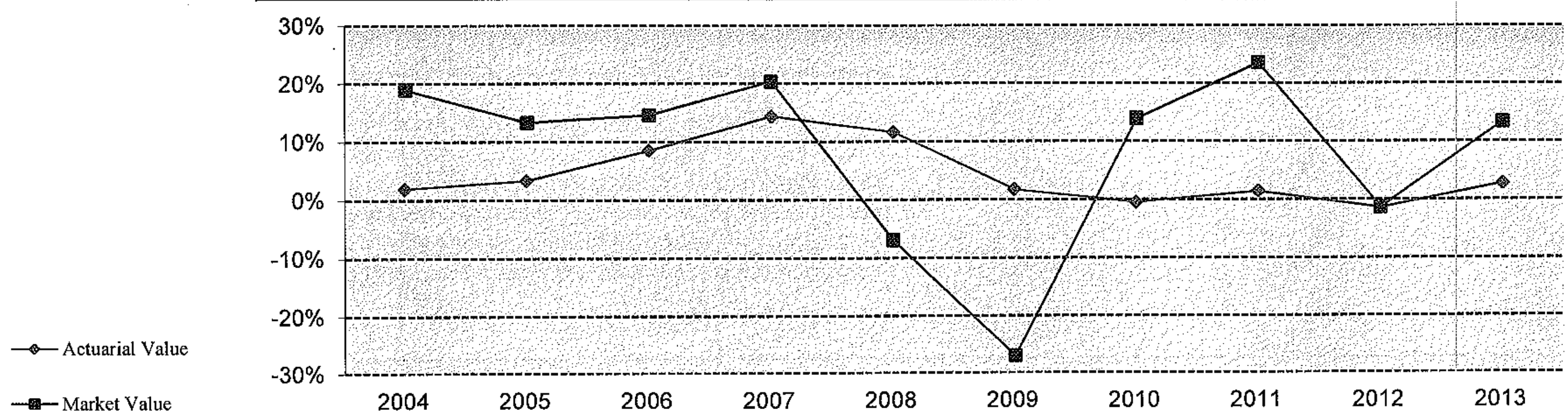
* *As determined by Segal.*

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2004 - 2013.

CHART 12

Market and Actuarial Rates of Return for Years Ended June 30, 2004 - 2013



Cash Flow

Cash flow is the difference between contributions and benefit payments, refunds, and expenses. Negative cash flow indicates that the payments made from the Fund exceed contributions made to the Fund.

The scheduled increases in the employer and member contribution rates will continue to improve the cash flow percentage, assuming all other experience emerges as expected.

Chart 13

History of Cash Flow

		Disbursements or Expenditures						
Year Ending June 30,	Contributions[1]	Benefit Payments	Refunds	Administrative Expenses	Total	Net Cash Flow for the Year[2]	Market Value of Assets	Net Cash Flow as Percent of Market Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2004	$63,655,362	($77,153,054)	($5,800,100)	($1,513,788)	($84,466,942)	($20,811,580)	$1,374,679,677	-1.5%
2005	64,072,881	(84,498,130)	(2,733,407)	(2,086,849)	(89,318,386)	(25,245,505)	1,530,194,427	-1.6%
2006	65,577,828	(91,818,092)	(2,697,308)	(1,484,591)	(95,999,991)	(30,422,163)	1,720,324,948	-1.8%
2007	66,362,099	(99,737,905)	(3,328,931)	(1,592,060)	(104,658,896)	(38,296,797)	2,029,777,412	-1.9%
2008	70,573,389	(106,456,334)	(5,500,476)	(1,639,521)	(113,596,331)	(43,022,942)	1,846,113,411	-2.3%
2009	74,380,980	(113,966,079)	(2,362,251)	(1,707,506)	(118,035,836)	(43,654,856)	1,309,716,730	-3.3%
2010	78,105,830	(124,472,154)	(2,557,240)	(1,902,796)	(128,932,190)	(50,826,360)	1,437,949,843	-3.5%
2011	84,923,250	(127,435,564)	(2,210,738)	(2,003,705)	(131,650,007)	(46,726,757)	1,726,179,317	-2.7%
2012	88,808,604	(135,250,568)	(2,479,194)	(1,596,976)	(139,326,738)	(50,518,134)	1,654,149,659	-3.1%
2013	115,849,348	(145,943,323)	(3,053,395)	(1,623,638)	(150,620,356)	(34,771,008)	1,839,583,960	-1.9%

[1] Column (2) includes employee and employer contributions, as well as any purchased service credits during the year.
[2] Column (7) = Column (2) + Column (6).

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include, but are not limited to:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net loss from this other experience for the year ended June 30, 2013 amounted to $4,300,712, which is less than 0.2% of the actuarial accrued liability.

The chart shows elements of the experience gain/(loss) for the most recent year.

CHART 14

Experience Due to Changes in Demographics for Year Ended June 30, 2013

1.	Turnover	-$1,175,441
2.	Retirement	4,320,969
3.	Deaths among retired members and beneficiaries	-4,991,418
4.	Salary/service increase for continuing actives	4,652,305
5.	Other decrements	-2,942,751
6.	Miscellaneous	-4,164,376
7.	Total	-$4,300,712

C. DEVELOPMENT OF EMPLOYER COSTS

The amount of Annual Required Contribution as defined by GASB is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the Annual Required Contribution of 10.26% of payroll.

GASB allows that the unfunded actuarial accrued liability be amortized over 30 years. Effective July 1, 2013, the amortization period is set to 30 years, but will decline by one year in each subsequent valuation. Effective July 1, 2013, this amount will be known as the Actuarially Determined Contribution.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 15

Annual Required Contribution (Actuarially Determined Contribution)

	Year Beginning July 1			
	2013		2012	
	Amount	% of Compensation	Amount	% of Compensation
1. Total normal contribution rate	$56,751,722	10.15%	$52,667,248	9.83%
2. Less: member contribution rate	54,539,537	-9.75%	52,247,477	-9.75%
3. Employer normal contribution rate	$2,212,185	0.40%	$419,771	0.08%
4. Employer normal contribution rate, adjusted for timing*	2,298,407	0.41%	436,131	0.08%
5. Actuarial accrued liability	2,997,139,087		2,871,870,286	
6. Actuarial value of assets	1,762,321,644		1,748,080,771	
7. Unfunded actuarial accrued liability: (5) - (6)	1,234,817,443		1,123,789,515	
8. Payment on unfunded actuarial accrued liability, adjusted for timing**	55,075,563	9.85%	50,395,015	9.41%
9. Annual Required Contribution (4) + (8)	$57,373,970	10.26%	$50,831,146	9.49%
10. Payroll supplied by System	$526,698,342		$505,285,069	
11. Payroll adjusted for one year's pay increase	$559,379,867		$535,871,564	

* *Contributions are assumed to be paid at the middle of every month.*

** *Reflects the actuarial present value of the increased statutory contributions scheduled to occur July 1, 2014. Prior valuations did not reflect future increases in contribution rates. The amount shown above for 2012 has been restated in this valuation report.*

The annual required contribution (actuarially determined contribution) as of July 1, 2013 is based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. It includes all changes affecting future costs, adopted benefit changes, actuarial gains and losses, and changes in the actuarial assumptions.

Reconciliation of Annual Required Contribution
The chart below details the changes in the annual required contribution from the prior valuation to the current year's valuation.

The chart reconciles the annual required contribution from the prior valuation to the amount determined in this valuation.

CHART 16

Reconciliation of GASB Annual Required Contribution from July 1, 2012 to July 1, 2013

Analysis of Change in GASB Annual Required Contribution		July 1, 2013		July 1, 2012
1. Prior Valuation		9.49%		13.16%
2. Increases/(decreases) due to:				
a. 30-year amortization period	-0.23%		-0.21%	
b. Change in covered payroll and normal cost	-0.20%		0.02%	
c. Employer contributions received at 10.75% rather than 9.49% for FY2013 or 13.16% for FY 2012	-0.14%		0.26%	
d. Liability experience	0.05%		-0.11%	
e. Investment experience	1.02%		1.98%	
f. Legislative changes*	0.00%		-5.61%	
g. Change in actuarial cost method	0.27%		0.00%	
h. Total		0.77%		-3.67%
3. Current valuation (1. + 2.h.)		10.26%		9.49%
4. Statutory employer contribution rate		10.75%		10.75%
5. Margin available [contribution sufficiency/(deficiency)] (4. – 3.)		0.49%		1.26%

* *The amount shown above for 2012 has been restated in this valuation report.*

D. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to the GASB is the historical comparison of the GASB annual required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded within the range of GASB reporting requirements. Chart 17 below presents a graphical representation of this information for TFFR.

The other critical piece of information regarding TFFR's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated under GASB standards. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

Although the GASB requires that the actuarial value of assets be used to determine the funded ratio, Chart 18 shows the funded ratio calculated using both the actuarial value of assets and the market value of assets.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits III, IV, and VI.

These graphs show key GASB factors.

CHART 17

Required Versus Actual Employer Contributions, Years Ended June 30

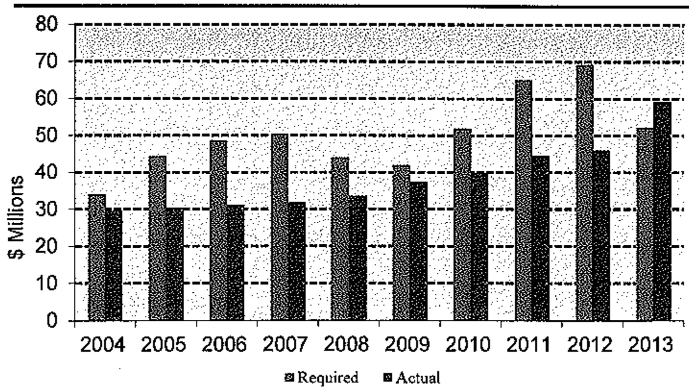
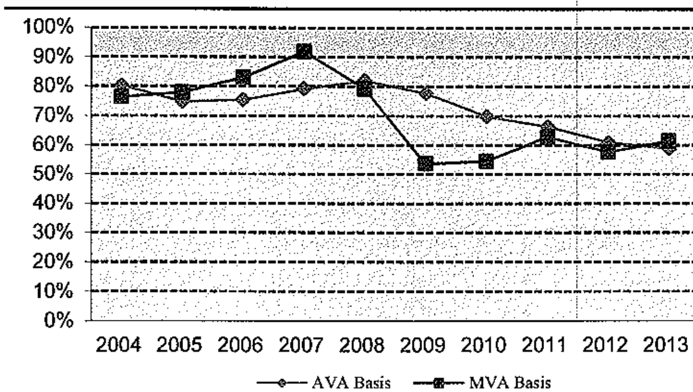


CHART 18

Funded Ratio, Years Ended June 30



Membership Data

Membership data was provided on electronic files sent by the RIO staff. Data for active members includes sex, birth date, service, salary for the prior fiscal year, and accumulated contributions. Data for inactive members was similar, but also includes the members' unreduced benefit. For retired members, data includes status (service retiree, disabled retiree or beneficiary), sex, birth date, pension amount, date of retirement, form of payment, and beneficiary sex and birth date if applicable.

While not verifying the correctness of the data at the source, we performed various tests to ensure the internal consistency of the data and its overall reasonableness.

Membership statistics are summarized in Exhibit A. Exhibit B summarizes certain active member data, and the age/service distribution of active members among tiers is shown in Exhibit C. Exhibit D-1 and Exhibit D-2 show the distribution of retirees by option and by benefit amount. Exhibit E shows a reconciliation of the member data from last year's valuation to this year's valuation.

The number of active members increased by 1.2% since last year, from 10,014 to 10,138. Note that normally the actual number of members employed during the year will be somewhat higher than the valuation count, since the July 1 count excludes most June and July retirees but does not include new teachers joining the system for the next school year.

Total payroll increased 4.2% since last year. For all comparative purposes, payroll is the amount supplied by the RIO staff (i.e., the 2012-2013 member pay), annualized. However, this figure is increased by one year's assumed pay increase to determine the member's rate of pay (and thus, total projected payroll) at July 1, 2013. Pay is assumed to change only at the beginning of a school/fiscal year.

Average pay increased by 3.0%, from $50,458 to $51,953. This includes the impact of replacing more highly paid members who retire with new teachers. The average increase in salary for the 9,164 continuing members (members active in both this valuation and the preceding valuation) was 5.7%.

The average age of active members decreased from 43.7 years to 43.2 years, and their average service decreased from 13.7 years to 13.2 years.

The table below shows additional information about the active membership this year and last year. Tier 1 Grandfathered members are those who will have 65 points as of June 30, 2013, or are at least age 55 and vested. Current Tier 1 members that do not meet these criteria are considered Tier 1 Non-grandfathered members. Tier 2 members are those hired or rehired after June 30, 2008. All new members in future years will enter as Tier 2 members, so the number will increase over time. The Tier 1 Grandfathered and Non-grandfathered population will decrease each year as members leave due to retirement, termination, death, and disability.

Active Statistics

	July 1, 2013	July 1, 2012
Plan Eligibility*		
a. Tier 1 Grandfathered	3,627	4,028
b. Tier 1 Non-grandfathered	3,474	3,592
c. Tier 2	3,037	2,394
d. Total	10,138	10,014
Benefit Eligibility		
a. Non-Vested	2,673	2,444
b. Vested	5,432	5,476
c. Early Retirement	967	973
d. Normal Retirement	1,066	1,121
e. Total	10,138	10,014

* *Number of Tier 1 Grandfathered and Non-grandfathered members is estimated based on the June 30, 2013 census data and eligibility requirements specified above.*

In addition, this table shows the number of members who are non-vested, those who are vested but not eligible for retirement, those who are eligible only for an early retirement (reduced) benefit, and those eligible for a normal (unreduced) benefit. As of the valuation date, 2,033 members were eligible for either reduced or unreduced retirement, a decrease over last year's figure of 2,094.

EXHIBIT A
Member Data

	July 1, 2013	July 1, 2012
1. Active members		
a. Males	2,599	2,578
b. Females	7,539	7,436
c. Total members	10,138	10,014
d. Total payroll supplied, annualized	$526,698,342	$505,285,069
e. Average salary	$51,953	$50,458
f. Average age	43.2	43.7
g. Average service	13.2	13.7
h. Total contributions with interest	$671,139,304	$647,935,914
i. Average contribution with interest	$66,200	$64,703
2. Vested inactive members		
a. Number	1,500	1,483
b. Total annual deferred benefits	$9,681,777	$9,268,229
c. Average annual deferred benefit	$6,455	$6,250
d. Average age	49.2	49.0
3. Non-vested inactive members		
a. Number	563	468
b. Employee contributions with interest due	$2,229,664	$1,540,967
c. Average refund due	$3,960	$3,293
d. Average age	38.6	38.5
4. Service retirees		
a. Number	6,754	6,448
b. Total annual benefits	$144,956,155	$133,723,928
c. Average annual benefit	$21,462	$20,739
d. Average age	70.8	70.8
5. Disabled retirees		
a. Number	124	120
b. Total annual benefits	$1,766,281	$1,634,376
c. Average annual benefit	$14,244	$13,620
d. Average age	61.0	61.2
6. Beneficiaries		
a. Number	611	583
b. Total annual benefits	$8,046,021	$7,472,820
c. Average annual benefit	$13,169	$12,818
d. Average age	73.5	73.2

EXHIBIT B
Historical Summary of Active Member Data

Year Ending June 30,	Active Members		Covered Payroll		Average Salary		Average Age	Average Service
	Number	Percent Increase/ (Decrease)	Amount in $ Millions	Percent Increase/ (Decrease)	$ Amount	Percent Increase/ (Decrease)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994	9,653	-1.6%	$262.4	0.8%	$27,187	5.2%	42.4	13.3
1995	9,663	0.1%	268.7	2.4%	27,803	2.3%	42.6	13.4
1996	9,797	1.4%	281.2	4.7%	28,708	3.3%	42.9	13.6
1997	10,010	2.2%	294.1	4.6%	29,382	2.3%	43.4	14.0
1998	9,896	-1.1%	298.4	1.5%	30,156	2.6%	43.5	14.0
1999	10,046	1.5%	314.6	5.4%	31,318	3.9%	44.0	14.4
2000	10,025	-0.2%	323.0	2.7%	32,223	2.9%	43.9	14.1
2001	10,239	2.1%	342.2	5.9%	33,421	3.7%	44.4	14.4
2002	9,931	-3.0%	348.1	1.7%	35,052	4.9%	44.5	14.4
2003	9,916	-0.2%	367.9	5.7%	37,105	5.9%	44.8	14.6
2004	9,826	-0.9%	376.5	2.3%	38,321	3.3%	44.9	14.7
2005	9,801	-0.3%	386.6	2.7%	39,447	2.9%	44.9	14.7
2006	9,585	-2.2%	390.1	0.9%	40,703	3.2%	44.8	14.6
2007	9,599	0.1%	401.3	2.9%	41,810	2.7%	44.7	14.5
2008	9,561	-0.4%	417.7	4.1%	43,684	4.5%	44.6	14.4
2009	9,707	1.5%	440.0	5.3%	45,327	3.8%	44.5	14.3
2010	9,907	2.1%	465.0	5.7%	46,937	3.6%	44.2	14.0
2011	10,004	1.0%	488.8	5.1%	48,857	4.1%	43.9	13.8
2012	10,014	0.1%	505.3	3.4%	50,458	3.3%	43.7	13.7
2013	10,138	1.2%	526.7	4.2%	51,953	3.0%	43.2	13.2

EXHIBIT C

Members in Active Service as of June 30, 2013
By Age, Years of Service, and Average Compensation

		Years of Credited Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	354	354	- -	- -	- -	- -	- -	- -	- -	- -
	$33,459	$33,459	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	1,390	1,109	281	- -	- -	- -	- -	- -	- -	- -
	38,865	37,833	$42,936	- -	- -	- -	- -	- -	- -	- -
30 - 34	1,394	457	754	182	1	- -	- -	- -	- -	- -
	45,454	40,005	47,258	$51,576	$61,559	- -	- -	- -	- -	- -
35 - 39	1,166	265	310	453	138	- -	- -	- -	- -	- -
	50,452	41,541	49,554	53,995	57,947	- -	- -	- -	- -	- -
40 - 44	1,238	177	195	267	471	125	3	- -	- -	- -
	55,086	44,414	49,860	55,483	59,288	$61,558	$59,876	- -	- -	- -
45 - 49	1,224	114	148	178	238	397	148	1	- -	- -
	58,105	41,219	49,607	54,628	60,835	63,180	65,808	$55,484	- -	- -
50 - 54	1,288	112	107	146	145	228	371	177	2	- -
	58,821	43,541	49,947	52,420	59,285	61,116	64,548	63,551	$80,061	- -
55 - 59	1,236	67	89	121	145	189	205	284	136	- -
	60,269	49,641	47,320	54,273	59,094	62,811	62,159	64,796	64,730	- -
60 - 64	722	58	61	78	73	115	68	92	135	42
	58,457	41,064	45,072	54,372	56,475	59,045	63,767	64,035	65,077	$69,247
65 - 69	103	12	6	13	17	14	12	9	10	10
	56,014	32,063	46,256	48,122	59,737	63,033	60,620	60,875	64,873	65,954
70 & over	23	9	2	1	1	3	2	2	1	2
	47,639	36,235	44,840	48,269	46,515	54,935	59,756	57,732	60,167	62,580
Total	10,138	2,734	1,953	1,439	1,229	1,071	809	565	284	54
	$51,953	$39,118	$47,515	$53,870	$59,244	$62,017	$64,020	$64,178	$64,992	$68,391

EXHIBIT D-1

Schedule of Annuitants by Type of Benefit as of June 30, 2013

Type of Benefits/ Form of Payment	Number	Annual Benefits Amount	Average Monthly Benefits
Service:			
Straight Life	2,916	$52,477,128	$1,500
100% J&S	2,449	62,746,013	2,135
50% J&S	531	12,808,881	2,010
5 Years C&L	22	298,046	1,129
10 Years C&L	177	3,152,466	1,484
20 Years C&L	85	1,855,668	1,819
Level	574	11,617,953	1,687
Subtotal:	6,754	$144,956,155	$1,789
Disability:			
Straight Life	103	$1,498,822	$1,213
100% J&S	12	154,535	1,073
50% J&S	6	78,008	1,083
5 years C&L	2	25,253	1,052
10 Years C&L	0	0	0
20 Years C&L	1	9,663	805
Level	0	0	0
Subtotal:	124	$1,766,281	$1,187
Beneficiaries:			
Straight Life	599	$7,893,870	$1,098
5 Years Certain Only	2	42,878	1,787
10 Years Certain Only	9	70,362	652
20 Years Certain Only	1	38,911	3,243
Subtotal:	611	$8,046,021	$1,097
Total:	7,489	$154,768,457	$1,722

EXHIBIT D-2

Schedule of Annuitants by Monthly Benefit as of June 30, 2013

Monthly Benefit Amount	Number of Members	Female	Male	Average Service
Under $200	224	163	61	6.48
200 - 399	464	358	106	12.41
400 - 599	454	359	95	17.89
600 - 799	417	318	99	22.19
800 - 999	410	302	108	23.96
1,000 - 1,199	533	396	137	26.80
1,200 - 1,399	535	361	174	28.60
1,400 - 1,599	591	389	202	29.70
1,600 - 1,799	607	399	208	29.71
1,800 - 1,999	586	378	208	30.74
2,000 - 2,199	522	345	177	30.66
2,200 - 2,399	435	260	175	31.66
2,400 - 2,599	349	218	131	32.64
2,600 - 2,799	303	184	119	33.43
2,800 - 2,999	261	151	110	33.39
3,000 - 3,199	206	125	81	34.45
3,200 - 3,399	147	77	70	34.63
3,400 - 3,599	114	56	58	34.24
3,600 - 3,799	83	39	44	35.27
3,800 - 3,999	58	29	29	35.56
4,000 & over	190	70	120	36.74
Total:	7,489	4,977	2,512	27.46

EXHIBIT E

Reconciliation of Member Data by Status for the Year Ending June 30, 2013

	Active Members	Vested Terminated Members	Non-Vested Terminated Members	Service Retirees	Disabled Retirees	Beneficiaries	Total
A. Number as of July 1, 2012	10,014	1,483	468	6,448	120	583	19,116
B. Additions and new hires	870	0	0	0	0	0	870
C. Participant movement							
1. Retirement	-377	-48	0	425	0	0	0
2. Disability	-10	-1	0	0	11	0	0
3. Died with beneficiary	-5	-1	0	-34	-3	43	0
4. Died without beneficiary	-4	-1	0	-83	-3	-16	-107
5. Terminated vested	-154	154	0	0	0	0	0
6. Terminated non-vested	-165	0	165	0	0	0	0
7. Refunds	-135	-30	-25	0	0	0	-190
8. Rehired as active	104	-56	-45	-2	-1	0	0
9. Expired benefits	0	0	0	0	0	0	0
10. New alternate payee	0	0	0	0	0	1	1
D. Number as of June 30, 2013	10,138	1,500	563	6,754	124	611	19,690

EXHIBIT F

Statement of Change in Plan Net Assets for Year Ended June 30, 2013

	As of June 30	
	2013	2012
A. Assets available at beginning of year	$1,654,149,659	$1,726,179,317
B. Revenue for the year		
1. Contributions		
a. Employee contributions	$53,824,557	$40,254,562
b. Employer contributions	59,352,860	46,126,193
c. Purchased service credit	2,641,019	2,417,995
d. Interest and penalties	30,912	9,854
e. Total	$115,849,348	$88,808,604
2. Income		
a. Interest, dividends, and other income	$41,018,935	$39,968,709
b. Investment expenses	-6,010,000	-5,661,973
c. Net	$35,008,935	$34,306,736
3. Net realized and unrealized gains/(losses)	185,196,374	-$55,818,260
4. Total revenue: (1e) + (2c) + (3)	$336,054,657	$67,297,080
C. Expenditures for the year		
1. Benefits and refunds		
a. Refunds	$3,053,395	$2,479,194
b. Regular annuity benefits	145,079,333	134,718,464
c. Partial lump-sum benefits paid	863,990	532,104
d. Total	$148,996,718	$137,729,762
2. Administrative and miscellaneous expenses	1,623,638	1,596,976
3. Total expenditures	$150,620,356	$139,326,738
D. Increase/(decrease) in net assets: (B4 – C3)	$185,434,301	-$72,029,658
E. Value of assets at end of year: (A + D)	$1,839,583,960	$1,654,149,659

EXHIBIT G

Statement of Plan Net Assets (Assets at Market or Fair Value)

	As of June 30	
	2013	**2012**
1. Cash and cash equivalents (operating cash)	$16,044,045	$14,370,170
2. Receivables:		
a. Member and employer contributions	$15,648,020	$11,076,423
b. Investment income	7,657,195	6,832,046
c. Miscellaneous receivables	5,172	5,472
d. Total receivables	$23,310,387	$17,913,941
3. Investments		
a. Invested cash	$24,369,601	$21,082,755
b. Domestic equities	397,390,800	539,857,054
c. International equities	553,882,067	272,892,686
d. Domestic fixed income	307,517,259	286,000,423
e. International fixed income	85,289,832	84,045,239
f. Real assets	340,442,941	315,768,906
g. Private equity	94,185,760	104,823,271
h. Total investments	$1,803,078,260	$1,624,470,334
4. Due from other funds	$616	$1,461
5. Equipment & software (net of depreciation)	$0	$762
6. Total assets: (1) + (2d) + (3h) + (4) + (5)	$1,842,433,308	$1,656,756,668
7. Liabilities		
a. Accounts payable	$2,183,134	$1,985,912
b. Accrued expenses	658,494	607,086
c. Due to other funds	7,720	14,011
d. Total liabilities	$2,849,348	$2,607,009
8. Total market value of assets available for benefits: (6) – (7d)	$1,839,583,960	$1,654,149,659

EXHIBIT G (continued)

Statement of Plan Net Assets (Assets at Market or Fair Value)

	As of June 30	
	2013	**2012**
9. Asset allocation (investments)		
a. Invested cash	1.4%	1.3%
b. Domestic equities	22.0%	33.2%
c. International equities	30.7%	16.8%
d. Domestic fixed income	17.1%	17.6%
e. International fixed income	4.7%	5.2%
f. Real estate	18.9%	19.4%
g. Private equity	5.2%	6.5%
h. Total investments	100.0%	100.0%

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability

	Year Ending June 30			
	2013		2012	
1. Unfunded actuarial accrued liability at beginning of year		$1,123,789,515		$927,152,884
2. Normal cost at beginning of year		52,667,248		50,760,259
3. Total contributions		115,849,348		88,808,604
4. Interest on:				
(a) Unfunded actuarial accrued liability and normal cost	$94,116,541		$78,233,051	
(b) Total contributions	4,188,790		3,211,070	
(c) Total interest: (4a) – (4b)		$89,927,751		$75,021,981
5. Expected unfunded actuarial accrued liability: (1) + (2) – (3) + (4c)		$1,150,535,166		$964,126,520
6. Changes due to (gain)/loss from:				
(a) Investments	$91,132,324		169,448,005	
(b) Demographics	4,300,712		-9,785,010	
(c) Total changes due to (gain)/loss: (6a) + (6b)		95,433,036		159,662,995
7. Change due to plan amendments		0		0
8. Change in actuarial cost method		-11,150,759		0
9. Unfunded actuarial accrued liability at end of year: (5) + (6c) + (7) + (8)		$1,234,817,443		1,123,789,515

EXHIBIT I
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners: The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Actuarial Cost Method: A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the Annual Required Contribution (ARC).

Actuarial Gain or Actuarial Loss: A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., TFFR's assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is:

a. Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)
b. Multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
c. Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB Statement No. 25, such as the funded ratio and the ARC.

Actuarial Value of Assets: The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.

Actuarially Determined: Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: The portion of the pension plan contribution, or ARC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB Statement No. 25. The ARC consists of the Employer Normal Cost and the Amortization Payment.

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Fund is calculated including:

(a) Investment return - the rate of investment yield that the Fund will earn over the long-term future;

(b) Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates - the rate or probability of retirement at a given age;

(d) Turnover rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;

(e) Salary increase rates - the rates of salary increase due to inflation and productivity growth.

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.

Funding Period or Amortization Period: The term "Funding Period" is used in two ways. First, it is the period used in calculating the Amortization Payment as a component of the ARC. Second, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 25 and GASB 27: Governmental Accounting Standards Board Statements No. 25 and No. 27. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.

Investment Return: The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

Margin: The difference, whether positive or negative, between the statutory employer contribution rate and the Annual Required Contribution (ARC) as defined by GASB 25.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability, or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount, or in relation to covered payroll, if the actuarial assumptions are realized.

Unfunded Actuarial Accrued Liability:

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date:

The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Pensioners as of the valuation date (including 611 beneficiaries in pay status)		7,489
2.	Members inactive during year ended June 30, 2013 with vested rights		1,500
3.	Members active during the year ended June 30, 2013		10,138
	Fully vested	7,459	
	Not vested	2,679	
4.	Other non-vested inactive members as of June 30, 2013		563

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability			
1. Active members			
a. Retirement benefits	$1,792,284,234	$426,466,552	$1,365,817,682
b. Disability benefits	26,802,708	10,457,759	16,344,949
c. Death benefits	18,019,016	7,054,639	10,964,377
d. Withdrawal benefits	106,146,549	127,830,552	-21,684,003
e. Total	$1,943,252,507	$571,809,502	$1,371,443,005
2. Inactive vested members	71,668,283	--	71,668,283
3. Inactive non-vested members	2,373,168	--	2,373,168
4. Retirees and beneficiaries	1,551,654,631	--	1,551,654,631
5. Total	$3,568,948,589	$571,809,502	$2,997,139,087
B. Determination of Unfunded Actuarial Accrued Liability			
1. Actuarial accrued liability			$2,997,139,087
2. Actuarial value of assets			1,762,321,644
3. Unfunded actuarial accrued liability: (1) – (2)			$1,234,817,443

EXHIBIT II

Actuarial Balance Sheet

	July 1, 2013	July 1, 2012
A. Assets		
1. Current Assets		
a. Market Value	$1,839,583,960	$1,654,149,659
b. Adjustment for actuarial value	-77,262,316	93,931,112
c. Actuarial value of assets	$1,762,321,644	$1,748,080,771
2. Actuarial present value of future contributions		
a. Member contributions*	$661,739,495	$614,031,279
b. Employer normal costs	-89,929,993	-84,619,138
c. Unfunded actuarial accrued liability	1,234,817,443	1,123,789,515
d. Total	$1,806,626,945	$1,653,201,656
3. Total (1c + 2d)	$3,568,948,589	$3,401,282,427
B. Liabilities (Present Value of Projected Benefits)		
1. Retirees and beneficiaries	$1,551,654,631	$1,429,018,382
2. Inactive members	74,041,451	69,574,407
3. Active members	1,943,252,507	1,902,689,638
4. Total	$3,568,948,589	$3,401,282,427

**Reflects member contribution rate increases from 9.75% to 11.75% effective July 1, 2014.*

EXHIBIT III

Schedule of Employer Contributions (GASB)

	GASB 25 Annual Required Contribution (ARC)		Actual Employer Contribution		Percentage of GASB ARC Contributed
Fiscal Year	% of Payroll[1]	Amount[2]	% of Payroll	Amount	[(5)/(3)]
(1)	(2)	(3)	(4)	(5)	(6)
2004	8.94%	$34,186,080	7.75%	$29,635,584	86.7%
2005	11.34%	44,471,740	7.75%	30,388,265	68.3%
2006	12.12%	48,747,189	7.75%	31,170,851	63.9%
2007	12.29%	50,532,462	7.75%	31,865,466	63.1%
2008	10.15%	44,114,585	7.75%	33,683,550	76.4%
2009	9.24%	41,986,174	8.25%	37,487,655	89.3%
2010	10.78%	52,053,217	8.25%	39,836,646	76.5%
2011	12.79%	65,112,696	8.75%	44,545,433	68.4%
2012	13.16%	69,373,794	8.75%	46,126,193	66.5%
2013	9.49%[3]	52,396,153	10.75%	59,352,860	113.3%

1 The GASB ARC for each fiscal year is based on the actuarial valuation as of the beginning of the year. Therefore, the FY 2013 ARC is based on the July 1, 2012 valuation. The ARC is defined as the contribution rate required to pay the employer normal cost and to amortize the unfunded actuarial accrued liability over a 30-year period as a level percentage of payroll, but not less than the statutory contribution rate. For FY 2005 and prior years, the unfunded actuarial accrued liability is amortized over a 20-year period as a level dollar amount.

2 The dollar amount of the ARC is based on actual payroll for the year. The FY 2013 ARC shown above differs from the estimated dollar amount shown in the July 1, 2012 actuarial valuation report because of differences between estimated and actual FY 2013 payroll.

3 The FY 2013 ARC reflects the actuarial present value of the increased statutory contributions scheduled to occur July 1, 2014 and has been restated in this valuation report.

EXHIBIT IV

Schedule of Funding Progress (GASB)

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded/ Accrued Liability (UAAL) (3) – (2)	Funded Ratio (2) / (3)	Annual Covered Compensation	UAAL as a % of Compensation (4) / (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
07/01/2004	$1,445,600,000	$1,800,400,000	$354,800,000	80.3%	$376,500,000	94.2%
07/01/2005	1,469,700,000	1,965,200,000	495,500,000	74.8%	386,600,000	128.2%
07/01/2006	1,564,000,000	2,073,900,000	509,900,000	75.4%	390,100,000	130.7%
07/01/2007	1,750,100,000	2,209,300,000	459,200,000	79.2%	401,300,000	114.4%
07/01/2008	1,909,500,000	2,330,600,000	421,200,000	81.9%	417,700,000	100.8%
07/01/2009	1,900,327,834	2,445,896,710	545,568,876	77.7%	439,986,705	124.0%
07/01/2010	1,841,960,220	2,637,165,045	795,204,825	69.8%	465,007,110	171.0%
07/01/2011	1,822,598,871	2,749,751,755	927,152,884	66.3%	488,764,292	189.7%
07/01/2012	1,748,080,771	2,871,870,286	1,123,789,515	60.9%	505,285,069	222.4%
07/01/2013	1,762,321,644	2,997,139,087	1,234,817,443	58.8%	526,698,342	234.4%

Note: Numbers for 7/1/2004 – 7/1/2008 valuation dates are rounded

Exhibit V
Determination of Contribution Sufficiency

	July 1, 2013	
A. Statutory Contributions	**Percent of Payroll**	**Dollar Amount**
1. Member contributions*	9.75%	$54,539,537
2. Employer contributions*	10.75%	60,133,336
3. Total	20.50%	$114,672,873
B. Actuarially Determined Contribution	**Percent of Payroll**	**Dollar Amount**
1. Gross Normal Cost:		
(a) Retirement	7.61%	$42,544,150
(b) Disability	0.17%	977,509
(c) Death	0.12%	665,851
(d) Deferred termination benefit and refunds	2.25%	12,564,212
(e) Total	10.15%	56,751,722
2. Less member contribution rate	9.75%	$54,539,537
3. Employer normal cost rate: (1e) – (2)	0.40%	2,212,185
4. Employer normal cost rate, adjusted for timing	0.41%	2,298,407
5. Unfunded actuarial accrued liability rate, adjusted for timing**	9.85%	55,075,563
6. Total: (4) + (5)	10.26%	57,373,970
C. Contribution Sufficiency / (Deficiency): (A.2) – (B.6)	0.49%	$2,759,366
Projected annual payroll for fiscal year beginning on the valuation date		559,379,867

** Scheduled to increase by 2% each for member and employer (4% in total) effective July 1, 2014.*
*** Reflects the actuarial present value of the increased statutory contribution rates scheduled to occur July 1, 2014.*

EXHIBIT VI
Solvency Test

	July 1, 2013	July 1, 2012
1. Actuarial accrued liability (AAL)		
a. Active member contributions	$671,139,304	$647,935,914
b. Retirees and beneficiaries	1,551,654,631	1,429,018,382
c. Active and inactive members (employer financed)	774,345,152	794,915,990
d. Total	$2,997,139,087	$2,871,870,286
2. Actuarial value of assets	1,762,321,644	1,748,080,771
3. Cumulative portion of AAL covered		
a. Active member contribution	100.0%	100.0%
b. Retirees and beneficiaries	77.6%	77.0%
c. Active and inactive members (employer financed)	0.0%	0.0%

EXHIBIT VII

Supplementary Information Required by the GASB

Valuation date	July 1, 2013
Actuarial cost method	Entry Age Normal cost method
Amortization method	Level percent of payroll, assuming payroll increases of 3.25% per annum
Amortization period	30-year closed period, effective July 1, 2013
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period. The actuarial value is further adjusted, if necessary, to be within 20% of the market value.
Actuarial assumptions:	
Investment rate of return	8.00% per annum
Projected salary increases	Rates of 4.50% to 14.75%
Inflation	3.00%
Cost of living adjustments	None

EXHIBIT VIII
Summary of Assumptions and Methods

Investment Return Rate: 8.00% per annum, compounded annually, equal to an assumed 3.00% inflation rate plus a 5.65% real rate of return, less 0.65% for expected investment and administrative expenses. (Adopted July 1, 1990; allocation among inflation, real rate of return, and expenses modified effective July 1, 2010.)

Mortality Rates:

Post-Termination Non-Disabled*: GRS tables as shown below. (Adopted effective July 1, 2010)
i. 80% of GRS Table 378
ii. 75% of GRS Table 379

Post-Retirement Disabled*: RP- 2000 Disabled-Life tables for Males and Females multiplied by 80% and 95% respectively. (Adopted effective July 1, 2010)

Number of Deaths per 100				
	Male Annuitants		Female Annuitants	
Age	Nondisabled	Disabled	Nondisabled	Disabled
20	0.044	1.806	0.023	0.708
25	0.057	1.806	0.023	0.708
30	0.069	1.806	0.028	0.708
35	0.073	1.806	0.039	0.708
40	0.092	1.806	0.057	0.708
45	0.136	1.806	0.078	0.708
50	0.222	2.318	0.115	1.096
55	0.381	2.835	0.283	1.572
60	0.358	3.363	0.354	2.075
65	0.457	4.014	0.327	2.662
70	1.198	5.007	0.672	3.575

Active Mortality*: The non-disabled post-termination mortality rates multiplied by 60% for males and 40% for females. (Adopted effective July 1, 2010.)

*The mortality tables above reasonably reflect the projected mortality experience of the Fund as of the measurement date. As of the most recent experience study, the ratio of actual to the expected deaths was 118% for males and 115% for females (116% and 121% for males and females for post-disabled mortality). This provides a sufficient margin for future mortality improvement.

Retirement Rates:

The following rates of retirement are assumed for members eligible to retire. (Adopted effective July 1, 2010.)

	Unreduced Retirement *		Reduced Retirement	
Age	Male	Female	Male	Female
50	25.00%	15.00%		
51	25.00%	15.50%		
52	25.00%	16.00%		
53	25.00%	16.50%		
54	25.00%	17.00%		
55	20.00%	17.50%	1.50%	1.50%
56	20.00%	18.00%	1.50%	1.50%
57	20.00%	18.50%	1.50%	1.50%
58	20.00%	19.00%	1.50%	1.50%
59	20.00%	19.50%	1.50%	1.50%
60	20.00%	20.00%	4.00%	3.00%
61	20.00%	20.00%	4.00%	3.00%
62	45.00%	35.00%	9.00%	8.00%
63	35.00%	30.00%	7.00%	12.00%
64	35.00%	30.00%	10.00%	15.00%
65	40.00%	30.00%		
66	30.00%	30.00%		
67	30.00%	30.00%		
68	30.00%	30.00%		
69	30.00%	30.00%		
70	25.00%	25.00%		
71	25.00%	25.00%		
72	25.00%	25.00%		
73	25.00%	25.00%		
74	25.00%	25.00%		
75	100.00%	100.00%		

* If a member reaches eligibility for unreduced retirement before age 65 under the rule of 85 (Grandfathered Tier 1) or the Rule of 90/Age 60 (Non-grandfathered Tier 1 and Tier 2), 10% is added to the rate just at the age the member becomes first eligible for an unreduced retirement benefit.

Disability Rates:

Shown below for selected ages. (Adopted effective July 1, 2010.)

Age	Rates
20	0.011%
25	0.011%
30	0.011%
35	0.011%
40	0.033%
45	0.055%
50	0.088%
55	0.154%
60	0.297%

Termination Rates:

Termination rates based on service, for causes other than death, disability, or retirement. (Adopted effective July 1, 2010.)

Termination Rates*		
Service	**Male**	**Female**
0	33.00%	30.00%
1	15.00%	15.00%
2	12.00%	10.00%
3	9.00%	8.50%
4	8.00%	7.00%
5	7.00%	6.00%
6	6.00%	5.00%
7	5.00%	4.50%
8	4.00%	4.25%
9	3.75%	4.00%
10	3.50%	3.50%
11	3.25%	3.25%
12	3.00%	3.00%
13	2.75%	2.75%
14	2.50%	2.50%
15-19	1.25%	2.00%
20-24	1.25%	1.50%
25-28	1.25%	0.75%
29 & over	0.00%	0.00%

** Termination rates cut out at first retirement eligibility*

Salary Increase Rates:

Inflation rate of 3.00% plus productivity increase rate of 1.50%, plus step-rate/promotional increase as shown below. (Adopted effective July 1, 2010.)

Years of Service	Annual Step-Rate Promotional Component	Annual Total Salary Increase
0	10.25	14.75
1	3.50	8.00
2	3.25	7.75
3	3.00	7.50
4	2.75	7.25
5	2.50	7.00
6	2.25	6.75
7	2.00	6.50
8	1.75	6.25
9	1.75	6.25
10	1.50	6.00
11	1.50	6.00
12	1.25	5.75
13	1.25	5.75
14	1.00	5.50
15	1.00	5.50
16	0.75	5.25
17	0.75	5.25
18	0.75	5.25
19	0.50	5.00
20	0.50	5.00
21	0.50	5.00
22	0.50	5.00
23	0.25	4.75
24	0.25	4.75
25 & over	0.00	4.50

Payroll Growth Rate:

3.25% per annum. This assumption does not include any allowance for future increase in the number of members. (Adopted effective July 1, 2010.)

Percent Married:

For valuation purposes, 75% of members are assumed to be married. Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses. (Adopted effective July 1, 1992.)

Percent Electing a Deferred Termination Benefit:	Terminating members are assumed to elect the most valuable benefit at the time of termination. Termination benefits are assumed to commence at the first age at which unreduced benefits are available. (Adopted effective July 1, 1990.)
Provision for Expenses:	The assumed investment return rate represents the anticipated net rate of return after payment of all administrative and investment expenses. These expenses are expected to reduce the gross investment return rate by 0.65%. (Adopted effective July 1, 2010.)
Asset Valuation Method:	The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (or less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The actual investment return for this purpose is determined net of all investment and administrative expenses. The actuarial value is further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Normal cost and actuarial accrued liability are calculated on an individual basis and are allocated by salary, with normal cost determined as if the current benefit provisions had always been in effect. Entry age is determined as the age at member's enrollment in TFFR. The actuarial accrued liability is the difference between the total present value of future benefits and the actuarial present value of future normal costs. The unfunded actuarial accrued liability (UAAL) is the excess of the actuarial accrued liability over the actuarial value of assets.
Amortization Period and Method:	The GASB Annual Required Contribution (ARC) is determined as the sum of (a) the employer normal cost rate, and (b) a level percentage of payroll required to amortize the unfunded actuarial accrued liability over a closed 30-year period that began July 1, 2013.

EXHIBIT IX

Summary of Plan Provisions

Effective Date:	July 1, 1971
Plan Year:	Twelve-month period ending June 30th
Administration:	The Teachers' Fund for Retirement (TFFR) is administered by a Board of Trustees. A separate State Investment Board is responsible for the investment of the trust assets, although the TFFR Board establishes the asset allocation policy. The Retirement and Investment Office is the administrative agency for TFFR.
Type of Plan:	TFFR is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is a cost-sharing multiple-employer public employee retirement system.
Eligibility:	All certified teachers of any public school in North Dakota participate in TFFR. This includes teachers, supervisors, principals, administrators, etc. Non-certified employees such as teacher's aides, janitors, secretaries, drivers, etc. are not allowed to participate in TFFR. Eligible employees become members at their date of employment.
Member Contributions:	All active members contribute 9.75% of their salary per year. The employer may "pick up" the member's contributions under the provisions of Internal Revenue Code Section 414(h). The member contribution rate was increased from 7.75% to 9.75% effective July 1, 2012, and is scheduled to increase to 11.75% effective July 1, 2014. The total addition of 4.00% to the member contribution rate will remain in effect until TFFR is 100% funded on an actuarial basis. At that point, the member contribution rate will revert to 7.75%.
Salary:	The member's total earnings are used for salary purposes, including overtime, etc., and including nontaxable wages under a Section 125 plan, but excluding certain extraordinary compensation, such as fringe benefits or unused sick and vacation leave.

Employer Contributions:

The district or other employer that employs a member contributes a percentage of the member's salary. This percentage consists of a base percentage of 7.75%, plus, since July 1, 2008, additions as shown below.

Effective Date	Addition to 7.75% Base Rate	Employer Contribution Rate
July 1, 2008	0.50%	8.25%
July 1, 2010	1.00%	8.75%
July 1, 2012	3.00%	10.75%
July 1, 2014	5.00%	12.75%

However, the additions are subject to a "sunset" provision, so the contribution rate will revert to 7.75% once the funded ratio reaches 100%, measured using the actuarial value of assets. The contribution rate will not automatically increase if the funded ratio later falls back below 100%.

Service:

Employees receive credit for service while a member. A member may also purchase credit for certain periods, such as time spent teaching at a public school in another state, by paying the actuarially determined cost of the additional service. Special rules and limits govern the purchase of additional service.

Tiers:

Members who join TFFR by June 30, 2008 are in Tier 1, while members who join later are in Tier 2. If a Tier 1 member terminates, takes a refund, and later rejoins TFFR after June 30, 2008, that member will be in Tier 2. As of June 30, 2013, Tier 1 members who are at least age 55 and vested (3 years of service) as of the effective date, or the sum of the member's age and service is at least 65, are considered Grandfathered, and previous plan provisions will not change. Tier 1 members who do not fit these criteria as of June 30, 2013, are considered Non-grandfathered. These members, along with Tier 2, will have new plan provisions, as described below.

Final Average Compensation (FAC):

The average of the member's highest three (Tier 1 members) or five (Tier 2 members) plan year salaries. Monthly benefits are based on one-twelfth of this amount.

Normal Retirement:

a. Eligibility:

- Tier 1 members may retire upon Normal Retirement on or after age 65 with credit for 3 years of service, or if earlier, when the sum of the member's age and service is at least 85. Effective as of June 30, 2013, Tier 1 members who are at least age 55 and vested (3 years of service) as of the effective date, or the sum of the member's age and service is at least 65, normal retirement eligibility will not change (participants are Grandfathered). For those who will not meet these criteria as of June 30, 2013 (Non-grandfathered), members may retire upon Normal Retirement on or after age 65 with credit for 3 years of service, or if earlier, when the sum of the member's age and service is at least 90, with a minimum age of 60.
- Tier 2 members may retire upon Normal Retirement on or after age 65 with credit for 5 years of service, or, if earlier, when the sum of the member's age and service is at least 90. Effective July 1, 2013, Tier 2 members may retire upon Normal Retirement on or after age 65 with credit for 5 years of service, or if earlier, when the sum of the member's age and service is at least 90, with a minimum age of 60.

b. Monthly Benefit: 2.00% of FAC (monthly) times years of service.

c. Payment Form: Benefits are paid as a monthly life annuity, with a guarantee that if the payments made do not exceed the member's contributions plus interest, determined as of the date of retirement, the balance will be paid in a lump-sum to the member's beneficiary. Optional forms of payment are available; see below.

Early Retirement:

a. Eligibility: Tier 1 members may retire early after reaching age 55 with credit for three years of service, while Tier 2 members may retire early after reaching age 55 with credit for five years of service.

b. Monthly Benefit: 2.00% of FAC (monthly) times years of service, multiplied by a factor that reduces the benefit 6% for each year from the earlier of (i) age 65, or (ii) the age at which current service plus age equals 85 (Tier 1 members) or 90 (Tier 2 members). Effective July 1, 2013 for members who are either Non-grandfathered Tier 1 or Tier 2: 2.00% of FAC (monthly) times years of service, multiplied by a factor that reduces the benefit 8% for each year from the earlier of (i) age 65, or (ii) the age at which current service plus age equals 90 with a minimum age of 60.

c. Payment Form: Same as for Normal Retirement above.

Disability Retirement:

a. Eligibility: A member is eligible provided he/she has credit for at least one year of service. Effective July 1, 2013, a member is eligible provided he/she has credit for at least five years of service.

b. Monthly Benefit: 2.00% of FAC (monthly) times years of service with a minimum 20 years of service. Effective July 1, 2013, 2.00% of FAC (monthly) times years of service.

c. Payment Form: The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement that is in excess of the sum of payments already received will be paid in a lump sum to the member's beneficiary.

d. All alternative forms of payment other than level income and the partial lump-sum option are also permitted in the case of disability retirement. For basis recovery only, disability benefits are converted to normal retirement benefits when the member reaches normal retirement age or age 65, whichever is earlier.

Deferred Termination Benefit:

a. Eligibility: A Tier 1 member with at least three years of service, or a Tier 2 member with at least five years of service, who does not withdraw his/her contributions from the fund, is eligible for a deferred termination benefit.

b. Monthly Benefit: 2.00% of FAC (monthly) times years of service. Both FAC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 65 or when the sum of the member's age and service is 85 (Grandfathered Tier 1 members) or 90 with a minimum age of 60 (Non-grandfathered Tier 1 and Tier 2 members). Reduced benefits may commence at or after age 55 if the member is not eligible for an unreduced benefit. Reductions are the same as for Early Retirement.

c. Payment Form: The form of payment is the same as for Normal Retirement above.

d. Death Benefit: A member who dies after leaving active service but before retiring is entitled to receive a benefit as described below.

Withdrawal (Refund) Benefit:

a. Eligibility: Tier 1 members leaving covered employment with less than three years of service, and Tier 2 members leaving covered employment with less than five years of service, are eligible. Optionally, vested members may withdraw their contributions plus interest in lieu of the deferred benefits otherwise due.

b. Benefit: The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 6% per year (0.5% per month).

Death Benefit:

a. Eligibility: Death must have occurred while an active or an inactive, non-retired member.

b. Benefit: Upon the death of a nonvested member, a refund of the member's contributions and interest is paid. Upon the death of a vested member, the beneficiary may elect (i) the refund benefit above, or (ii) a life annuity of the normal retirement benefit, determined under Option One below, based on FAC and service as of the date of death, but without applying any reduction for the member's age at death. In determining the reduction for Option One, members not eligible for normal retirement benefits use the Fund's option tables for disabled members.

Optional Forms of Payment:

There are optional forms of payment available on an actuarially equivalent basis, as follows:

Option 1 - A life annuity payable while either the participant or his beneficiary is alive, "popping-up" to the original life annuity if the beneficiary predeceases the member.

Option 2 - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary, and "popping-up" to the original life annuity if the beneficiary predeceases the member.

Option 3a - A life annuity payable to the member, with a guarantee that, should the member die prior to receiving 60 payments (five years), the payments will be continued to a beneficiary for the balance of the five-year period. (This option has been replaced by Option 3b. It is not available to employees who retire on or after August 1, 2003. Retirees who elected this option prior to that date are unaffected.)

Option 3b - A life annuity payable to the member, with a guarantee that, should the member die prior to receiving 240 payments (twenty years), the payments will be continued to a beneficiary for the balance of the twenty-year period. (This option replaced Option 3a effective August 1, 2003.)

Option 4 - A life annuity payable to the member, with a guarantee that, should the member die prior to receiving 120 payments (10 years), the payments will be continued to a beneficiary for the balance of the ten-year period.

Option 5 - A non-level annuity payable to the member, designed to provide a level total income when combined with the member's Social Security benefit. This option is not available to disabled retirees.

In addition, members may elect a partial lump-sum option (PLSO) at retirement. Under this option, a member receives an immediate lump-sum equal to 12 times the monthly life annuity benefit and a reduced annuity. The reduction is determined actuarially. The member can then elect to receive the annuity benefit in one of the other optional forms, except that members who receive a PLSO may not elect Option 5 – the level income option. The PLSO is not available to disabled retirees or retirees who are not eligible for an unreduced retirement benefit.

Actuarial equivalence is based on tables adopted by the Board of Trustees.

Cost-of-living Increase: From time to time, TFFR has been amended to grant certain post-retirement benefit increases. However, TFFR has no automatic cost-of-living increase features.

EXHIBIT X

Summary of Plan Changes

1991 Legislative Session:

1. Benefit multiplier increased from 1.275% to 1.39% for all future retirees.
2. Provide a post-retirement benefit increase for all annuitants receiving a monthly benefit on June 30, 1991. The monthly increase is the greater of a 10% increase or a level increase based on years of service and retirement date:
   a. $3 per year of service for retirements before 1980
   b. $2 per year of service for retirements between 1980 and 1983
   c. $1 per year of service for retirements from 1984 through June 30, 1991

   Minimum increase is $5 per month. Maximum increase is $75 per month.

1993 Legislative Session:

1. Benefit multiplier increased from 1.39% to 1.55% for all future retirees.
2. Provide a post-retirement benefit increase for all annuitants receiving a monthly benefit on June 30, 1993. The monthly increase is the greater of a 10% increase or a level increase based on years of service and retirement date:
   a. $3 per year of service for retirements before 1980
   b. $2.50 per year of service for retirements between 1980 and 1983
   c. $1 per year of service for retirements from 1984 through June 30, 1993

   Minimum increase is $5 per month. Maximum increase is $100 per month.
3. Minimum retirement benefit increased to $10 times years of service up to 25, plus $15 times years of service greater than 25. (Previously was $6 up to 25 years of service plus $7.50 over 25 years of service.)
4. Disability benefit changed to 1.55% of FAC times years of service using a minimum of 20 years of service.

1995 Legislative Session:

There were no material changes made during the 1995 legislative session.

1997 Legislative Session:

1. Benefit multiplier increased from 1.55% to 1.75% for all future retirees.
2. Member contribution rate and employer contribution rate increased from 6.75% to 7.75%.
3. A $30.00/month benefit improvement was granted to all retirees and beneficiaries.

1999 Legislative Session:

1. Active members will now be fully vested after three years (rather than five years) of service.
2. Early retirement benefits will be reduced 6% per year from the earlier of (i) age 65, or (ii) the date as of which age plus service equals 85 (rather than from age 65 in all cases).
3. An ad hoc COLA was provided for all retirees and beneficiaries. This increase is equal to an additional $2.00 per month for each year of service plus $1.00 per month for each year since the member's retirement.
4. The formula multiplier was increased from 1.75% to 1.88% effective July 1, 1999.

2001 Legislative Session:

1. An ad hoc COLA was provided for all retirees and beneficiaries. The ad hoc COLA increase is equal to an additional $2.00 per month for each year of service plus $1.00 per month for each year since the member's retirement. Retirees and beneficiaries will also receive two additional increases equal to 0.75% times the monthly benefit, payable July 1, 2001 and July 1, 2002. The two 0.75% increases are conditional. If the actuarial margin is a shortfall, i.e., is negative, by 60 basis points or more, or if the margin has been negative by 30 or more basis points for two years, the Board could elect to suspend the increase.
2. The formula multiplier was increased from 1.88% to 2.00% effective July 1, 2001.

2003 Legislative Session:

1. Partial lump-sum option adopted, equal to twelve times the monthly life annuity benefit. Not available if level-income option is elected. Not available for reduced retirement or disability retirement.
2. Five-year certain and life option replaced with 20-year certain and life. This does not impact retirees who retired under the five-years certain and life option.

3. Employer service purchase authorized.
4. Active members of the Department of Public Instruction are permitted to make a one-time irrevocable election to transfer to the North Dakota Public Employees Retirement System in FY 2004. Both assets and liabilities for all TFFR service will be transferred for electing employees. Transferred assets will be based on the actuarial present value of the member's accrued TFFR benefit, or the member's contribution account balance if larger.

2005 Legislative Session:

There were no material changes made during the 2005 legislative session.

2007 Legislative Session:

1. For active members hired on or after July 1, 2008 (called Tier 2 members):
   a. Members will be eligible for an unreduced retirement benefit when they reach age 65 with at least five years of service (rather than three years of service); or if earlier, when the sum of the member's age and service is at least 90 (rather than 85).
   b. Members will be eligible for a reduced (early) retirement benefit when they reach age 55 with five years of service, rather than three years of service.
   c. Members will be fully vested after five years of service (rather than three year of service).
   d. The Final Average Compensation for Tier 2 members is the average of the member's highest five plan year salaries, rather than the average of the three highest salaries.
2. The employer contribution rate increases from 7.75% to 8.25% effective July 1, 2008, but this rate will be reset to 7.75% once the Fund reaches a 90% funded ratio, measured using the actuarial value of assets. (If the funded ratio later falls below 90% again, the contribution rate will not automatically return to 8.25%.)
3. Employer contributions are required on the salary of reemployed retirees.
4. Active members of the Department of Career and Technical Education are permitted to make a one-time irrevocable election to transfer to the North Dakota Public Employees Retirement System in FY 2008. Both assets and liabilities for all TFFR service will be transferred for electing employees. Transferred assets will be the actuarial present value of the member's accrued TFFR benefit, or the member's contribution account balance, if larger.

2009 Legislative Session:

1. An individual who retired before January 1, 2009, and is receiving monthly benefits is entitled to receive a supplemental payment from the fund. The supplemental payment is equal to an amount determined by taking twenty dollars multiplied by the member's number of years of service credit plus fifteen dollars multiplied by the number of years since the member's retirement as of January 1, 2009. The supplemental payment may not exceed the greater of 10% of the member's annual annuity or $750.00. TFFR will make the supplemental payment in December 2009.

2. The employer contribution rate increases from 8.25% to 8.75% effective July 1, 2010, but this rate will be reset to 7.75% once the Fund reaches a 90% funded ratio, measured using the actuarial value of assets. (If the funded ratio later falls below 90% again, the contribution rate will not automatically return to 8.75%.)

2011 Legislative Session:

1. The employer contribution rate increases from 8.75% to 10.75% effective July 1, 2012, and increases thereafter to 12.75% effective July 1, 2014. The member contribution rate increases from 7.75% to 9.75% effective July 1, 2012, and increases thereafter to 11.75% effective July 1, 2014. Employer and member contributions will be reset to 7.75% once the Fund reaches a 90% funded ratio, measured using the actuarial value of assets.

2. For current Tier 1 members who, as of June 30, 2013, are vested (at least 3 years of service), and at least age 55, OR the sum of the member's age and service is at least 65, are considered a Tier 1 Grandfathered member. Current Tier 1 members, who will not meet this criteria as of June 30, 2013, are considered a Tier 1 Non-grandfathered member.

3. Eligibility for normal/ unreduced retirement benefits do not change for Tier 1 Grandfathered members. For Tier 1 Non-grandfathered and Tier 2 members, effective after June 30, 2013, unreduced retirement benefits start when the member reaches age 65 and is vested (3 years for Tier 1 Non-grandfathered, 5 years for Tier 2); or if earlier, when the sum of the member's age and service is at least 90, with a minimum age of 60.

4. Early retirement benefits do not change for Tier 1 Grandfathered members. For Tier 1 Non-grandfathered and Tier 2 members, effective after June 30, 2013, the normal retirement benefit will be reduced by 8% per year from the earlier of age 65 OR the age at which the sum of the member's age and service is at least 90, with a minimum age of 60.

5. Effective after June 30, 2013, all members may retire on disability after a period of at least five years of service (rather one year of service). The amount of the benefit is based on a 2% multiplier and actual service (rather than a minimum of twenty years of service in the current calculation).

6. Effective July 1, 2012, re-employed retirees are required to pay member contributions.
7. Effective August 1, 2011, beneficiary and death benefit provisions were updated, and the 60-month death payment benefit was removed.

2013 Legislative Session:

1. Employer and member contribution rates will be reset to 7.75% once the Fund reaches a 100% funded ratio (rather than the 90% funded ratio enacted with the 2011 Legislation), measured using the actuarial value of assets.
2. Various technical and administrative changes that do not have an actuarial effect on the Plan were enacted.

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NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE
Teachers' Fund for Retirement
State Investment Board

Segal Consulting

North Dakota Teachers' Fund for Retirement

Actuarial Valuation as of July 1, 2013

October 24, 2013

Presented By:

Kim Nicholl, FSA, MAAA, EA
Senior Vice President

Matthew Strom, FSA, MAAA, EA
Consulting Actuary

This document has been prepared by Segal Consulting for the benefit of the Board of Trustees of the North Dakota Teachers' Fund for Retirement and is not complete without the presentation provided at the October 24, 2013 meeting of the Board of Trustees. This document should not be shared, copied or quoted, in whole or in part, without the consent of Segal Consulting, except to the extent otherwise required by law. Except where otherwise specifically noted, the actuarial calculations and projections were completed under the supervision of Matthew A. Strom, FSA, MAAA, Enrolled Actuary.

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Discussion Topics

Segal

- Overview of Valuation Process
- Summary of Valuation Highlights
- Membership and Demographics
- Valuation Results and Projections

Purposes of the Actuarial Valuation

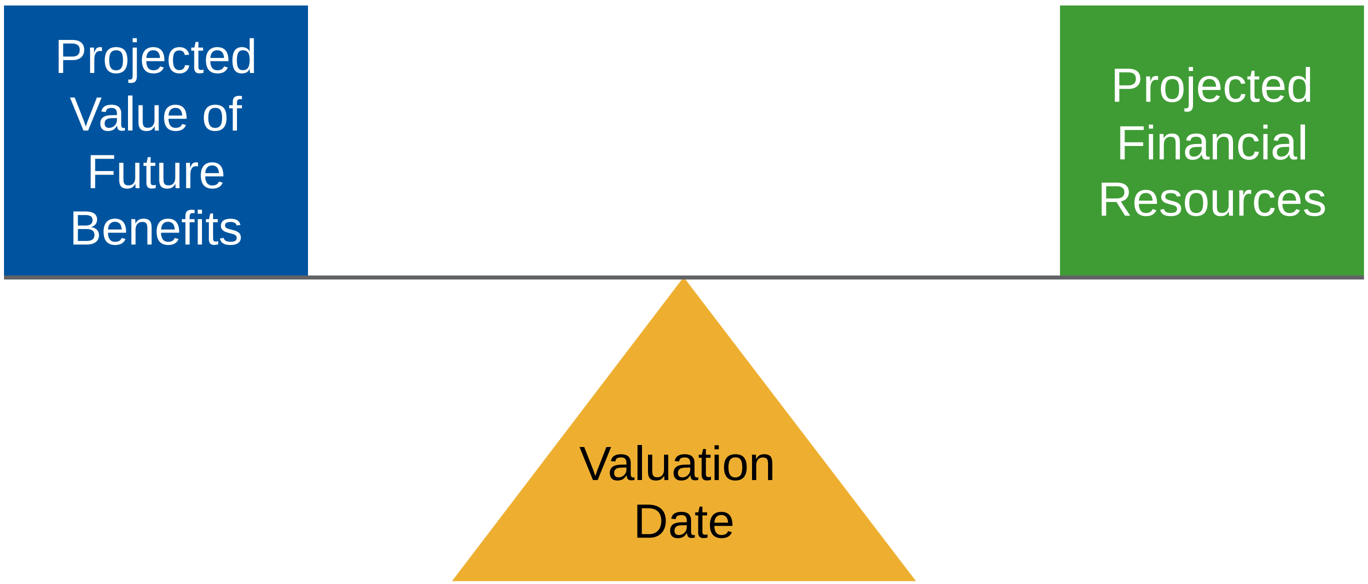
- Report the Fund’s actuarial assets
- Calculate the Fund’s liabilities
- Determine the Annual Required Contribution (ARC) for fiscal year 2014
  - Determine the funding policy Actuarially Determined Contribution (ADC)
- Provide information for annual financial statements
- Identify emerging trends

How is an Actuarial Valuation Performed?

The actuaries will:

- Gather data as of the valuation date
  - Participant data
  - Financial data
- Project a benefit for each member, for each possible benefit
- Apply assumptions about:
  - Economic (investment return, inflation, salary raises)
  - People or demographic (death, disability, retirement, turnover)
- Apply assumptions to benefits to determine a total liability and assign liabilities to service
- Apply the funding policy to determine ARC/ADC
  - Based on actuarial cost method and asset valuation method

Actuarial Balance



Over the life of a pension system,

Benefits + Expenses = Contributions + Investment Return

Contributions = Benefits + Expenses - Investment Return

Actuarial Assumptions

Two types:

Demographic	Economic
• Retirement • Disability • Death in active service • Withdrawal • Death after retirement	• Inflation • Interest rate (return on assets) • Salary increases • Payroll growth

Actuaries make assumptions as to when and why a member will leave active service, and estimate the amount and duration of the pension benefits paid.

Economic Assumptions

➢ Interest Rate

- 8%

➢ Salary Increase Rates

- Based on service
- Ranges from 14.75% for new members to 4.5% for members with 25 or more years of service

➢ Payroll Growth

- 3.25%

Actuarial Methods

➢ Asset valuation method (actuarial value of assets)

- Smoothing of investment gains or losses
- TFFR uses a five-year smoothing method
  - Investment returns above or below the expected return are recognized over five years
- 20% market value corridor is applied (e.g., actuarial value must fall within 80% to 120% of market value)

➢ Cost method

- Allocation of liability between past service and future service
  - TFFR uses the entry age normal cost method
  - Most retirement systems use the entry age normal cost method

➢ Amortization method

- 30-year “closed” period to pay off unfunded actuarial accrued liability
- Based on level percentage of payroll
- Governmental Accounting Standards Board requires 30-year maximum period to determine the Annual Required Contribution

Entry Age Normal Cost Method

Allocates Cost Between Past and Future service

- **Normal Cost:** Cost of annual benefit accrual as a level percent of salary
- **Actuarial Accrued Liability:** Represents accumulated value of past normal costs (or difference between total cost and future normal costs)
- **Unfunded Actuarial Accrued Liability:** Actuarial accrued liability minus actuarial value of assets
- **Annual Required Contribution:**
  - Normal cost plus
  - Amortization payment of unfunded accrued liability over a 30-year closed period as a percent of payroll
    - 30-year closed period began July 1, 2013

Actuarial Accrued Liability and Normal Cost

The **actuarial accrued liability** is the portion of the total liability that is allocated to members' past years of service

Retirees and beneficiaries:

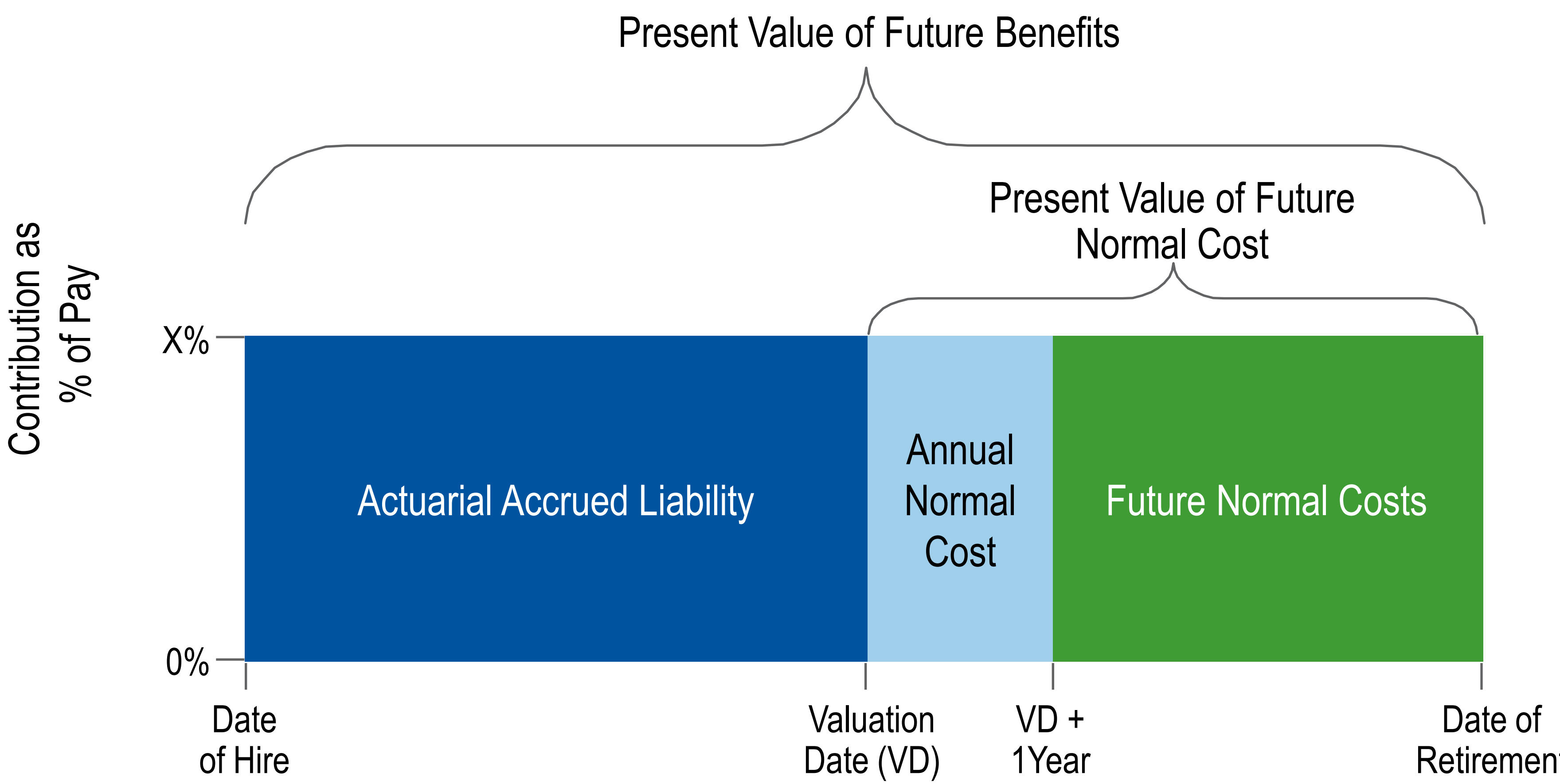
- All years of service are in the past, so the **actuarial accrued liability** is equal to the total liability

Active members:

- The **actuarial accrued liability** represents the portion of the total liability that is attributable to the years of service that the members have already worked
- The **normal cost** represents the anticipated growth in the accrued liability in the coming year

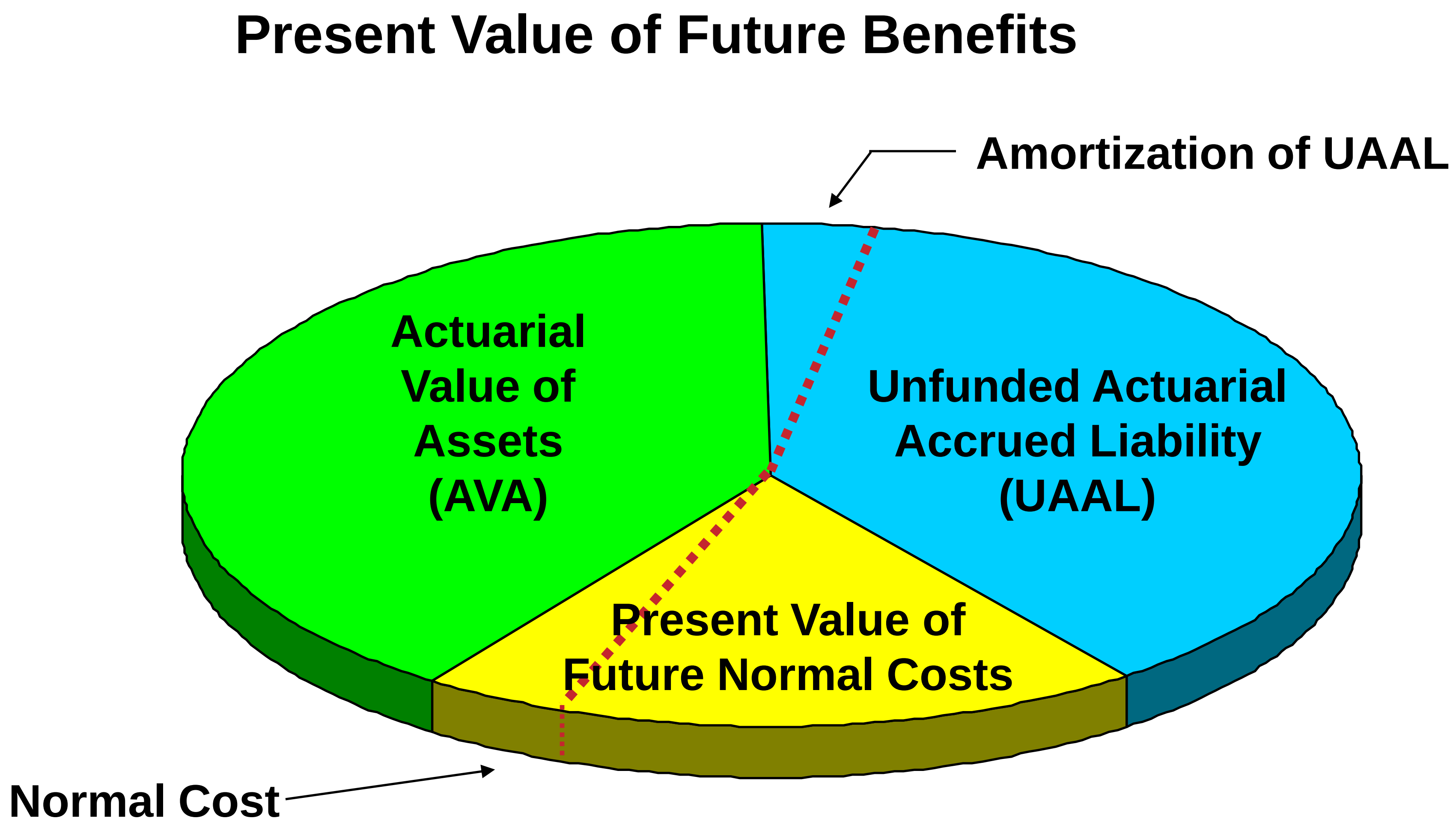
The actuarial accrued liability is compared to the assets as a measure of funding progress.

Funding Process



Actuarial Accrued Liability - Assets = Unfunded Actuarial Accrued Liability

Annual Required Contribution



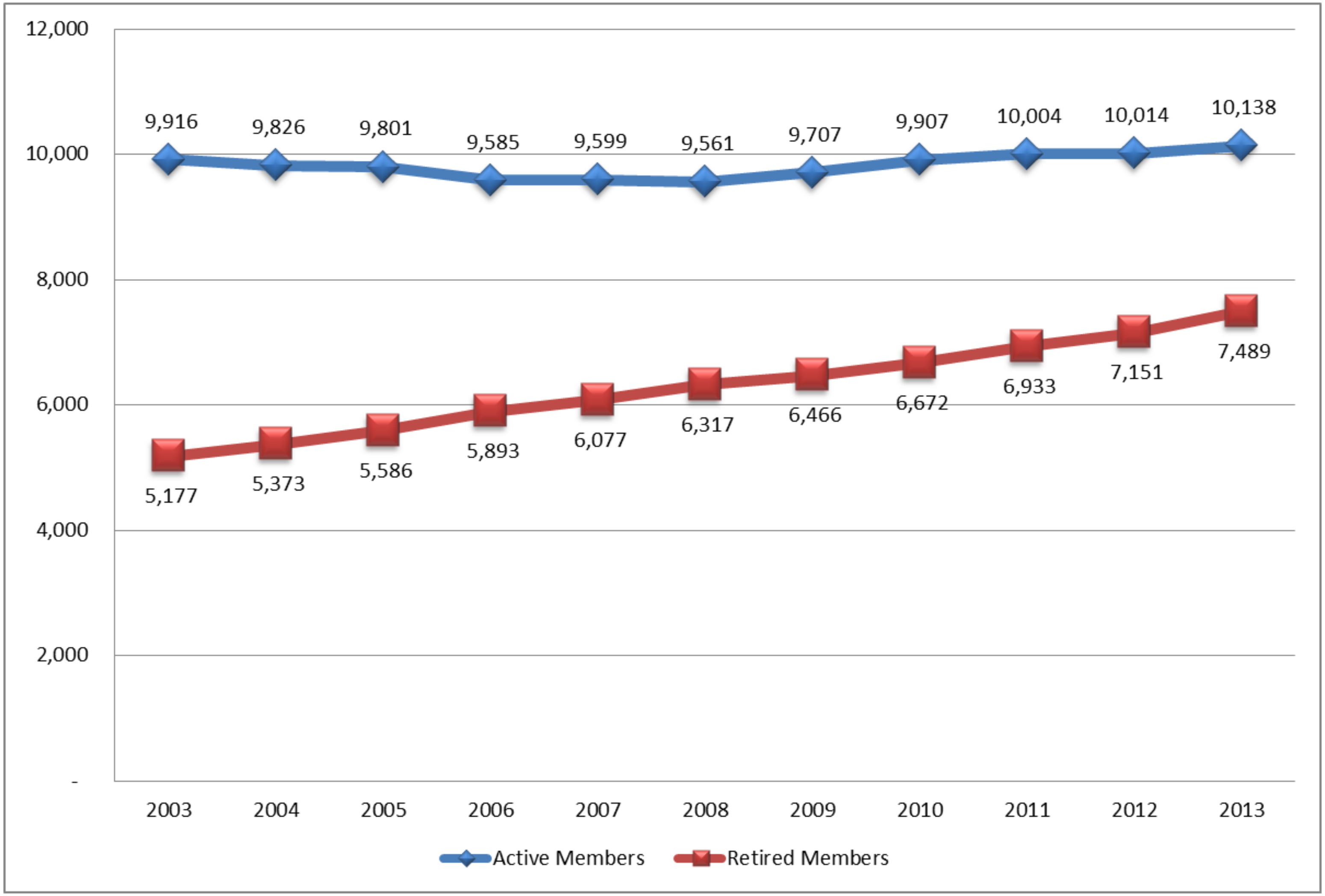
Summary of Valuation Highlights

- Valuation reflects increases in contribution rates contained in HB 1134
  - Member rate will increase from 9.75% to 11.75% on July 1, 2014
  - Employer rate will increase from 10.75% to 12.75% on July 1, 2014
  - Increases will revert to 7.75% for both members and employers once the funded ratio reaches 100% (measured using the actuarial value of assets)
  - ADC and GASB ARC reflect the actuarial present value of the increases as of July 1, 2013
- Market value of assets returned 13.4% for year ending 6/30/13 (Segal calculation)
  - Gradual recognition of deferred losses resulted in 2.7% return on actuarial value of assets
- Net impact on funded ratio was a decrease from 60.9% (as of 7/1/2012) to 58.8% (as of 7/1/2013)
- Effective amortization period increased from 25 years (as of 7/1/2012) to 28 years (as of 7/1/2013)
- Net impact on ARC/ADC was an increase from 9.49% of payroll (FY13) to 10.26% of payroll (FY14)
  - Based on the employer contribution rate for fiscal 2013 of 10.75%, there is a contribution sufficiency of 0.49% of payroll

Membership

	2013	2012	Change
Active:			
• Number	10,138	10,014	+1.2%
• Payroll	$526.7 mil	$505.3 mil	+4.2%
• Average Age	43.2 years	43.7 years	- 0.5 years
• Average Service	13.2 years	13.7 years	- 0.5 years
Retirees and Beneficiaries			
• Number	7,489	7,151	+4.7%
• Total Annual Benefits	$154.8 mil	$142.8 mil	+8.4%
• Average Monthly Benefit	$1,722	$1,664	+3.5%

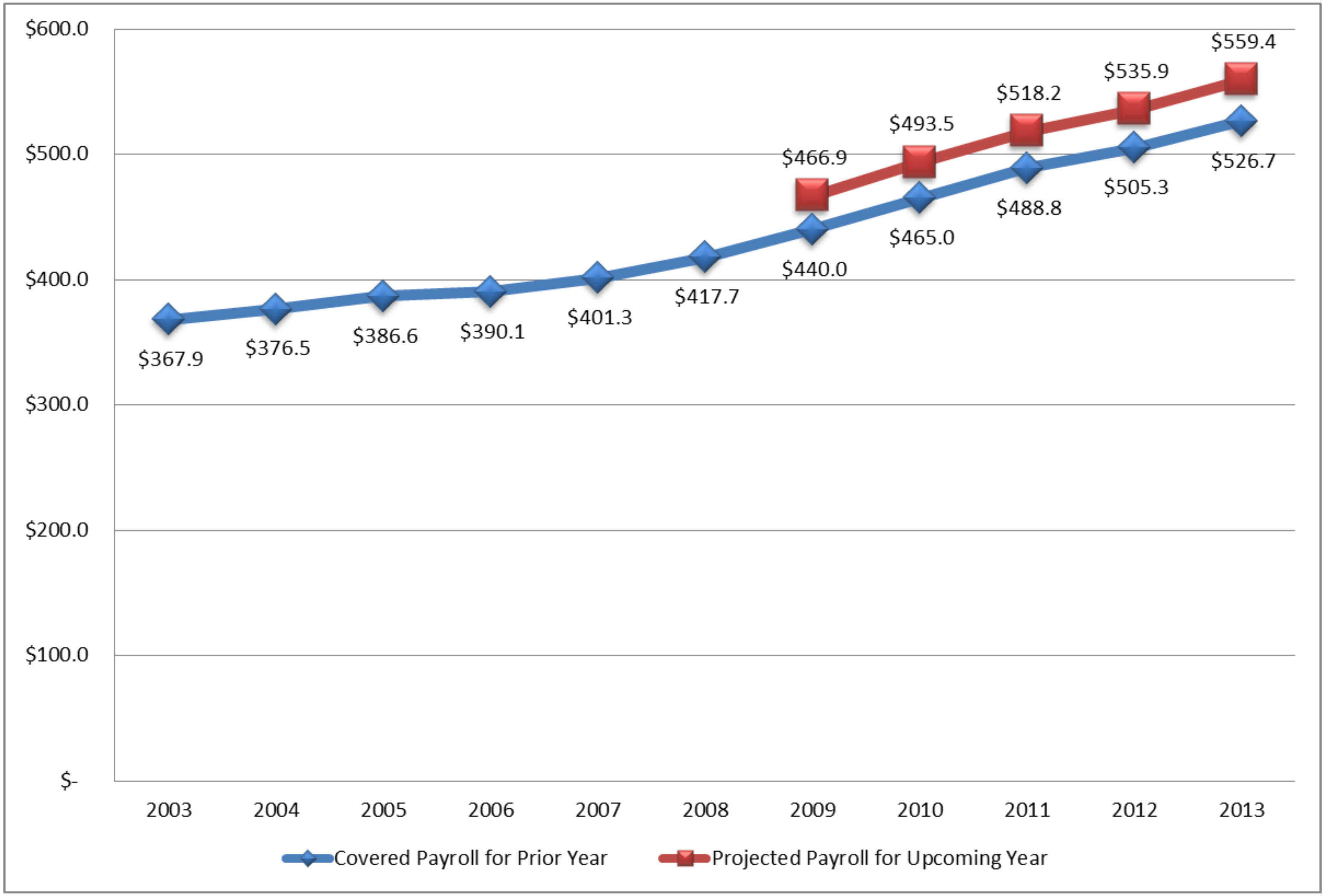
Active and Retired Membership



Since 2003, number of retirees and beneficiaries has increased 3.8% per year on average.

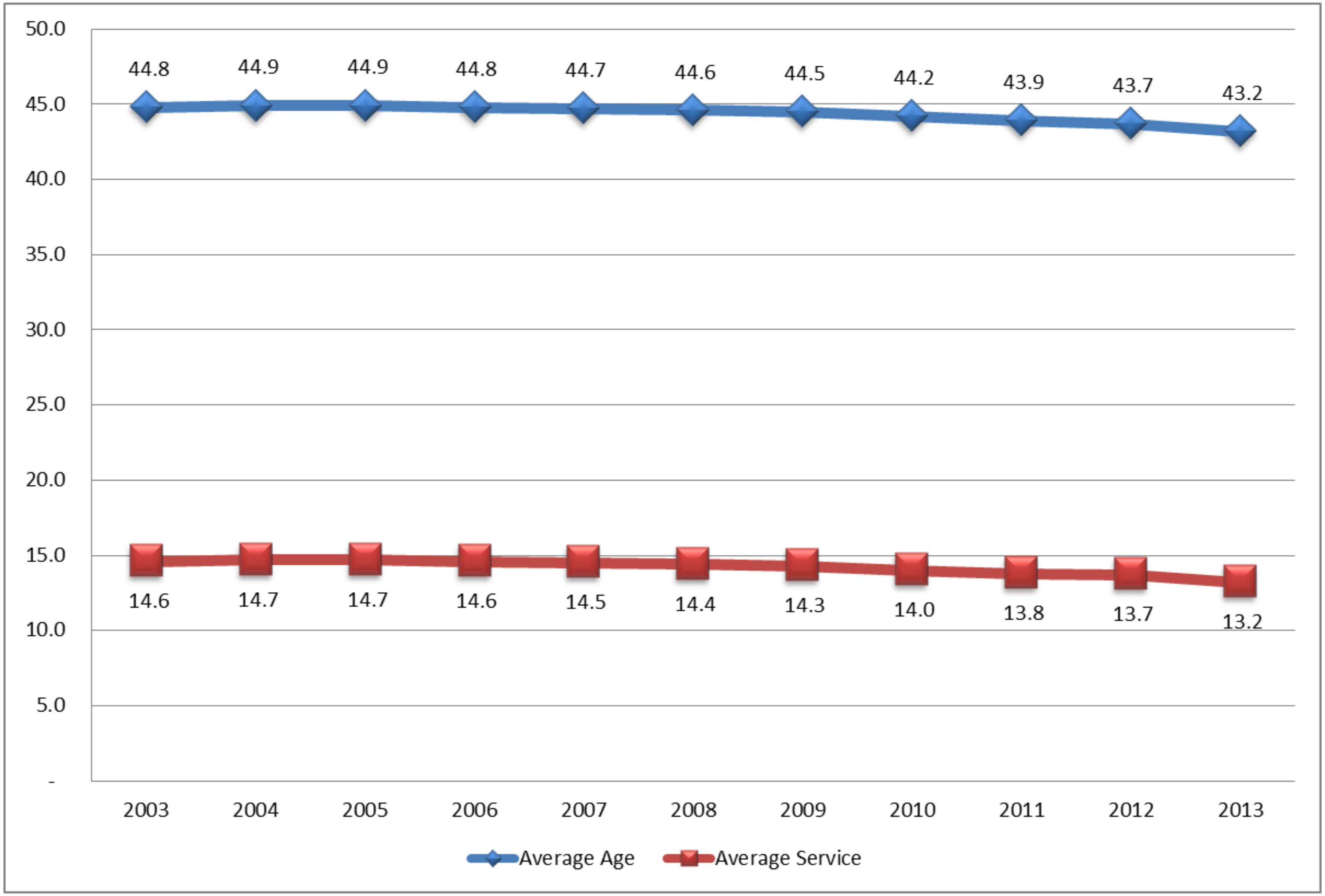
Active Payroll

$ Millions

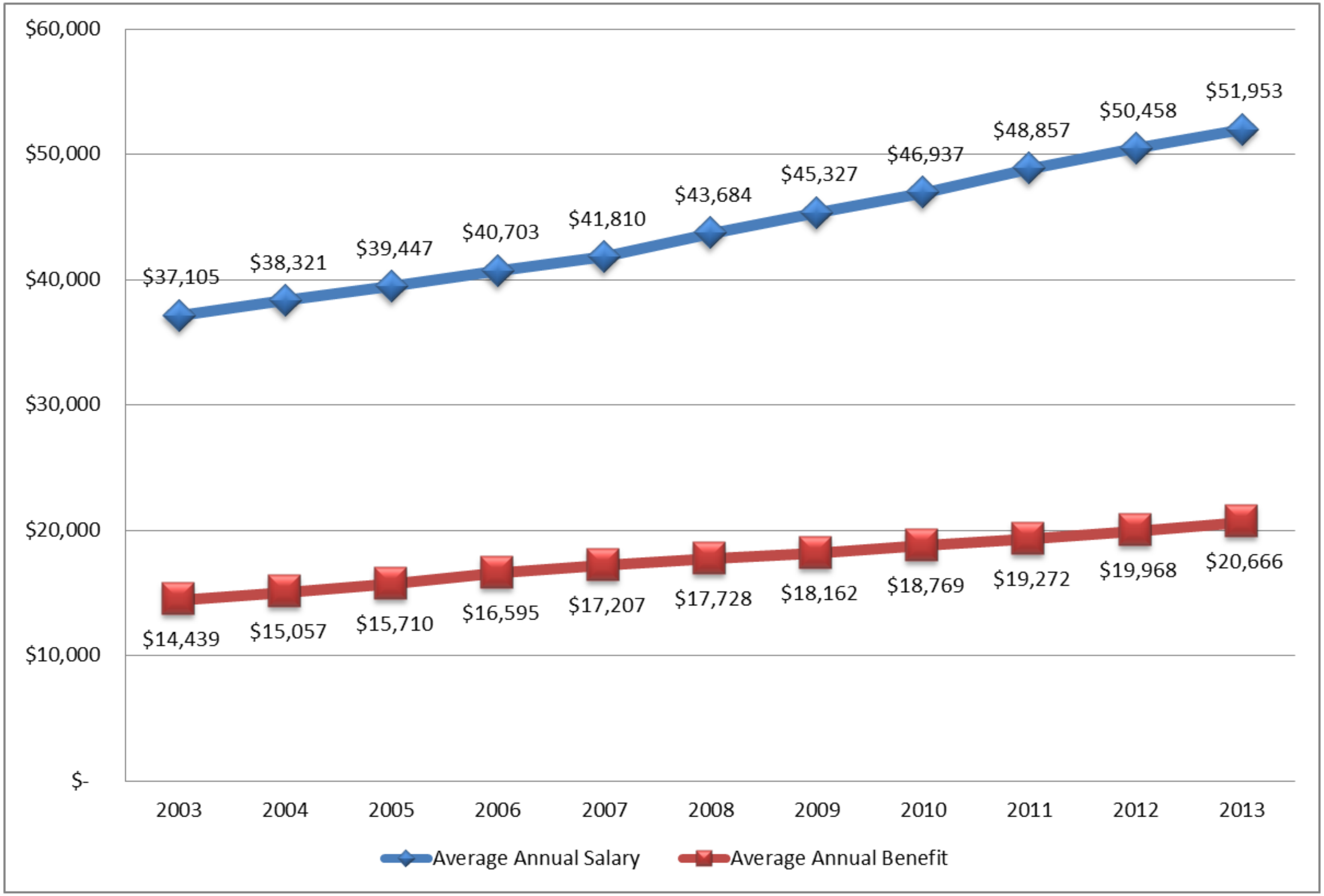


Since 2003, active payroll has increased, on average, 3.7% per year.

Average Age and Service of Active Members



Average Salary and Average Benefit



Since 2003, average salary has increased, on average, 3.4% per year. Average annual benefit has also increased by 3.7% per year.

Assets

- The market value of assets increased from $1.654 billion (as of June 30, 2012) to $1.839 billion (as of June 30, 2013)
  - Segal determined the investment return was 13.4%, net of investment and administrative expenses
- The actuarial value of assets – which smoothes investment gains and losses over five years – increased from $1.748 billion (as of June 30, 2012) to $1.762 billion (as of June 30, 2013)
  - Investment return of 2.7%, net of investment and administrative expenses
  - Actuarial value is 95.8% of market
  - There is a total of $77 million of deferred net investment gains that will be recognized in future years
- The average annual return on market assets over the past 10 years is 6.6%
  - 20-year average is 6.9%
- The average annual return on actuarial assets over the past 10 years is 4.1%
  - 20-year average is 6.6%

Market Value of Assets ($ in millions)

Fiscal Year Ending June 30, 2013	
Beginning of Year	$1,654
Contributions:	
• Employer	59
• Member	54
• Service Purchases	3
• Total	116
Benefits and Refunds	(149)
Investment Income (net)	218
End of Year	$1,839
Rate of Return	13.4%

Actuarial Value of Assets ($ in millions)

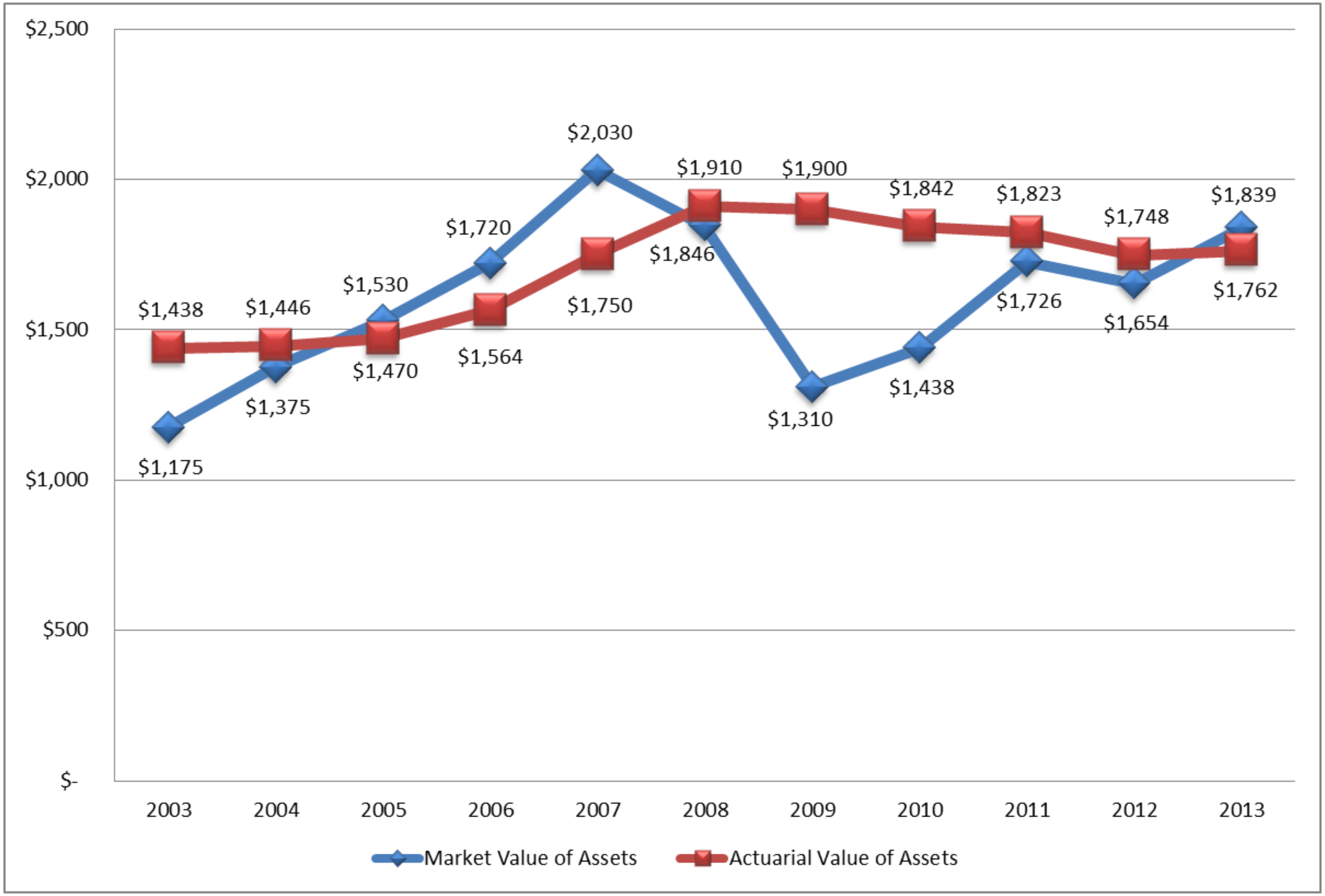
1. Market Value of Assets as of June 30, 2012	$1,654
2. Contributions and Benefits for FYE June 30, 2013	(33)
3. Expected Return	131
4. Expected Market Value of Assets (1) + (2) + (3)	$1,752
5. Actual Market Value of Assets on June 30, 2013	**1,839**
6. Excess/(Shortfall) for FYE June 30, 2013 (5) – (4)	87
Excess/(Shortfall) Returns:	

Year	Initial Amount	Deferral %	Unrecognized Amount
2013	$87	80%	$70
2012	(159)	60%	(96)
2011	220	40%	88
2010	74	20%	15
2009	(640)	0%	0
7. Total			**$77**

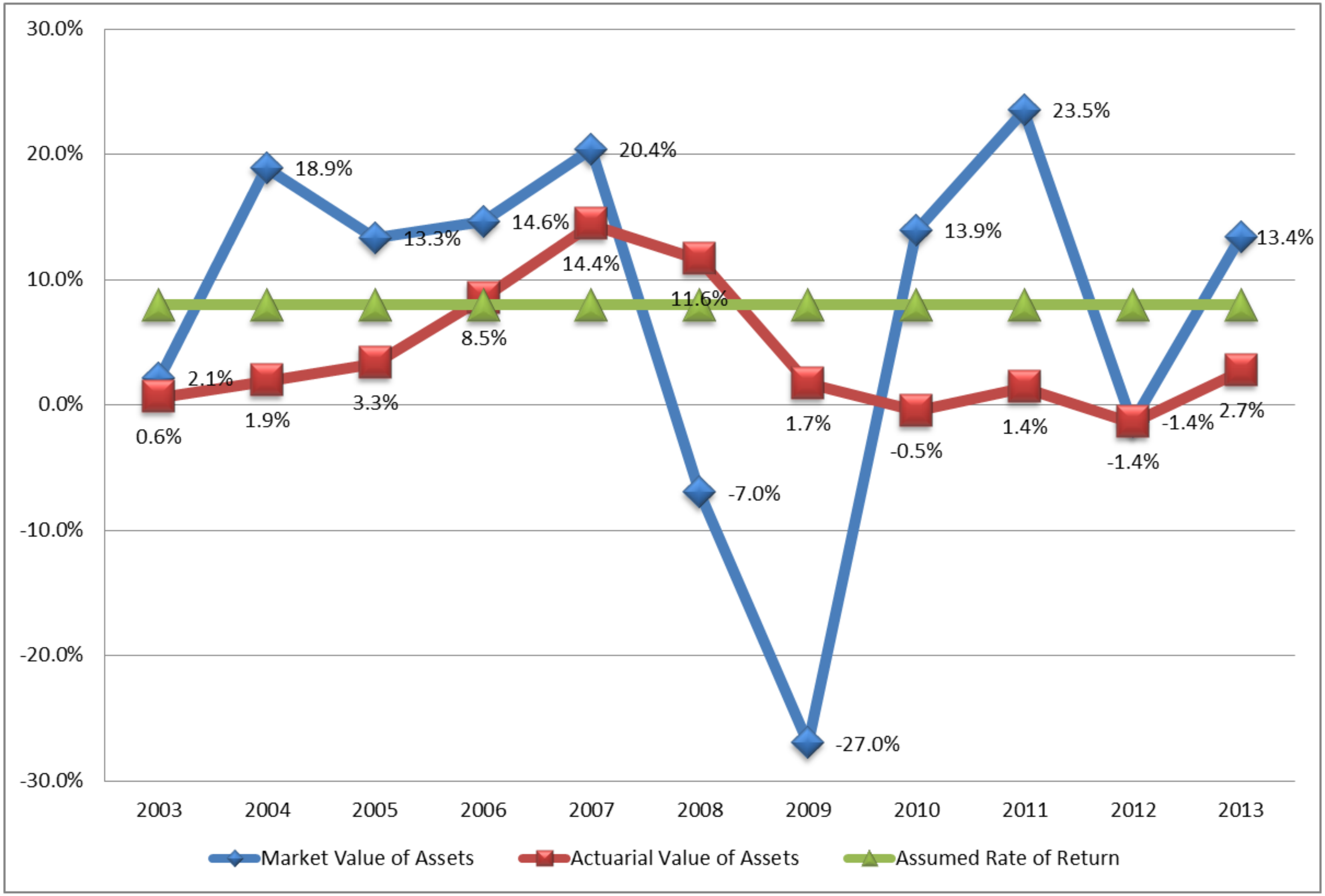
8. Actuarial Value of Assets as of June 30, 2013 (5) - (7)	**$1,762**
9. Actuarial Value of Assets as a % of Market Value of Assets	95.8%

Market and Actuarial Values of Assets

$ Millions

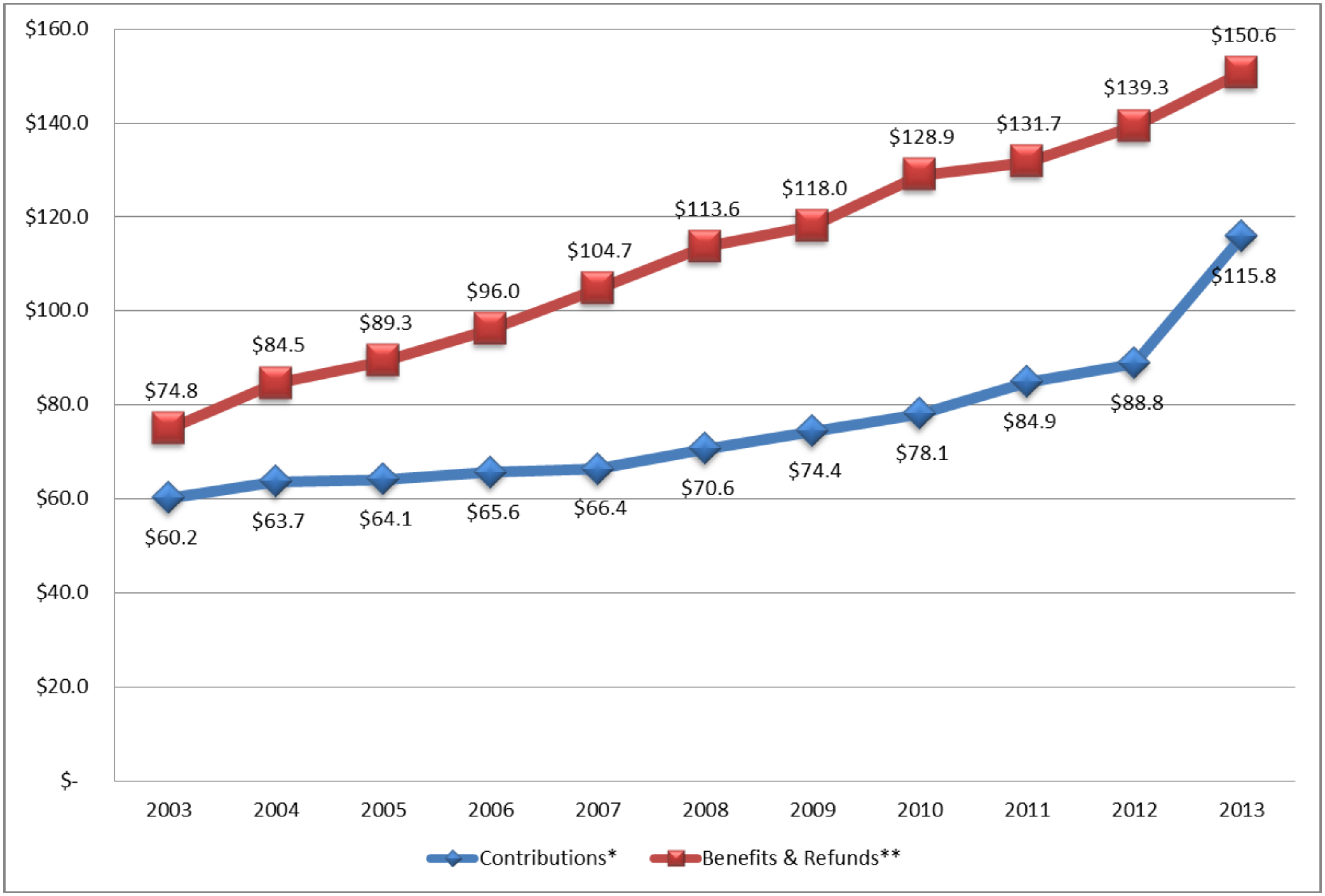


Asset Returns



Contributions vs. Benefits and Refunds

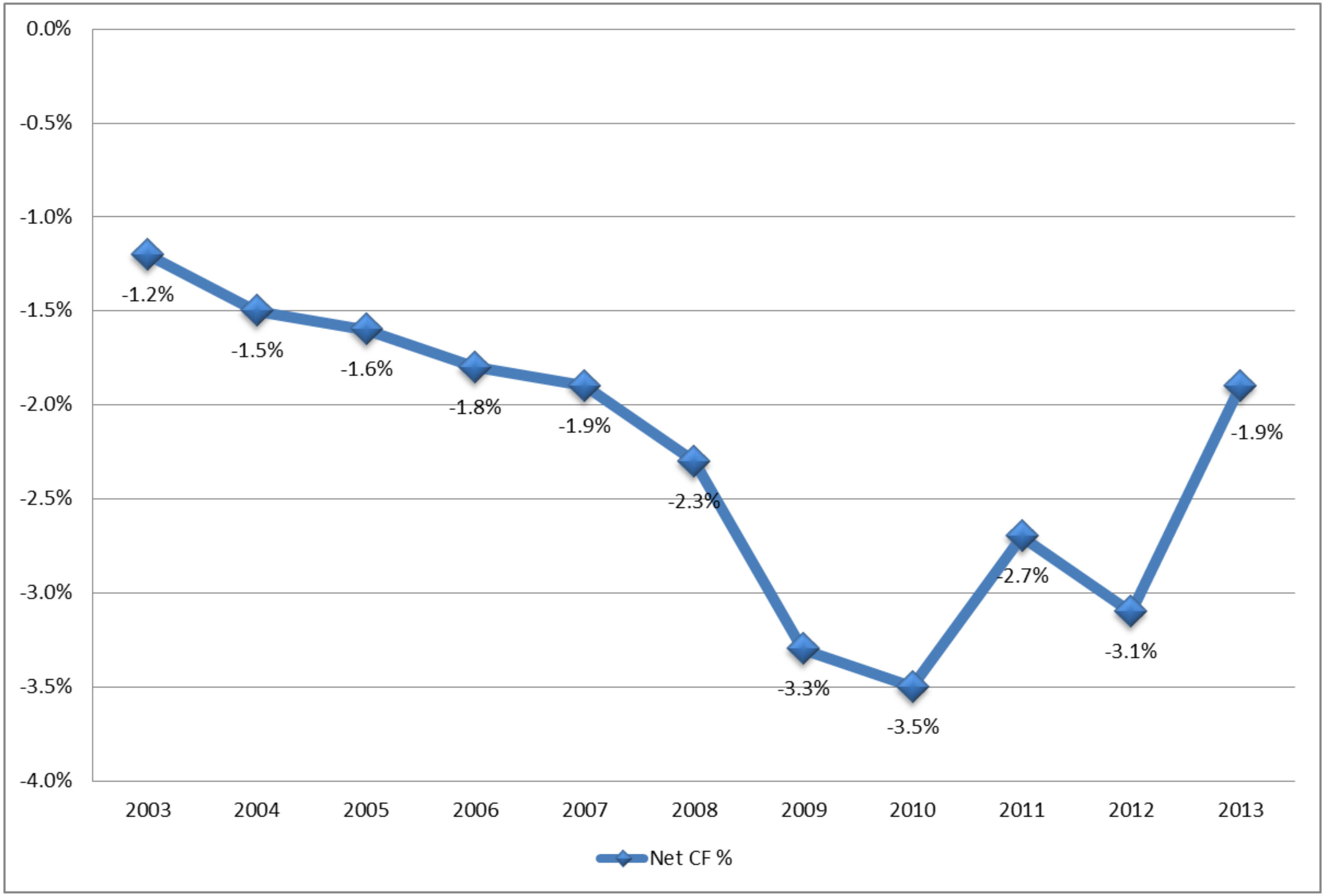
$ Millions



* Includes member and employer contributions, and service purchases

** Includes administrative expenses

Net Cash Flow as a % of Market Value



Valuation Results ($ in millions)

	July 1, 2013	July 1, 2012
Actuarial Accrued Liability:		
• Active Members	$1,371	$1,373
• Inactive Members	74	70
• Retirees and Beneficiaries	1,552	1,429
Total	**$2,997**	**$2,872**
Actuarial Assets	1,762	1,748
Unfunded Accrued Liability	$1,235	$1,124
Funded Ratio	58.8%	60.9%

Annual Required Contribution

	July 1, 2013	July 1, 2012
Normal Cost Rate	10.15%	9.83%
Member Rate	9.75%	9.75%
Employer Normal Cost Rate	0.40%	0.08%
Adjusted for Timing	0.41%	0.08%
Amortization of UAAL*	9.85%	9.41%
Annual Required Contribution	10.26%	9.49%
Employer Rate	10.75%	10.75%
Contribution Sufficiency/(Deficiency)	0.49%	1.26%

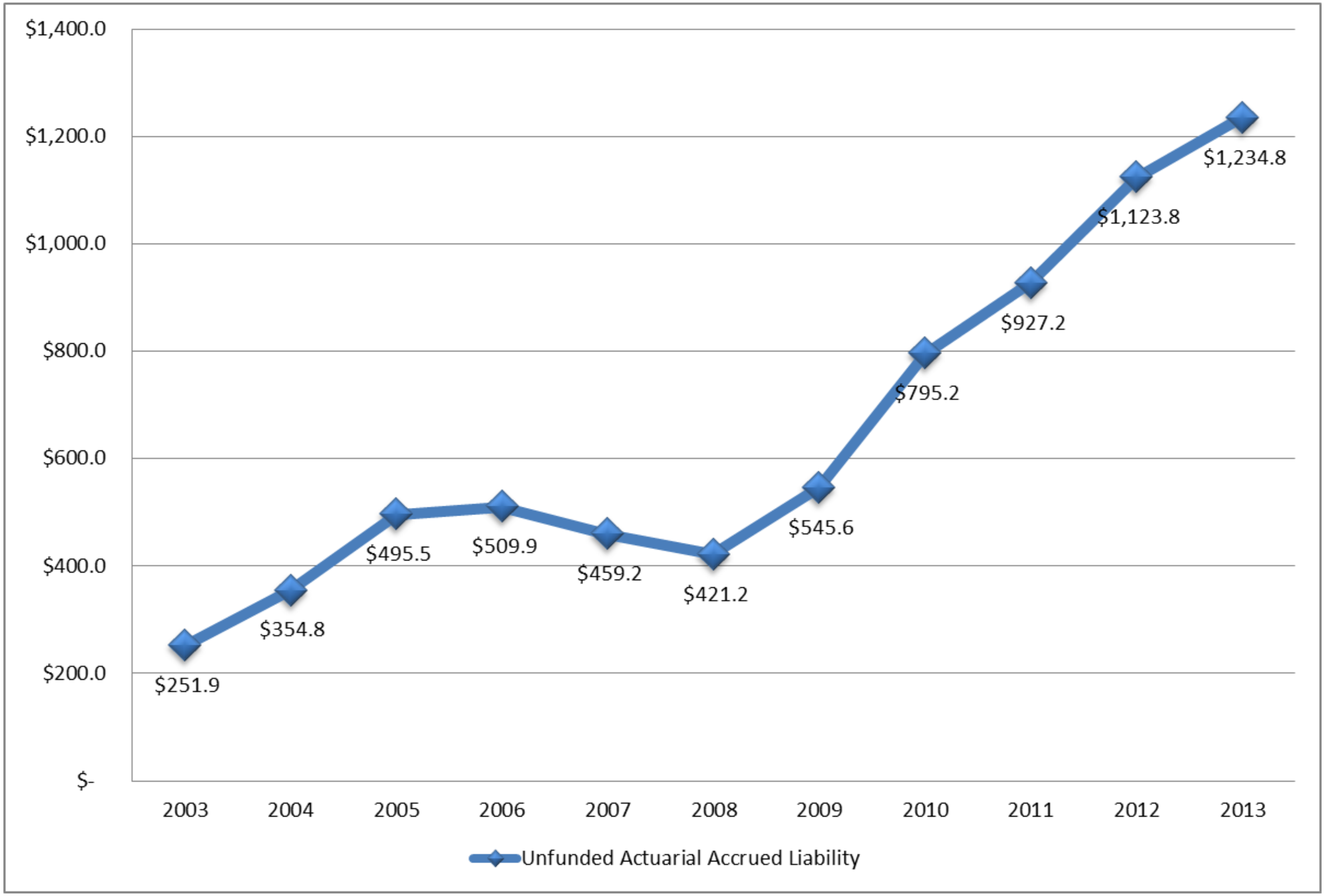
** Reflects the actuarial present value of the increased statutory contributions scheduled to occur July 1, 2014. The amount for 2012 has been restated from last year's valuation.*

Valuation Results - Comments

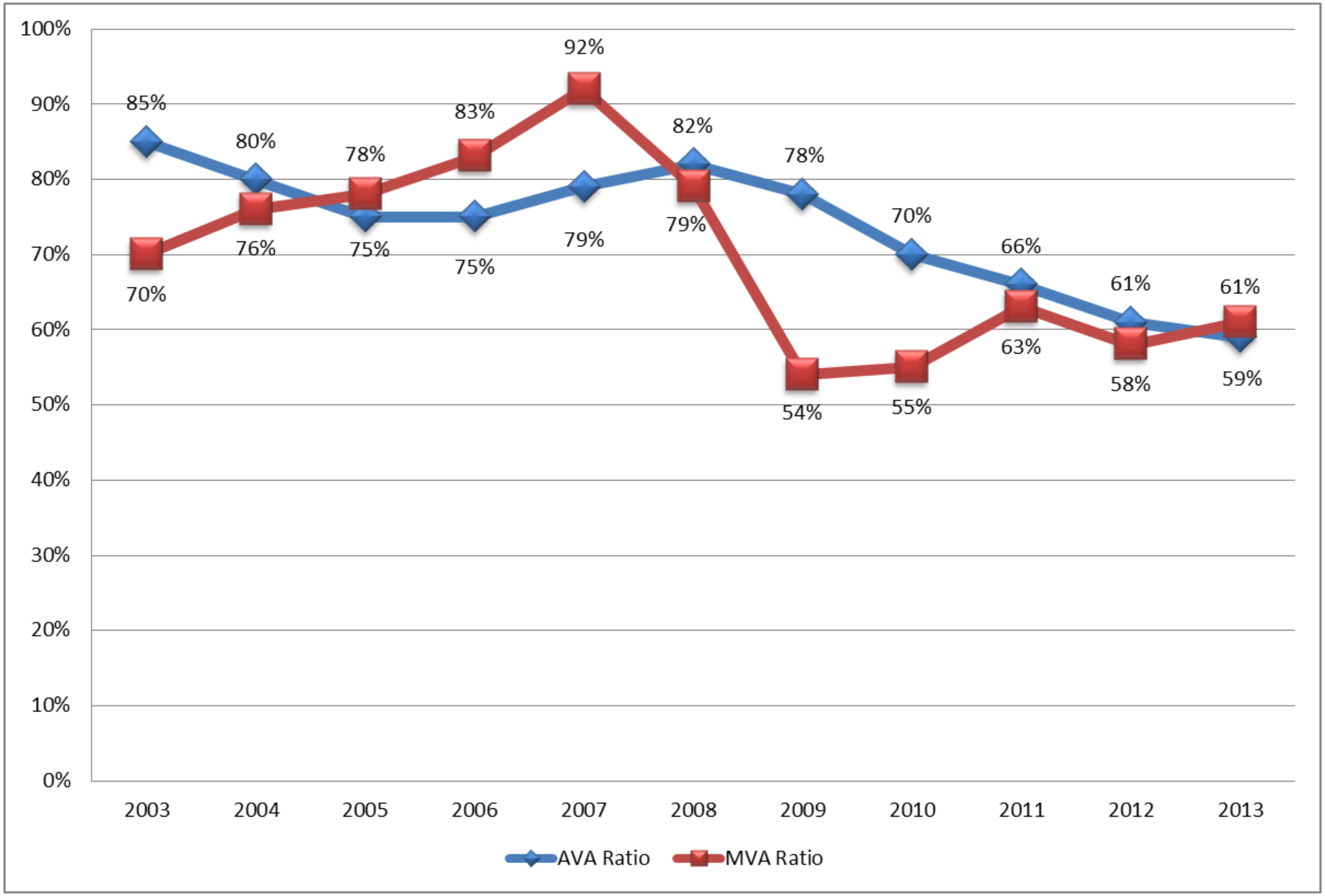
- The actuarial accrued liability increased from $2.872 billion (as of June 30, 2012) to $2.997 billion (as of June 30, 2013)
- The unfunded actuarial accrued liability (UAAL) increased from $1.124 billion to $1.235 billion
- The funded ratio on an AVA basis decreased from 61% to 59%
  - On a market value basis, the funded ratio increased from 58% to 61%
- The Annual Required Contribution (ARC) increased from 9.49% of payroll to 10.26% of payroll
  - Going forward, this will be referred to as the Actuarially Determined Contribution (ADC)
  - Compared to 10.75% employer contribution, results in a contribution sufficiency of 0.49%
  - The effective amortization period is 28 years

Unfunded Actuarial Accrued Liability

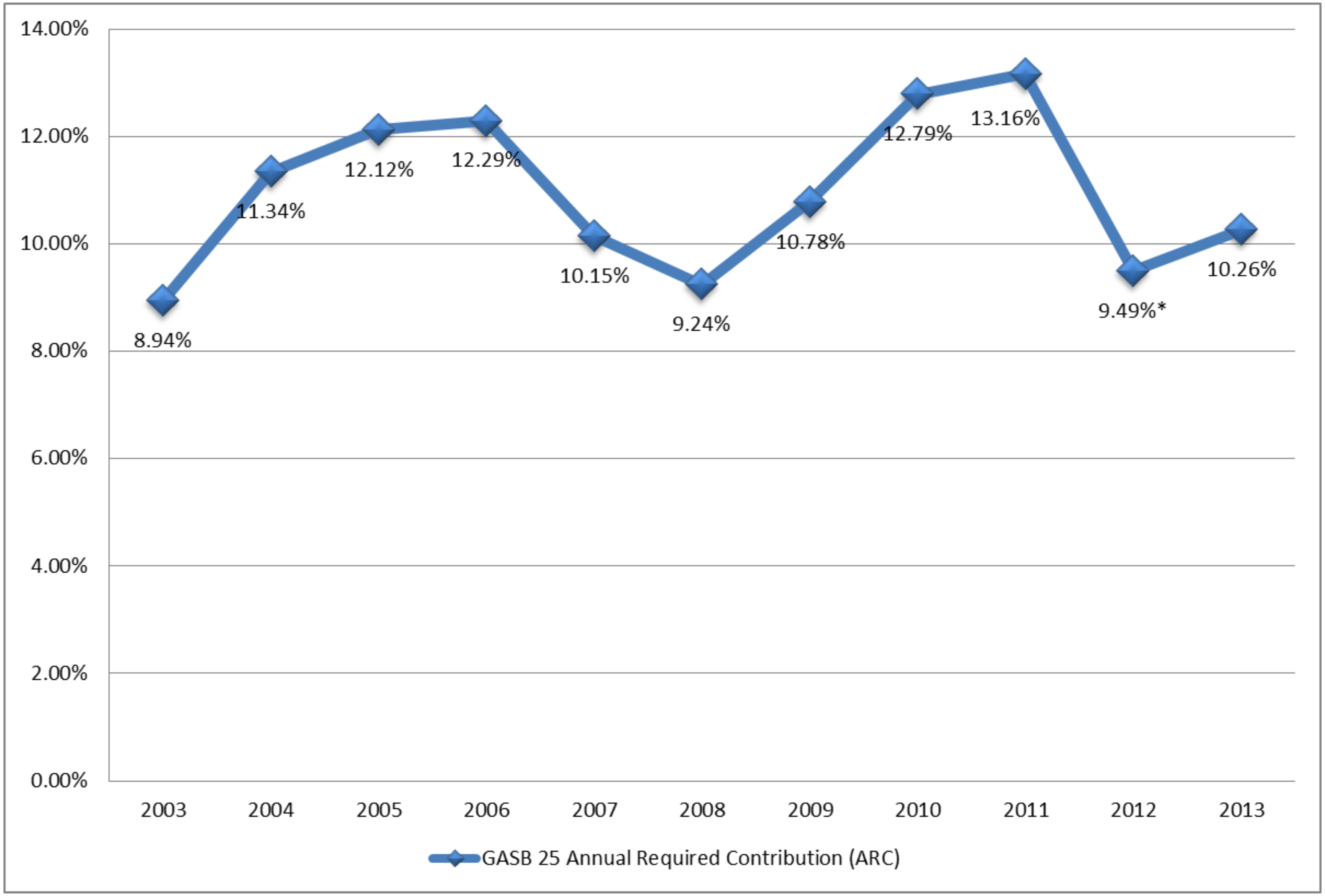
$ Millions



Funded Ratios



GASB 25 Annual Required Contribution (ARC)



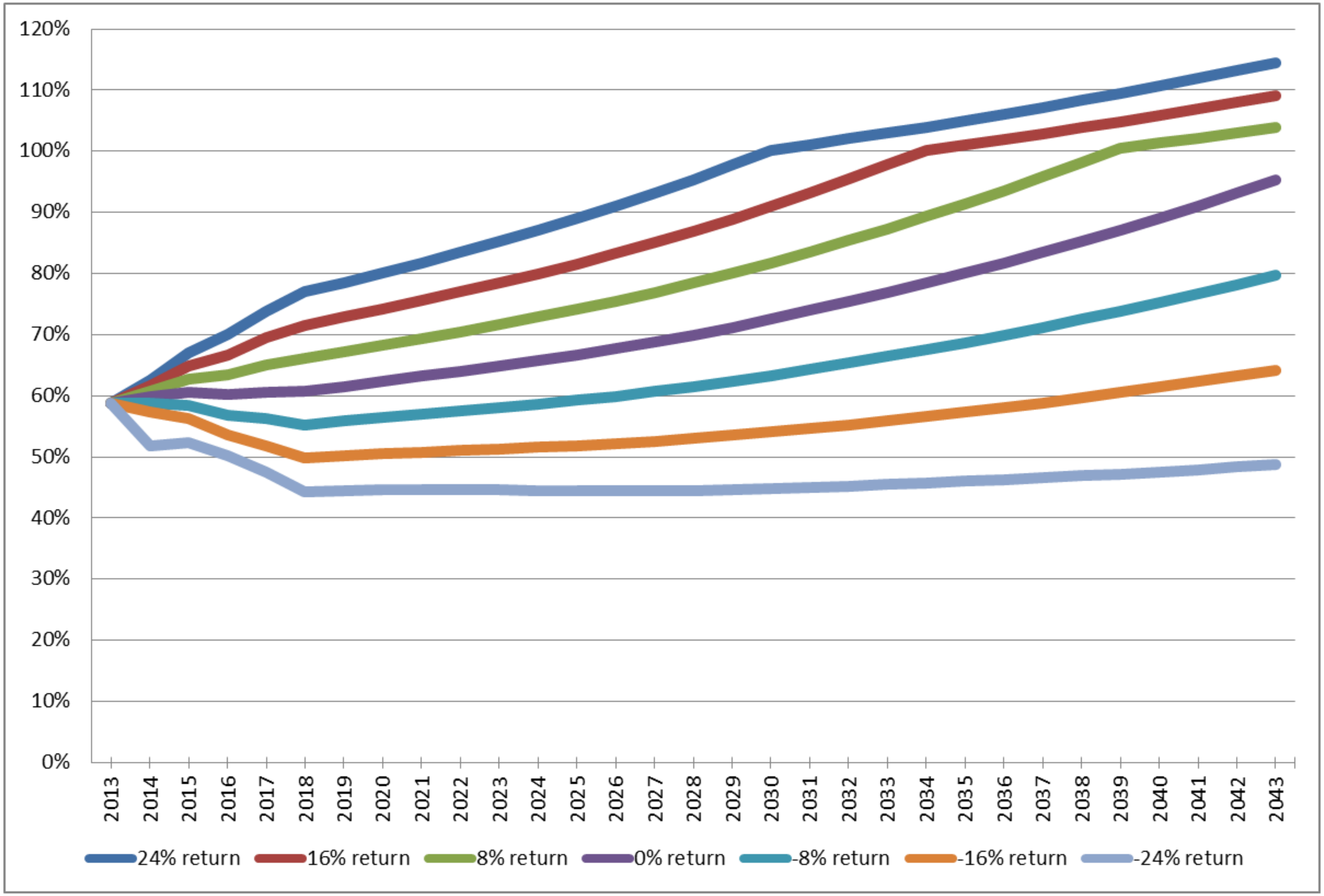
- Prior to 2005, the ARC calculation was based on a 20-year open amortization period.
- From 2005 - 2012, the calculation of the ARC was based on a 30-year open level percentage of payroll amortization.
- Beginning in 2013, the period is 30-year closed.

* Restated from last year's valuation to reflect the actuarial present value of contribution increases effective July 1, 2014.

Projections

- Projections of estimated funded ratios for 30 years
  - Based on FY14 investment return scenarios ranging from -24% to +24%
  - Assumes Fund earns 8% per year in FY15 and each year thereafter
  - Additional projections assuming Fund earns 7% or 9% per year every year
  - All other experience is assumed to emerge as expected
- Includes contribution rate increases from HB 1134
  - Member rate is 9.75% for FY14 and increases to 11.75% for FY15 and thereafter
  - Employer rate is 10.75% for FY14 and increases to 12.75% for FY15 and thereafter
  - Increases “sunset” back to 7.75% once the funded ratio reaches 100% (based on actuarial assets)

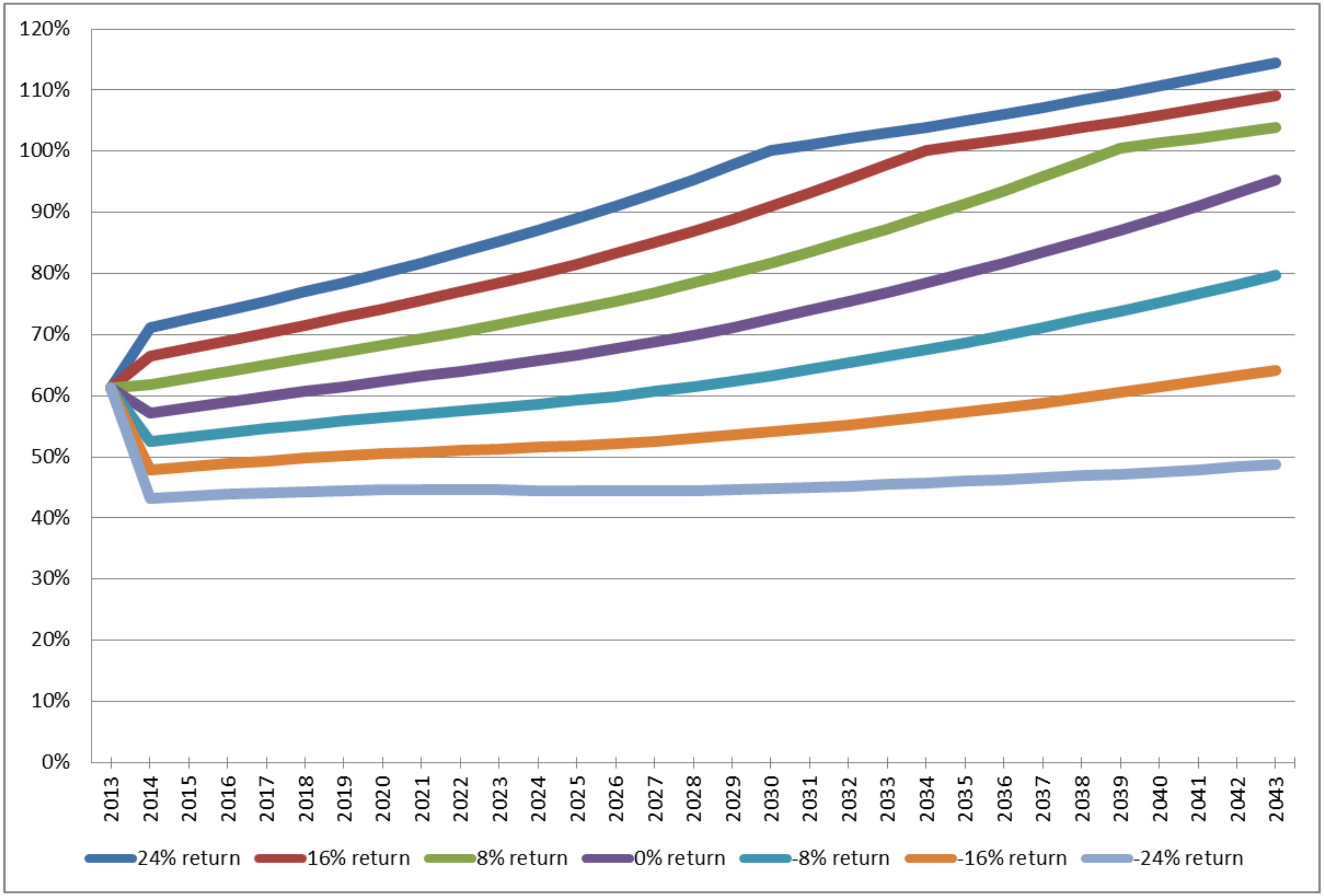
Projected Funded Ratios (AVA Basis)



Projected Funded Ratios (AVA Basis)

Valuation Year	24% for FY2014	16% for FY2014	8% for FY2014	0% for FY2014	-8% for FY2014	-16% for FY2014	-24% for FY2014
2013	59%	59%	59%	59%	59%	59%	59%
2014	63%	62%	61%	60%	59%	57%	52%
2015	67%	65%	63%	61%	58%	56%	52%
2016	70%	67%	63%	60%	57%	54%	50%
2017	74%	69%	65%	61%	56%	52%	47%
2018	77%	72%	66%	61%	55%	50%	44%
2023	85%	78%	72%	65%	58%	51%	45%
2028	95%	87%	78%	70%	61%	53%	45%
2033	103%	98%	87%	77%	66%	56%	45%
2038	108%	104%	98%	85%	72%	60%	47%
2043	114%	109%	104%	95%	80%	64%	49%

Projected Funded Ratios (MVA Basis)



Projected Funded Ratios (MVA Basis)

Valuation Year	24% for FY2014	16% for FY2014	8% for FY2014	0% for FY2014	-8% for FY2014	-16% for FY2014	-24% for FY2014
2013	61%	61%	61%	61%	61%	61%	61%
2014	71%	66%	62%	57%	52%	48%	43%
2015	73%	68%	63%	58%	53%	48%	44%
2016	74%	69%	64%	59%	54%	49%	44%
2017	75%	70%	65%	60%	55%	49%	44%
2018	77%	72%	66%	61%	55%	50%	44%
2023	85%	78%	72%	65%	58%	51%	45%
2028	95%	87%	78%	70%	61%	53%	45%
2033	103%	98%	87%	77%	66%	56%	45%
2038	108%	104%	98%	85%	72%	60%	47%
2043	114%	109%	104%	95%	80%	64%	49%

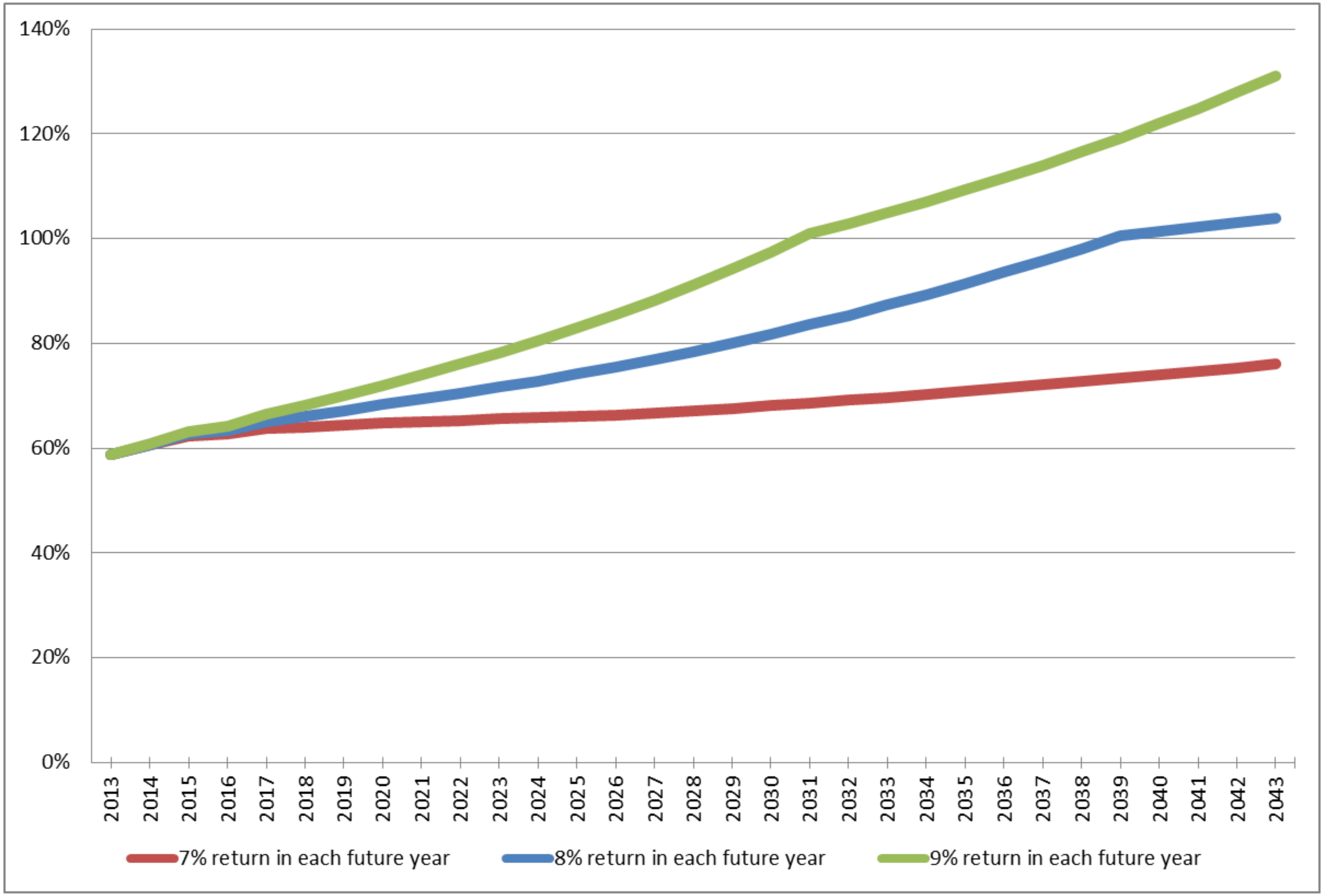
Projected Margin (AVA Basis)

Valuation Year	24% for FY2014	16% for FY2014	8% for FY2014	0% for FY2014	-8% for FY2014	-16% for FY2014	-24% for FY2014
2013	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%
2014	1.78%	1.47%	1.15%	0.84%	0.52%	0.03%	-1.86%
2015	3.01%	2.26%	1.52%	0.77%	0.03%	-0.72%	-2.13%
2016	3.76%	2.59%	1.41%	0.24%	-0.93%	-2.11%	-3.28%
2017	4.86%	3.26%	1.66%	0.06%	-1.54%	-3.14%	-4.75%
2018	5.79%	3.76%	1.73%	-0.31%	-2.34%	-4.37%	-6.40%
2023	7.99%	5.11%	2.23%	-0.65%	-3.53%	-6.41%	-9.29%
2028	11.91%	7.64%	3.38%	-0.89%	-5.15%	-9.42%	-13.68%
2033	5.98%	12.62%	5.47%	-1.68%	-8.83%	-15.97%	-23.12%
2038	7.70%	6.19%	12.70%	3.78%	-5.14%	-14.06%	-22.98%
2043	9.88%	7.99%	6.19%	10.54%	-0.64%	-11.82%	-23.00%

* The projected margin is based on a 30-year closed period starting July 1, 2013. Once the period declines to 10 years remaining, the projected margin is based on a 10-year open period.

** If an overfunding exists, the surplus is amortized over a 30-year open period.

Projected Funded Ratios (AVA Basis)
Actual Returns +1% or -1% of Assumed



Questions?

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MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **October 17, 2013**

SUBJ: **GASB, Moody's, and other national pension issues**

As you know, two new accounting statements were recently approved by the Governmental Accounting Standards Board (GASB) that will change the accounting and financial reporting of public employee pensions by state and local governments. Previous educational sessions have been presented to the Board describing the new way governments will calculate and report the costs and obligations associated with pensions. Pension plans and participating employers will need to soon begin preparing for the changes.

Additionally, Moody's Investor Services has also made adjustments to the pension liability and cost information reported by state and local governments and their pension plans. These adjustments, which Moody's calculates, are intended to improve the comparability of pension information across governments and facilitate the calculation of combined measures of bonded debt and unfunded pension liabilities in Moody's credit analysis.

Kim Nicholl, Segal Company, will update the Board on these changes which are expected to have a significant impact on the State, as well as local governments and school districts.

Enclosures

SEGAL

Public Sector Letter

Benefits, Compensation and HR Consulting DECEMBER 2012

Gearing Up to Comply with GASB's New Accounting Standards for Public Sector Pension Plans and Sponsoring Employers

Concluding a process that began five years ago, in August 2012 the Governmental Accounting Standards Board (GASB) published new accounting and financial reporting standards for pension plans provided through state and local retirement systems and their sponsoring employers that GASB had approved in late June. GASB Statement 67, *Financial Reporting for Pension Plans*, which will apply to state and local pension plans established as trusts or similar arrangements, will replace GASB Statement 25 for fiscal years beginning after **June 15, 2013.** GASB Statement 68, *Accounting and Financial Reporting for Pensions by State and Local Governmental Employers*, which will apply to governments that sponsor or contribute to state or local pension plans, will replace GASB Statements 27 and 50 for fiscal years beginning after **June 15, 2014.**[1]

Statements 67 and 68 establish standards for measuring and recognizing liabilities for accounting purposes, including the actuarial cost method, the discount rate and the amortization methods. In addition, they specify financial statement note disclosure and required supplementary information. This *Public Sector Letter* summarizes the key components of the new standards, which make significant changes to pension accounting and financial reporting for pension plans and for state and local governments that sponsor pension plans.[2] The *Public Sector Letter* concludes with a discussion of the implications of the new accounting standards for sponsors of state and local government plans.

IN THIS ISSUE:

GASB's New Accounting Standards Differ by Plan Type

In applying governmental accounting and financial reporting standards, GASB makes distinctions among different types of pension plans and their participating employers:

- *Single-employer pension plans* provide pensions to the employees of only one employer.
- *Agent multiple-employer pension plans* provide pensions to employees of multiple employers. The plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.
- *Cost-sharing multiple-employer pension plans* provide pensions to employees of multiple employers. The pension obligations for all employees are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

Divorce of Pension Accounting from Funding Measures

Unlike GASB's current accounting standards, which provide for a close link between pension accounting and funding measures, the new accounting standards have divorced financial reporting from any contribution requirements. Under the current standards, the annual required contribution (ARC) is essentially the accounting expense, and serves as a *de facto* funding standard for many plans because one of the disclosures is a historical comparison of the actual contribution made to the ARC. GASB does not — and never did — establish funding standards for public pension plans, and the new accounting standards make that clear by formally divorcing accounting from funding.

In many cases, the new standards do provide for a disclosure similar to the old ARC, but do not require it. *For single and agent employers and for the pension plans of single and cost-sharing employers,* if an actuarially

[1] If practical, employers are required to restate prior financial statements. Otherwise, employers should reflect the cumulative effect of the new accounting standards in the financial statements as a restatement of beginning net position. Both Statements and related information, including fact sheets that GASB released in October, can be accessed from the following page of GASB's website: http://www.gasb.org/cs/ContentServer?site=GASB&c=Page&pagename=GASB%2FPage%2FGASBSectionPage&cid=1176158721844

[2] Readers familiar with the Exposure Drafts issued by GASB in 2011 will find that the final statements generally follow the provisions of Exposure Drafts. GASB has made compliance somewhat easier in some areas including more flexible measurement dates and delayed effective dates.

determined contribution (ADC)[3] is calculated, the required supplementary information will show comparison of the actual contributions made to the ADC. *For single, agent, and cost-sharing employers and for the pension plans of single and cost-sharing employers,* if an ADC is not calculated and the contributions are statutorily or contractually required, the required supplementary information will show comparison of the actual contributions made to the statutory or contractually required contribution. The comparison of actual contributions to the ADC or the statutory/contractual contributions is not required for cost-sharing multiple-employer pension plans or their contributing employers.[4]

The optional nature of reporting the ADC comparison to actual contributions further emphasizes GASB's intentional divorce of funding from accounting.

Single and agent employers whose pension plans do not determine an ADC should consider a review of their funding policy in order to develop an ADC.

Introduction of a New Measurement: Net Pension Liability

For single and agent employers, the balance sheet in the basic financial statements will include a measure of the unfunded (or overfunded) pension obligation, called the net pension liability (NPL).[5] The new NPL is equal to the total pension liability (TPL) minus the plan's fiduciary net position (GASB's term for the market value of plan assets). *Single and cost-sharing pension plans* will report the components of the NPL in the notes to the pension plans' financial statements. The NPL should be measured as of a date no earlier than the end of the employer's prior fiscal year.

The TPL is the portion of the actuarial value of projected benefit payments that is attributed to past periods of service. Those projected benefits include projected salary increases, projected service, automatic cost-of-living adjustments (COLAs), and *ad hoc* COLAs to the extent that they are considered substantively automatic. All plans are required to use the entry age actuarial cost allocation method to determine the total liability as of the reporting period: projected benefits are discounted to their present value as of employees' hire ages and then attributed to employees' expected periods of employment as a level percentage of projected payroll. Many states and local pension plans already use the entry age actuarial cost method for funding purposes, along with a discount rate based on the long-term expected rate of return on plan investments. The TPL is based on a discount rate that may be based in part on a municipal bond rate. The derivation of the discount rate is described in detail in the next section.

Discount Rate for Calculating Total Pension Liability

If current and expected future plan assets (related to benefits for *current* plan participants) are insufficient to cover future benefit payments for current employees and retirees, the new basis for discounting projected benefit payments to their present value would require using a "blended" discount rate. The long-term expected rate of return can be used to discount only those projected benefits that are covered by projected assets. Any projected benefits that are not covered by projected assets would be discounted using a yield or index rate for 20-year tax-exempt municipal bonds with an average rating of AA/Aa or higher. The blended discount rate, which GASB calls the single discount rate, is determined as follows:

- Project annual future benefit payments for current employees, inactive employees and retirees.
- Project the annual value of plan assets including current assets, projected employer and employee contributions, and investment earnings. Note that any projected contributions intended to finance the service cost of future employees are excluded. Projected contributions from future employees are also excluded unless those contributions are projected to exceed the service costs for those employees.
- Discount projected benefits using the long-term expected rate of return to the extent that the projected assets exceed the projected benefit payments.
- Discount all other projected benefits using the municipal bond rate.
- Determine the single discount rate that, when applied to all projected benefits, equals the sum of the two present values using the long-term expected rate of return and the municipal bond rate.

Note that if contributions are established by contract or statute or if a written funding policy related to employer contributions exists, professional judgment should be applied to project employer contributions based on those contractual, statutory or policy provisions. Professional judgment should consider the most recent five-

[3] The ADC is defined as follows:

> A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with the Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

[4] A large table that summarizes the disclosure requirements introduced by Statements 67 and 68 is available as an online supplement to this *Public Sector Letter*. See the following page of The Segal Company's website: http://www.segalco.com/publications/publicsectorletters/dec12supp.pdf

[5] Under current accounting rules, the only balance sheet pension liability is the "Net Pension Obligation" which is the cumulative difference (if any) between the ARC and the actual contributions. This meant that employers who consistently contributed the ARC amount showed no pension liability on their balance sheets.

year contribution history and should reflect all known conditions. Otherwise, the projected contributions are limited to the average of the most recent five-year period, although this may be modified based on consideration of subsequent events. This is another reason employers should consider establishing a funding policy if one does not currently exist.[6]

Recognition of Pension Expense by Employers

For single and agent employers, pension expense in the current reporting period is based on changes in the NPL during the period. Most annual changes in NPL are immediately recognized as pension expense when they occur. These changes include the following (a plus sign indicating that a change is an increase in the NPL and so is an addition to pension expense, while a minus sign indicates the change is a decrease in the NPL and so is a subtraction from pension expense):

- Service cost (*i.e.*, normal cost under the entry age actuarial cost method (+),
- Interest on the TPL (+),
- Projected (*i.e.*, expected) earnings on the plan's investments (–),
- Actual member contributions (–),
- Administrative expenses (+), and
- Changes in TPL due to changes in benefit provisions (+ or –).

Other changes in the NPL are included in pension expense over the current and future periods. These changes include:

- Changes in TPL due to assumption changes or gains and losses are recognized over a closed period equal to the average of the expected remaining service lives of *all* employees that are provided with benefits through the pension plan, including active employees, inactive employees, and retirees, and
- Differences between assumed and actual investment returns on pension plan assets are recognized as pension expense over a closed five-year period.

The requirements discussed above apply to *employers* that sponsor pension plans. Pension *plans* do not recognize pension expense. However, pension plans must disclose a schedule of changes in the NPL, which will include most of the above items.

Cost-Sharing Employers

Under current GASB accounting standards, a cost-sharing employer's pension expense is its contractually required contribution to the cost-sharing pension plan. The balance sheet liability is the accumulated difference (if any) between the contractually required contribution and the actual contribution. The majority of cost-sharing employers contribute the contractually required contributions to the plan and therefore have no liability for pensions on their balance sheet.

- ***Net Pension Liability*** Under the new standards, an employer participating in a cost-sharing multiple-employer pension plan would report an NPL in its own financial statements based on its proportionate share of the collective NPL for the entire plan. The NPL for the entire plan is determined using the methods described above for single and agent employers. An individual employer's proportionate share of the collective NPL is determined using a method that is consistent with how the cost-sharing plan determines the contributions for the cost-sharing employers. A method that is based on the employer's projected long-term contributions to the pension plan as compared to the total projected long-term contributions of all employers is encouraged. The method could be based on the individual employer's share of the total employer contributions, payroll, or the method used by the cost-sharing plan to determine employer contribution.
- ***Pension Expense*** Consistent with reporting NPL, a cost-sharing employer's pension expense will be its proportionate share of the collective pension expense for the entire plan. In addition, if there is a change in the employer's proportion of the collective NPL since the prior measurement date, the net effect of that change is recognized in pension expense over the remaining service lives of all employees, inactive employees, and retirees. Similarly, the annual difference between an employer's actual contributions and its proportionate share of total contributions is recognized in pension expense over the remaining service lives of all employees, inactive employees, and retirees.

Special Funding Situations

The new accounting standards address special funding situations, when an entity (called a nonemployer contributing entity) that does not employ plan participants is legally responsible for making contributions directly to the pension plan. An example of a special funding situation is when the state pays a portion of the contribution for the school district. The nonemployer contributing entity must recognize an NPL and expense by applying the cost-sharing measurement described just above to the collective NPL and expense. The employer then recognizes a reduction in NPL and expense equal to the nonemployer contributing entity's proportionate share of the collective NPL and expense.

[6] For more information on establishing a successful funding policy, see The Segal Company's November 2011 *Public Sector Letter*: http://www.segalco.com/publications/publicsectorletters/nov2011.pdf

"GASB's new accounting standards substantially redefine pension expense and move funded status information to the balance sheet. These changes may have significant consequences for state and local governments."

Measurement Timing and Frequency

The measurement date of the NPL is as of a date no earlier than the end of the employer's prior fiscal year. Plan assets must be determined as of the measurement date. Actuarial valuations that determine the TPL must be performed at least every two years, although more frequent valuations are encouraged. The TPL as of the measurement date is determined either by:

- An actuarial valuation as of the measurement date, or
- Use of update procedures to roll forward from an actuarial valuation performed as of a date not more than 30 months plus one day prior to the current fiscal year end.

Implications

As noted, current GASB standards base pension expense on the ARC, which requires amortization of the unfunded liability over a period no greater than 30 years. In addition, funded status information does not appear in the financial statements, but does appear in the footnotes. GASB's new accounting standards substantially redefine pension expense and move funded status information to the balance sheet. These changes may have significant consequences for state and local governments:

- Reporting the NPL on the entity's financial statements (rather than reporting the historical difference between actual contributions and the ARC) will change the focus of the statements from the entity's long-term commitment to fund its obligation to a short-term emphasis on the funded status snapshot in time.
- Immediate recognition of changes in liability due to plan amendments and accelerated recognition of changes in liability due to actuarial gains and losses and changes in actuarial assumptions will result in a pension expense very different from the contribution amounts and will likely cause confusion between pension expense and pension funding. In addition, this heavy emphasis on immediate recognition of liability changes may result in policymakers choosing short-term expediency rather than the long-term impact of their decisions.
- It will be natural for stakeholders to compare the NPL to the unfunded actuarial accrued liability and pension expense to contribution requirements even though one set of numbers is for accounting purposes and the other is for funding purposes. This comparison will cause concern and confusion. It will be important for entities to communicate with stakeholders about the purpose of each measurement.

This confusion may lead to certain parties using the results for political and personal ends rather than focusing on the goals and objectives that are the reasons that the retirement systems were first created. This may lead to unintended consequences for taxpayers, plan participants and the users of government services.

For all the above reasons, retirement plans and the sponsors of these plans should establish or revisit existing funding policies to assure that they support long-term funding commitments, provide intergenerational equity and are transparent to stakeholders.

■ ■ ■

For more information about GASB's new pension accounting standards or assistance in working with auditors to comply with those standards, contact your Segal Company benefits consultant or one of the following experts:

- *Kim Nicholl, FSA, FCA, MAAA, EA*
  312.984.8527
  knicholl@segalco.com
- *Paul Angelo, FSA, FCA, MAAA, EA*
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  ceitelberg@segalco.com

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE
Teachers' Fund for Retirement
State Investment Board

Segal Consulting

North Dakota Teachers' Fund for Retirement

Hypothetical GASB 67/68 Illustrations for FY2013

October 24, 2013

Presented By:

Kim Nicholl, FSA, MAAA, EA
Senior Vice President

Matthew Strom, FSA, MAAA, EA
Consulting Actuary

This document has been prepared by Segal Consulting for the benefit of the Board of Trustees of the North Dakota Teachers' Fund for Retirement and is not complete without the presentation provided at the October 24, 2013 meeting of the Board of Trustees. This document should not be shared, copied or quoted, in whole or in part, without the consent of Segal Consulting, except to the extent otherwise required by law. Except where otherwise specifically noted, the actuarial calculations and projections were completed under the supervision of Matthew A. Strom, FSA, MAAA, Enrolled Actuary.

#5388686

What Do the New GASB Requirements Mean for TFFR?

- GASB 67 provides for accounting with respect to TFFR (replaces GASB 25)
  - Effective for fiscal year July 1, 2013 to June 30, 2014
- GASB 68 provides for financial reporting by employers with respect to TFFR (replaces GASB 27)
  - Effective for fiscal year July 1, 2014 to June 30, 2015
- Net Pension Liability reported on the employer's balance sheet and in TFFR's notes to the financial statements
  - Entry age cost method
  - Market value of assets
  - Blended discount rate
- Accounting and financial reporting divorced from contribution requirements
- Annual pension expense (for employers) is essentially equal to change in Net Pension Liability during the year, with deferrals of certain items

Net Pension Liability Reported on Financials

- Net Pension Liability (NPL)
  - Total Pension Liability minus market value of assets (Plan Net Position)
- NPL is required to be reported in TFFR's footnotes and the employer's balance sheet
- NPL is calculated using:
  - A new blended discount rate
  - "Entry age" (traditional) actuarial cost method
    - TFFR now uses this approach
  - Market value of assets
    - TFFR's current actuarial value of assets is based on five-year smoothing of investment gains and losses

Net Pension Liability Reported on Financials *continued*

- Discount rate is based on projected benefits, current assets, and projected assets for current members
  - Projected assets include contributions on behalf of current members and **exclude** contributions intended to fund the service cost for future employees
- For projected benefits that are covered by projected assets
  - Discount using the long-term expected rate of return on assets
  - TFFR's long-term rate of return is 8%
- For projected benefits that are **not** covered by projected assets
  - Discount using yield on 20-year AA/Aa tax-exempt municipal bond index
  - As of June 30, 2012, rate is 3.37%
  - As of June 30, 2013, rate is 3.92%
- Solve for a single rate that gives the same total present value
  - Use that single equivalent rate to calculate the Total Pension Liability (TPL)

Expense and Funding Are Divorced

- New GASB pension expense is the change in NPL each year (with certain deferrals described below)
- Components of the new pension expense include:
  - Service cost (i.e., normal cost)
  - Interest on the Total Pension Liability (TPL) as of beginning of year
  - Changes in Total Pension Liability over the year (with certain deferrals)
    - Plan amendments recognized immediately
    - Changes in actuarial assumptions and actuarial gains and losses amortized over average expected remaining service lives of active **and** inactive members (including retirees)
    - Average expected remaining service for TFFR is about 7 years
  - Differences between actual and projected earnings over the year recognized in expense over closed 5 year period
  - Projected investment returns over the year
  - Employee contributions
  - Other changes in Plan Net Position (i.e., market value of assets)

Expense and Funding Are Divorced *continued*

- Deferred items are shown as “Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions”
  - “Deferred **outflows**” are increases in NPL that have not been recognized through expense; “deferred **inflows**” are decreases in NPL that have not been recognized through expense
  - For example, in TFFR’s case, 1/7th of demographic actuarial gains/losses would be recognized in pension expense for the year; the remaining 6/7^{ths} would be recorded as a deferred inflow/outflow
    - Includes the impact of any change in the blended discount rate from one measurement date to the next
  - Similarly, 1/5th of investment gains/losses in the fiscal year are recognized in pension expense for the year and the remaining 4/5^{ths} are recorded as a deferred inflow/outflow
- Employer contributions for the year are not recognized in pension expense
  - However, employer contributions made after the measurement date and prior to the reporting period should be reported as a deferred outflow of resources related to pensions

Discount Rate (June 30, 2013)

$ Thousands

Year	Projected UAL (MVA Basis)	Projected Assets (MVA)	“Funded” Benefits	“Unfunded” Benefits
2013	$1,157,555	$1,839,584	$224,634	$0
2018	1,226,841	2,280,333	225,195	0
2023	1,209,301	2,780,565	275,976	0
2028	1,080,639	3,333,222	305,987	0
2033	770,860	4,058,532	345,697	0
2038	174,023	4,987,006	384,785	0
2043	0	5,718,079	427,451	0
2048	0	6,008,196	461,599	0
2053	0	6,136,689	440,035	0
2058	0	6,496,728	371,525	0
2063	0	7,458,171	290,569	0

- Contributions through 2038 for new members can be included in projected assets
- Projected assets remain positive and therefore all benefit payments are discounted at the long-term discount rate
  - Result is a “blended” discount rate of 8% for TFFR

Net Pension Liability (NPL)

$ Thousands

	June 30, 2013	June 30, 2012
Total Pension Liability at 8.00%	$2,997,139	$2,858,399
Net Plan Position (i.e., MVA)	1,839,584	1,654,150
Net Pension Liability (NPL)	1,157,555	1,204,249
Sensitivity to changes in discount rate		
• 1% decrease (7.00%)	$1,538,142	
• Current discount rate (8.00%)	1,157,555	
• 1% increase (9.00%)	833,648	

Changes in Net Pension Liability

$ Thousands

	Increase/(Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at 6/30/2012	$2,858,399	$1,654,150	$1,204,249
Changes for the year:			
• Service cost	60,724		60,724
• Interest on Total Pension Liability	222,712		222,712
• Differences between expected and actual experience	4,301		4,301
• Contributions – employer		62,025	(62,025)
• Contributions – member		53,825	(53,825)
• Net investment income		220,205	(220,205)
• Benefit payments and refunds	(148,997)	(148,997)	0
• Administrative expenses		(1,624)	1,624
• Net changes	138,740	185,434	(46,694)
Balances at 6/30/2013	$2,997,139	$1,839,584	$1,157,555

Pension Expense for FYE June 30, 2013

$ Thousands

	June 30, 2013
Service cost	$60,724
Interest on the Total Pension Liability	222,712
Recognized portion of current-period difference between expected and actual experience	614
Member contributions	(53,825)
Projected earnings on plan investments	(132,578)
Recognized portion of current-period difference between projected and actual earnings on plan investments	(17,525)
Administrative expense	1,624
Recognition of deferred outflows of resources	0
Recognition of deferred inflows of resources	0
Pension expense for FYE 6/30/2013	$81,746

Deferred Outflow and Inflows of Pension Resources

$ Thousands

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$3,686	
Net difference between projected and actual earnings on pension plan investments		$70,102
Employer contributions subsequent to measurement date		
Total	$3,686	$70,102

- Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions (excluding employer contributions subsequent to the measurement date) will be recognized in future pension expense as follows:

Year ended 6/30/2014	($16,911)
Year ended 6/30/2015	(16,911)
Year ended 6/30/2016	(16,911)
Year ended 6/30/2017	(16,911)
Year ended 6/30/2018	614
Thereafter	614

Impact on Employers

- Each employer must disclose their proportionate share of:
  - Net Pension Liability (Asset)
  - Pension expense
  - Deferred outflows of resources and deferred inflows of resources related to pensions
- For TFFR, the proportionate share can be allocated based on covered payroll
  - TFFR total covered payroll for FY13 is approximately $527M
- For this hypothetical exercise, we consider the following two sample employers:
  - Sample #1, a large employer, has covered payroll of $55M
    - Approximately 10% of total payroll
  - Sample #2, a small employer, has covered payroll of $6M
    - Approximately 1% of total payroll

Proportionate Share of NPL

$ Thousands

	Total	Sample #1	Sample #2
Payroll	$527,000	$55,000	$6,000
NPL/Proportionate Share	1,157,555	120,877	13,187
Sensitivity to changes in discount rate			
• 1% decrease (7.00%)	$1,538,142	$160,619	$17,522
• Current discount rate (8.00%)	1,157,555	120,877	13,187
• 1% increase (9.00%)	833,648	87,053	9,497
Pension Expense/Proportionate Share	$81,746	$8,536	$931
Deferred Outflows of Resources	3,686	385	42
Deferred Inflows of Resources	70,102	7,320	799

Required Supplementary Information

$ Thousands

	Sample #1	Sample #2
District's proportion of NPL	10.4%	1.1%
District's proportionate share of the NPL	$120,877	$13,187
District's covered employee payroll	$55,000	$6,000
District's proportionate share of the NPL as a percentage of its covered employee payroll	219.8%	219.8%
Plan fiduciary net position as a percentage of the total pension liability	61.4%	61.4%
Contractually required contribution	$5,913	$645
Contributions in relation to the contractually required contribution	(5,913)	(645)
Contribution deficiency (excess)	$0	$0
District's covered employee payroll	$55,000	$6,000
Contributions as a percentage of covered employee payroll	10.75%	10.75%

Questions?

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October 2, 2013

MEETING NOTICE

Senator Dick Dever, Chairman, has called a meeting of the **EMPLOYEE BENEFITS PROGRAMS COMMITTEE**.

Date: Wednesday, November 6, 2013

Time: 9:00 a.m.

Place: Harvest Room, State Capitol, Bismarck

Agenda: Receive July 1, 2013, actuarial reports for the Public Employees Retirement System, the Highway Patrolmen's retirement system, and the Teachers' Fund for Retirement; receive information regarding implementation of 2013 legislation relating to public employee benefits programs; receive information regarding new Governmental Accounting Standards Board standards; and committee discussion regarding public employee benefits programs

Special Note: Anyone who plans to attend the meeting and needs assistance because of a disability should contact the Legislative Council staff as soon as possible.

Committee Members: Senators Dick Dever, Spencer Berry, Ralph Kilzer, Karen K. Krebsbach, David O'Connell, Connie Triplett; Representatives Randy Boehning, Roger Brabandt, Jason Dockter, Jessica Haak, Scott Louser, Kenton Onstad, Don Vigesaa

Staff Contact: Jennifer S. N. Clark, Counsel

Any member unable to attend this meeting is asked to notify this office as soon as possible.

Sincerely,

Jim W. Smith
Director

JWS/JJB

MEMORANDUM

TO: TFFR Board

FROM: Shelly Schumacher

DATE: October 24, 2013

SUBJ: 2011 Legislative Implementation Update

Since your last update in May 2013, TFFR staff has completed implementing the 2011 legislative changes with the exception of the final contribution increase scheduled for July 1, 2014. TFFR employers will be asked to complete a new Employer Payment Plan form in January 2014 and they will also be instructed to modify their payroll systems to increase the employer and employee contribution rates effective July 1, 2014.

HB 1133	Administrative changes	08-01-11
HB 1134	Contribution increases	07-01-12
	Benefit changes	07-01-13
	Contribution increases	07-01-14

<u>System programming modifications</u>

HB 1133 – programming complete

- Administrative changes – removal of 60 month survivor death option

HB 1134 – programming complete

- Phase 1 - contribution increases
  Employer reporting / retiree re-employment / employer payment plan model changes / purchase of service
- Phase 2 - benefit changes
  Grandfathering determination / retirement calculation / disability calculation / purchase of service

CPAS programming cost for HB 1134 - $192,500

<u>Communications</u>

- TFFR Newsletters
  Employer Newsletter (quarterly)
  Active Member Newsletter (semi-annual)
  Retired Member Newsletter (semi-annual)

- Annual Statement (non-retired)

  Removed benefit projections from the 2011, 2012, and 2013 annual statements and included letter outlining impact of legislation (sample of 2013 letter attached). The August 2013 annual statement showed the member's new Tier (Tier 1 Grandfathered, Tier 1 Non-grandfathered, or Tier 2). The August 2014 annual statements will again show benefit projections based on the new Tier.

  The grandfathering process went smoothly and resulted in 3,655 Tier 1 grandfathered members, 3,445 Tier 1 non-grandfathered members, and 3,038 Tier 2 members.

  Manual review was required for about 500 dual members to determine if the dual service with NDPERS impacted the grandfathering calculation. Review resulted in 72 Tier 1 non-grandfathered members being manually changed to Tier 1 grandfathered. These dual members in addition to the annual statement were sent a letter informing them that the dual service was used for grandfathering and if they refund their PERS service they will become Tier 1 non-grandfathered.

- RIO – TFFR website

  Presentations, legislative information, publications, etc.

- Interest Group Conferences

  NDSBMA Spring Workshops
  NDRTA Annual Conference
  NDEA Annual Conference
  NDCEL Annual Conference
  NDSBA Annual Conference
  Other Meetings and Conferences by Request

- TFFR Preretirement Seminars
- TFFR Benefits Counseling Sessions

Publications and Forms

Updated Employer Guide, Member Handbook, brochures
Updated all member and employer forms and form letters

ND Retirement and Investment Office

State Investment Board
Teachers' Fund for Retirement

1930 Burnt Boat Drive
P.O. Box 7100
Bismarck, ND 58507-7100
Telephone 701-328-9885
Toll Free 800-952-2970
Fax 701-328-9897
www.nd.gov/rio

MEMORANDUM

TO: **Participating TFFR Members**

FROM: **TFFR Retirement Services**

DATE: **August 2013**

SUBJ: **TFFR Grandfathering Membership Status Update**

Enclosed is your 2013 TFFR Retirement Benefit Statement which is sent to you after the close of each fiscal year. The statement provides you with valuable information about your retirement account including contributions paid, service credit and salary reported by your employer, and beneficiary(ies) you have designated. **This statement also includes your TFFR Grandfathered Membership Status effective June 30, 2013.** Please review the statement for accuracy and contact the administrative office if you would like to discuss your account.

As you know, legislation approved by the 2011 Legislature increased member and employer contribution rates effective July 1, 2012 and 2014, and modified certain benefit provisions effective July 1, 2013. A summary of TFFR pension benefits and contribution rate changes is on the reverse side of this letter. Details are also included in the 2013 Member Handbook found on the TFFR website: (http://www.nd.gov/rio/TFFR/Publications/Handbook1.htm).

The implementation of the 2011 legislative changes is complete and TFFR has determined your membership status. Each member's status (Tier 1 Grandfathered, Tier 1 Non-grandfathered, or Tier 2) is displayed on the enclosed 2013 annual statement. Next year, TFFR will calculate benefit estimates and retirement eligibility dates on your 2014 annual statement based on your membership status.

Tier 1 Grandfathered: If you are a vested Tier 1 member and less than 10 years away from unreduced retirement eligibility (either age 55 or had the Rule of 65 or greater on 6/30/13), you are grandfathered under retirement eligibility provisions in effect prior to July 1, 2013 and will be eligible to retire at the Rule of 85. Annual statements you have previously received reflect the estimated date you are expected to reach the Rule of 85.

Tier 1 Non-grandfathered & Tier 2: If you are a Tier 1 member and more than 10 years away from unreduced retirement eligibility (did not have Rule of 65 on 6/30/13) or a Tier 2 member, you are not grandfathered and are subject to the retirement eligibility provisions in effect after July 1, 2013. Annual statements you previously received which include retirement eligibility dates and benefit estimates should be disregarded, since they do not reflect your new retirement eligibility date which has been re-determined based on 2011 legislation.

To obtain retirement benefit information or if you have questions about your account, please contact the Retirement Services staff at 1-800-952-2970 or email rio@nd.gov.

SUMMARY OF TFFR PENSION BENEFITS FOR MEMBERSHIP TIERS

	Tier 1 Grandfathered	Tier 1 Non-grandfathered	Tier 2
Vesting Period	3 years	3 years	5 years
Unreduced Retirement Eligibility			
Minimum Age	None	60	60
AND Rule	Rule of 85	Rule of 90	Rule of 90
Or Normal Retirement Age	65	65	65
Reduced Retirement Eligibility			
Minimum Age	55	55	55
Reduction Factor	6%	8%	8%
Retirement Multiplier	2%	2%	2%
X Final Average Salary	3 year FAS	3 year FAS	5 year FAS
X Service Credit	Total years	Total years	Total years
Disability Retirement	Yes	Yes	Yes
Disability Vesting Service	5 years	5 years	5 years
FAS x service credit x 2% multiplier			
Death/Survivor Benefits	Yes	Yes	Yes

Refund of account value or life annuity to beneficiary based on member's vesting status and number of beneficiaries.

CONTRIBUTION RATES

	Employer	Member	Total
7/1/10	8.75%	7.75%	16.5%
7/1/12	10.75%	9.75%	20.5%
7/1/14	12.75%	11.75%	24.5%

Note: Increased rates will be in effect until TFFR reaches 100% funded ratio; then rates will be reduced to 7.75% each.

TFFR Ends
Annual Review
Year Ended June 30, 2013

The information provided below indicates that the TFFR ends policies formally adopted by the TFFR Board and accepted by the SIB are being implemented.

Ends Policy: **Membership Data and Contributions**

Ends: Ensure the security and accuracy of the members' permanent records and the collection of member and employer contributions from every governmental body employing a teacher.

- **Member and Employer Information**

  We have used the CPAS pension administration software and FileNet document management software for eight years and both continue to meet our needs. During the past year additional CPAS configuration was done to handle the legislated changes that created additional tier membership (Tier 1 grandfathered, Tier 1 non-grandfathered) and modified retirement eligibility for unreduced retirement. Disability retirement eligibility and benefits were also modified. RIO staff also worked with PERS to complete new monitoring reports and procedures for dual membership.

- **Collections and Payments**

  Collected member and employer contributions totaling $113.2 million from 220 employers and $2.6 million from members for the purchase of service credit.

  Paid out $145.9 million in pension benefits and $3.1 million in refunds and rollovers totaling $149 million for the year.

  About 72% of employers electronically report contributions to TFFR. This comprises over 94% of the active membership.

  As of June 30, 2013, 148 employers are reporting using TFFR Employer Online Services.

  Assessed 25 reporting penalties and withheld foundation payments from 2 school districts a total of 3 times. TFFR waived 10 of the 25 penalties. Employer reporting penalties include late reporting of contributions and failure to provide documentation in a timely manner (e.g. new member forms, return to teach forms, employer compliance audit documentation.)

- **Employer Outreach Programs**

  Met with school board members, business managers, and software vendors at the 2012 School Board and School Business Manager Association Annual Conference. A presentation to school board attendees was also provided.

  Made four presentations to school district business managers at regional workshops on TFFR reporting requirements.

Ends Policy: **Member Services**

Ends: Provide direct services and public information to members of TFFR.

- **Outreach Program Statistics**

1,715 people attended outreach programs (plus convention participants)
Retirement Services staff traveled 6,811 miles

- **Preretirement Seminars**

158 members attended
2 locations – Fargo & Minot

Pre-retirement Seminars are generally held at two sites each year in July and rotate between Bismarck, Minot, Fargo, and Grand Forks. Additional seminars will be added if requested by an employer and minimum attendance can be met.

- **Benefits Counseling Sessions**

Statewide - 265 members
14 locations – Grand Forks, Williston, Valley City, Dickinson, Fargo, Minot, Devils Lake, Bismarck, Jamestown, Wahpeton, Bottineau, West Fargo, Harvey, and Beulah

Local Office – 333 members

- **Group Presentations**

959 people attended

NDRTA Convention
Retirement 101 (Bismarck)
Spring Business Managers Workshop (Minot, Grand Forks, Valley City, Mandan)
NDCEL Conferences
NDEA Convention – Active & Retired Members
SBA Convention – School Board Members
SBA Negotiations Conference
Fargo/Cass Co RTA
ESPB
Mt. Pleasant Inservice

- **Conferences and Conventions**

ND Retired Teachers Convention – Jamestown
ND School Board Convention - Bismarck
ND Career and Technical Education Convention – Bismarck
NDCEL Annual Conference – Bismarck
NDEA Instructional Conference – Fargo
NDEA Representative Assembly – Bismarck

- **Member/Employer Communications**

  Report Card non-retired newsletter (2 publications)
  Retirement Today retiree newsletter (2 publications)
  Briefly employer newsletter (4 publications sent electronically)
  Updated Employer Guide
  Updated forms and publications with recent legislation

- **Member Statements**

  Mailed 11,909 annual benefits statements to non-retired members in August
  Mailed 7,581 annual statements to retired members in December

- **Other**

  NDRIO web site was visited by 9,921 people a total of 21,323 times. The average length of each visit was three minutes.

Ends Policy: **Account Claims**

Ends: Ensure the payment of claims to members of TFFR.

- **Annuity Payments**

  Distributed annuities to 7,393 retired members and beneficiaries as of June 30, 2013. For the year, pension benefits totaled $145.9 million. Of the total, about 99% of the payments were deposited via electronic funds transfer.

- **Monthly Payroll Deductions** (July 1, 2013 payroll – total 7,457)

Federal tax withholding	5,569	75%
ND state tax withholding	4,533	61%
PERS health insurance	740	10%
PERS dental insurance	398	5%
PERS vision insurance	159	2%
PERS life insurance	37	<1%

- **Refunds, Rollovers & Transfers**

  Distributed refund and rollover payments of $3.1 million to 203 participants during the fiscal year. Approximately 35% of the refunding members rolled over their refund payment to an IRA or another eligible plan.

- **Processed Claims for Benefits**

Refunds	133
Rollovers	70
Retirements	425
Disabilities	11
Survivor annuitants	6
Continuing annuitants	38

- **Member Account Activity**

New members	974	
Deaths	149	
Pop ups	23	
Purchase requests	189	(8 members purchased service to be grandfathered)

Ends Policy: **Trust Fund Evaluation/Monitoring**

Ends: Ensure actuarial consulting and accounting services are provided to the retirement program. The TFFR Board of Trustees will select the independent actuary for consulting and actuarial purposes and direct a contract to be executed.

- **Actuarial Services**

  The annual actuarial valuation for July 1, 2013 will be presented to the TFFR Board by Segal on October 24, 2013.

- **External Audit**

  An unqualified opinion was issued by independent auditors, Clifton Larson Allen, LLP, regarding RIO's financial statements for the year ending June 30, 2013. Clifton Larson Allen, LLP will present the report to the SIB Audit Committee in November 2013.

- **Internal Audit**

  The Internal Audit report will be presented to the TFFR Board on October 24, 2013.

- **Other**

  Received Certificate of Achievement in Financial Reporting from GFOA for June 30, 2012, Annual Financial Report.

  Received 2012 recognition award for pension plan administration from the Public Pension Coordinating Council. Application for 2013 is in process.

TFFR Retirement Statistics

>Participation in Outreach Programs

>Service Purchase Statistics

>Active Membership Tier Statistics

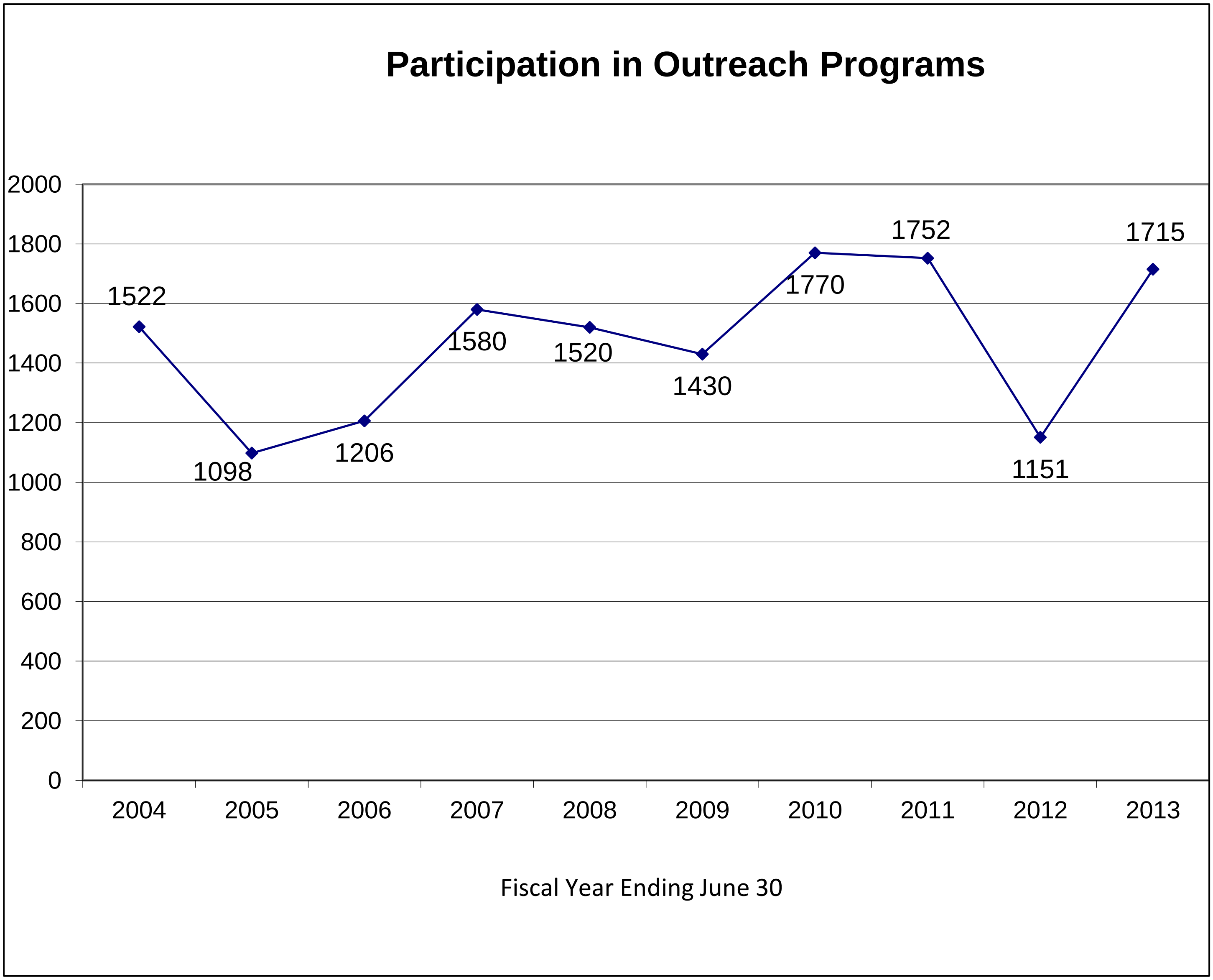
>Service Retiree History & Option Usage

>Retiree Statistics

>Disability Retirements

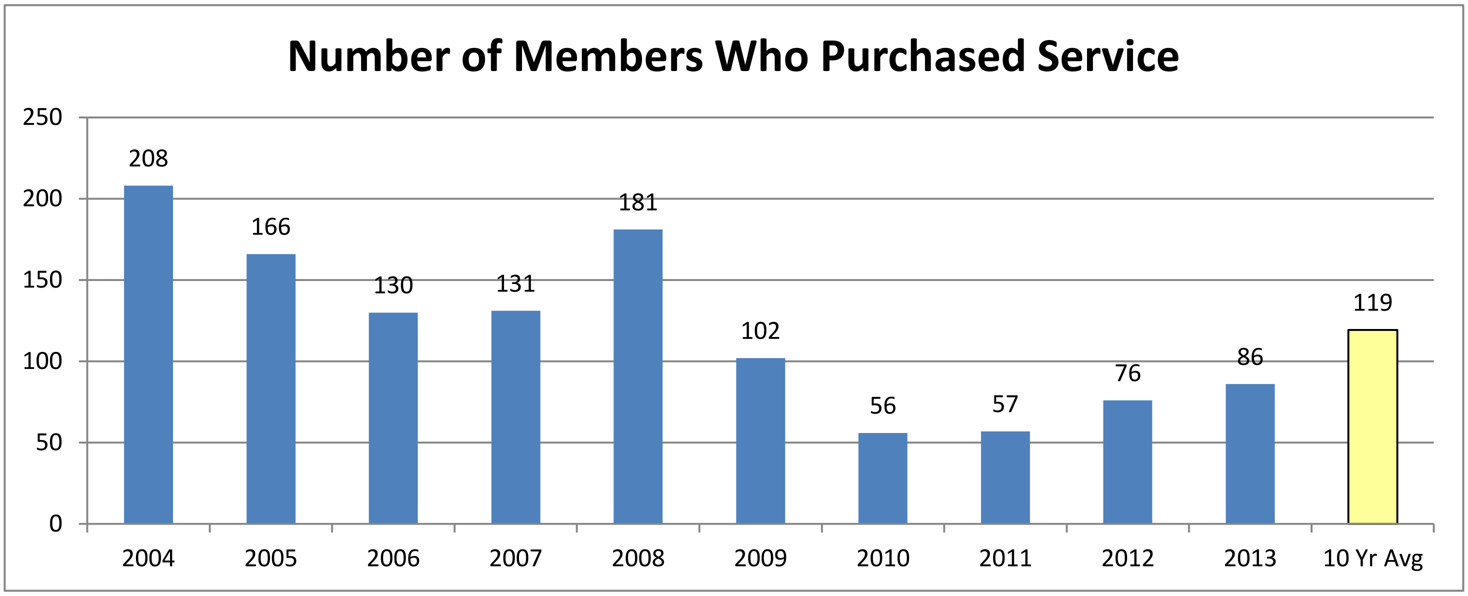
>Re-Employed Retirees

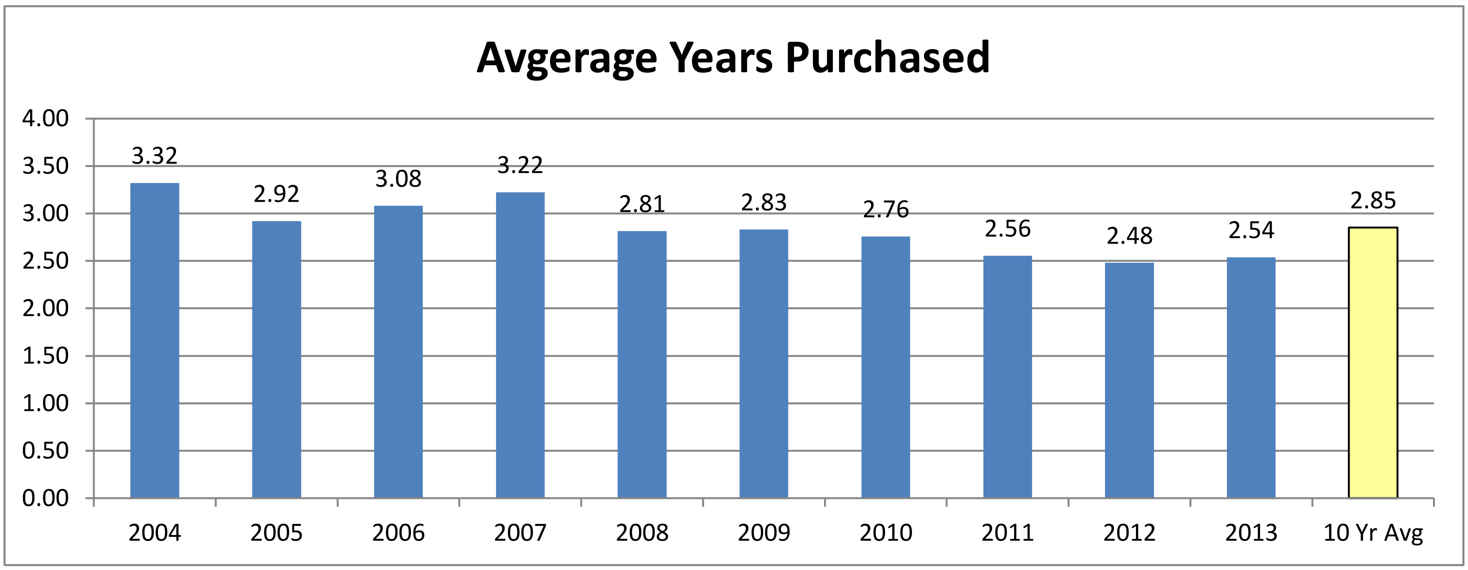
>Employer History & Current Employer Payment Model Statistics

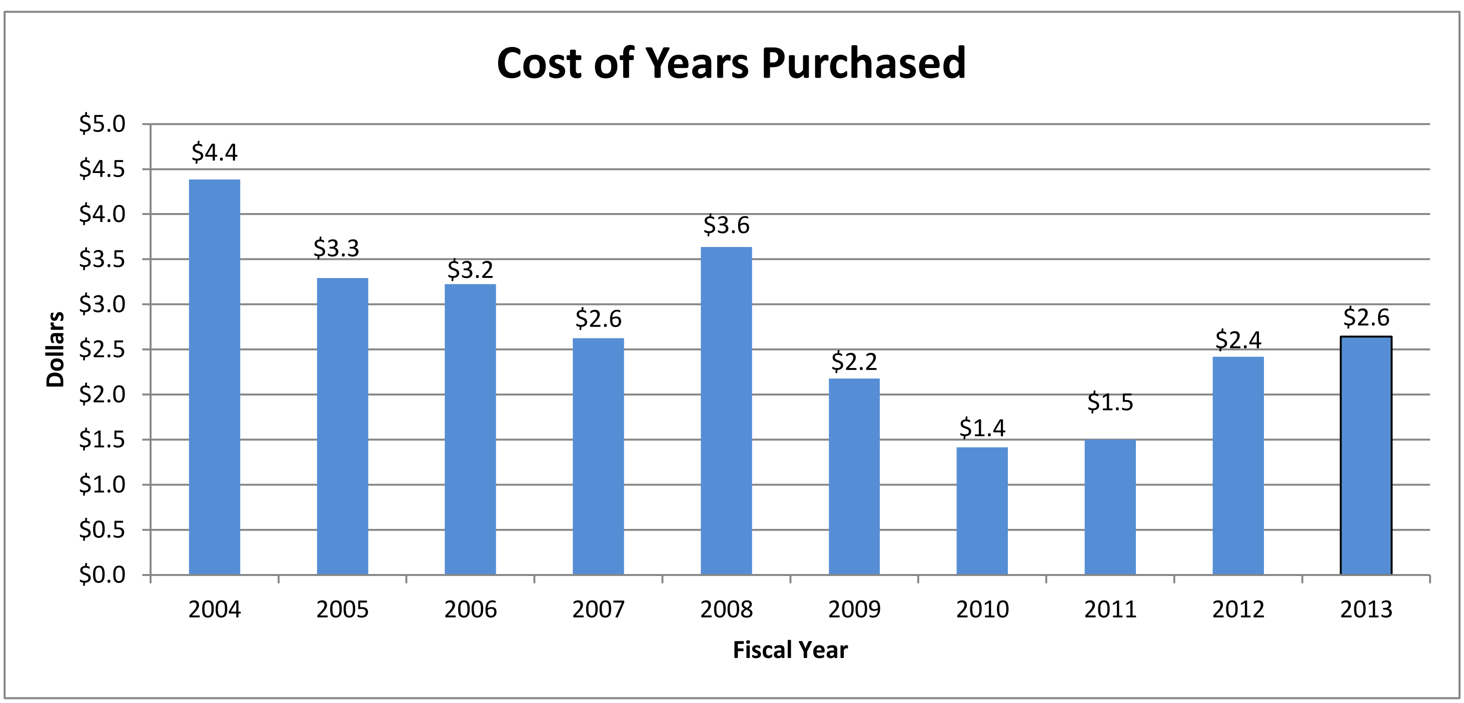


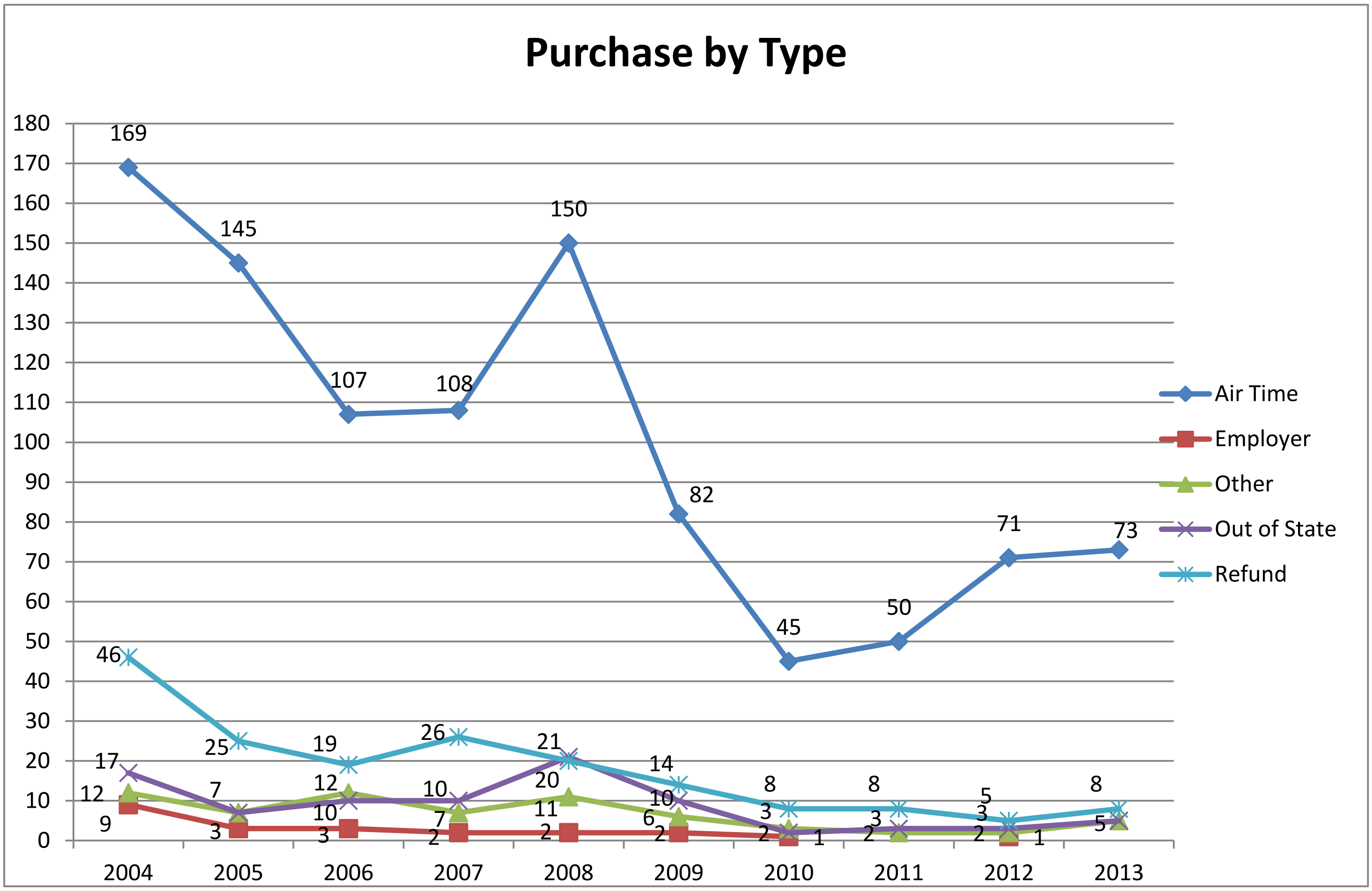
Participation in Outreach Programs
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1522
1098
1206
1580
1520
1430
1770
1752
1151
1715
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Fiscal Year Ending June 30

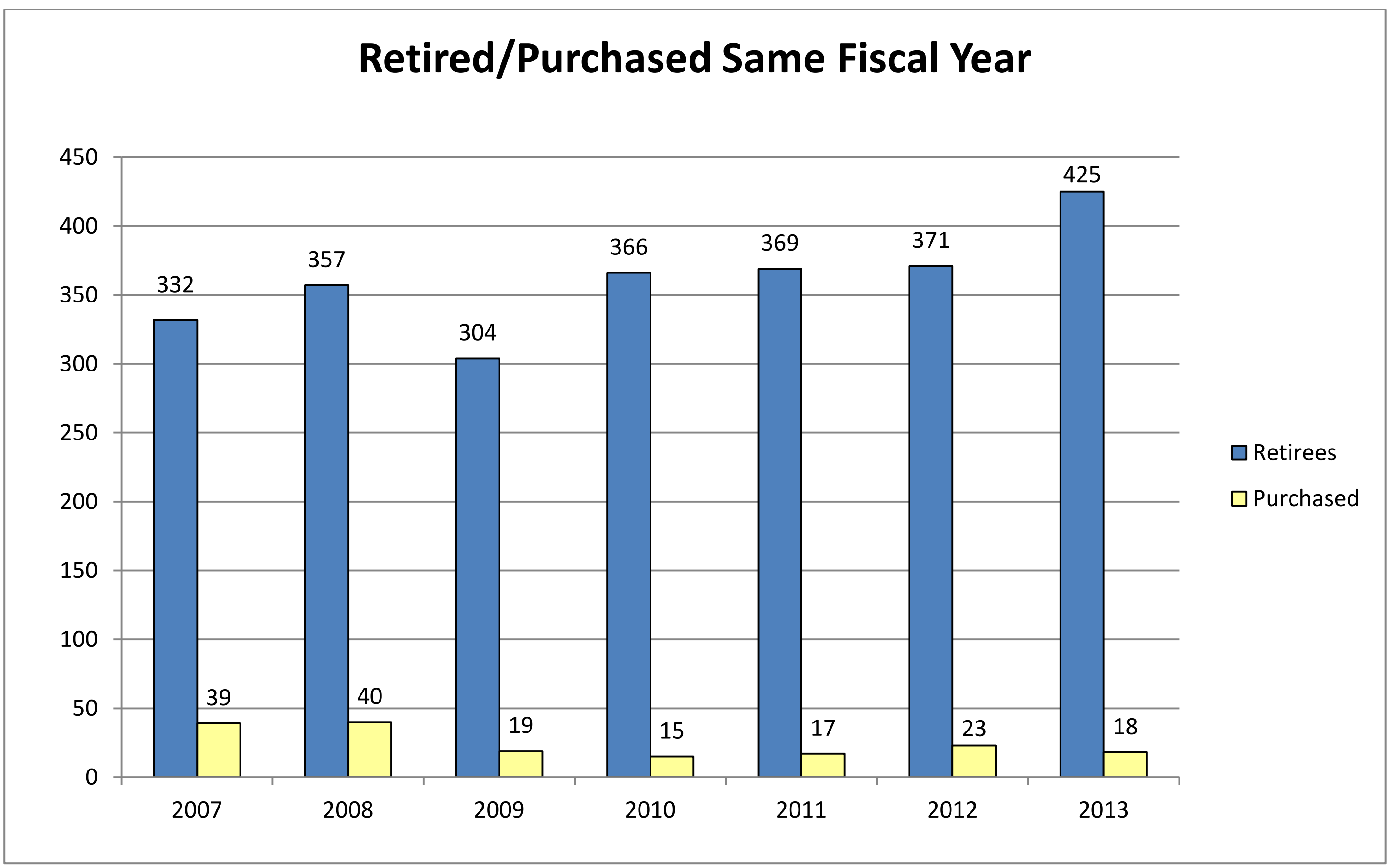
Service Purchase Statistics - 2013

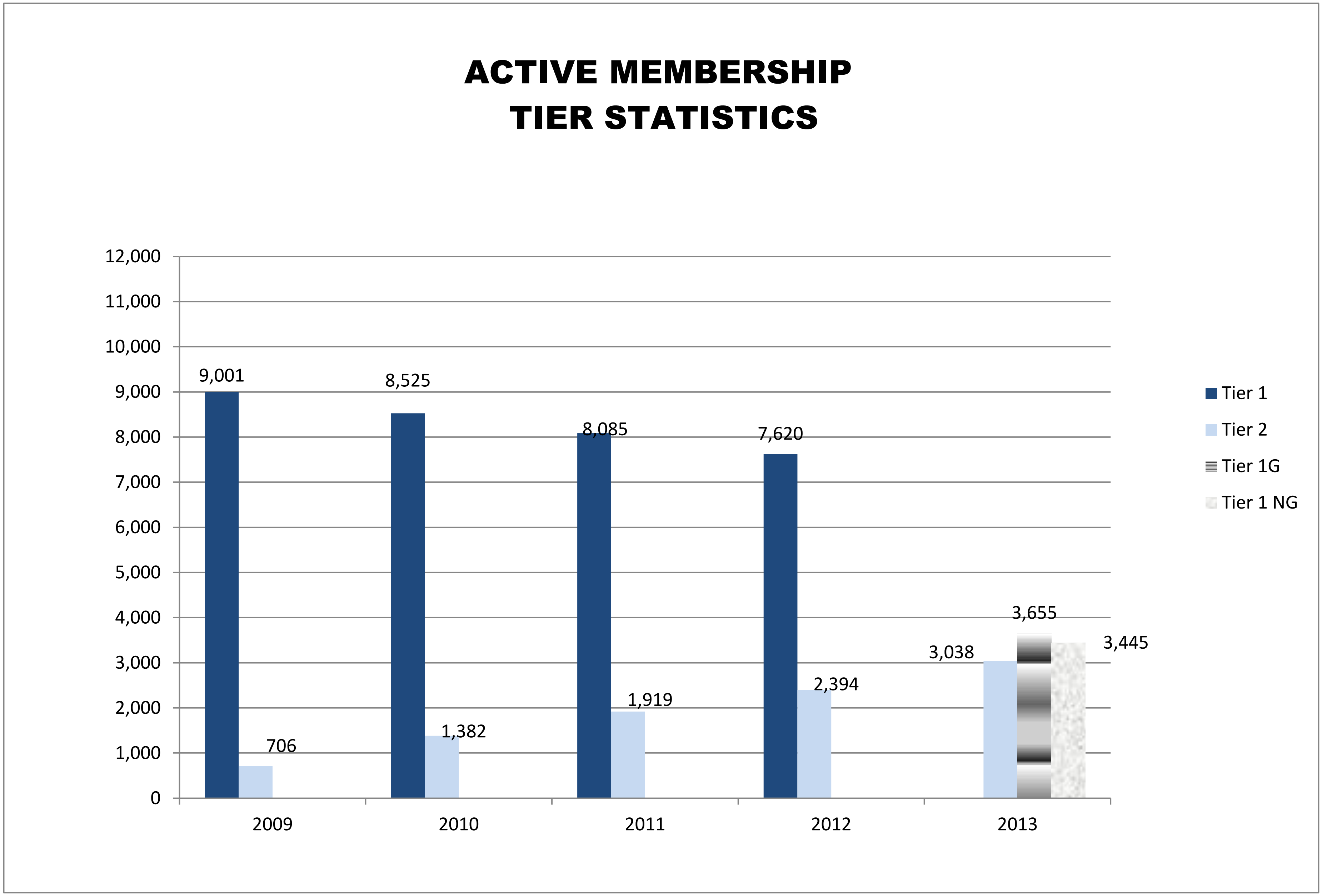


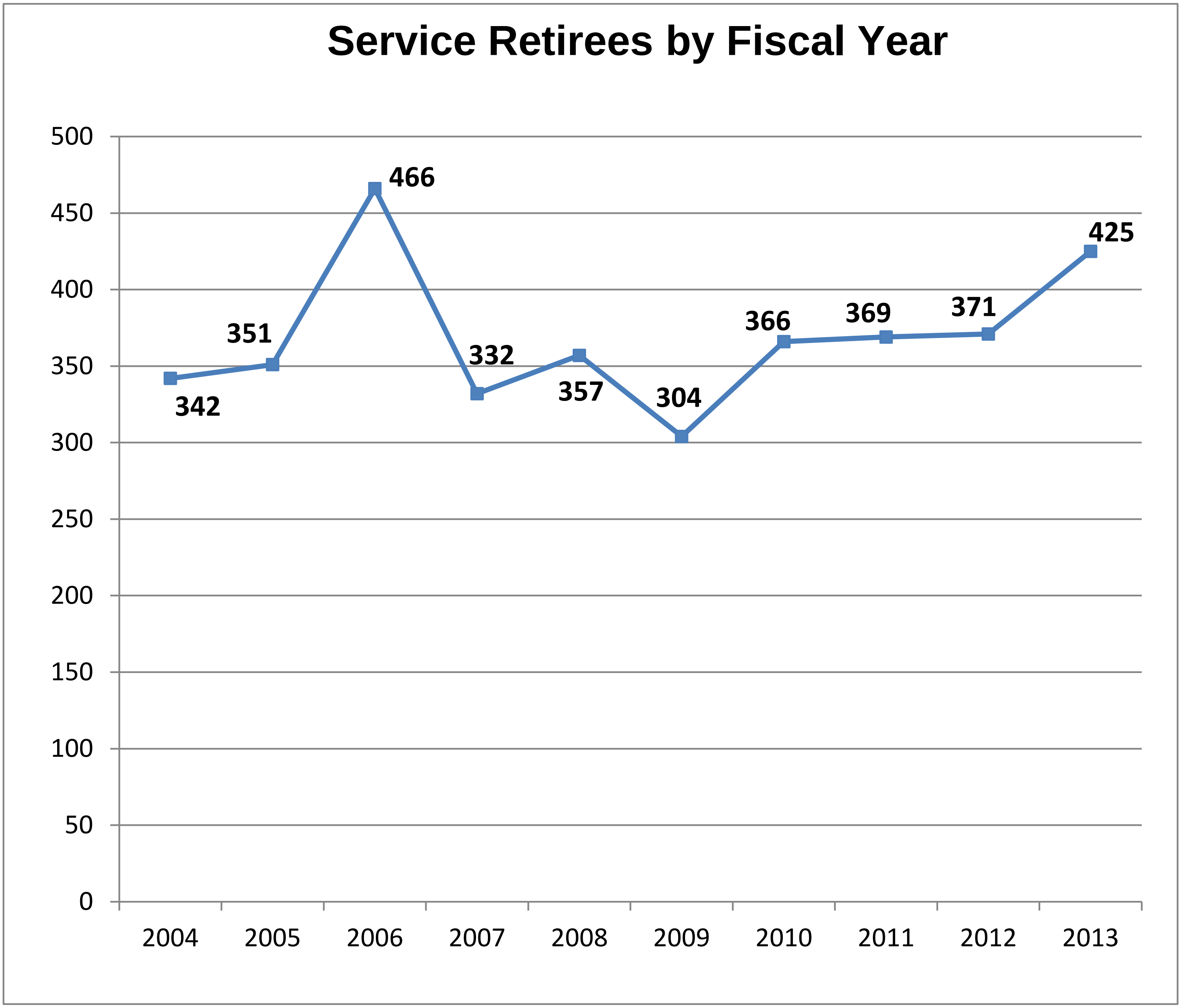





Purchase by Type
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
169
145
107
108
150
82
45
50
71
73
46
25
19
26
21
14
8
8
5
8
17
7
12
10
10
20
11
10
6
3
3
2
3
5
12
9
3
3
2
2
2
2
1
2
2
1
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Air Time
Employer
Other
Out of State
Refund

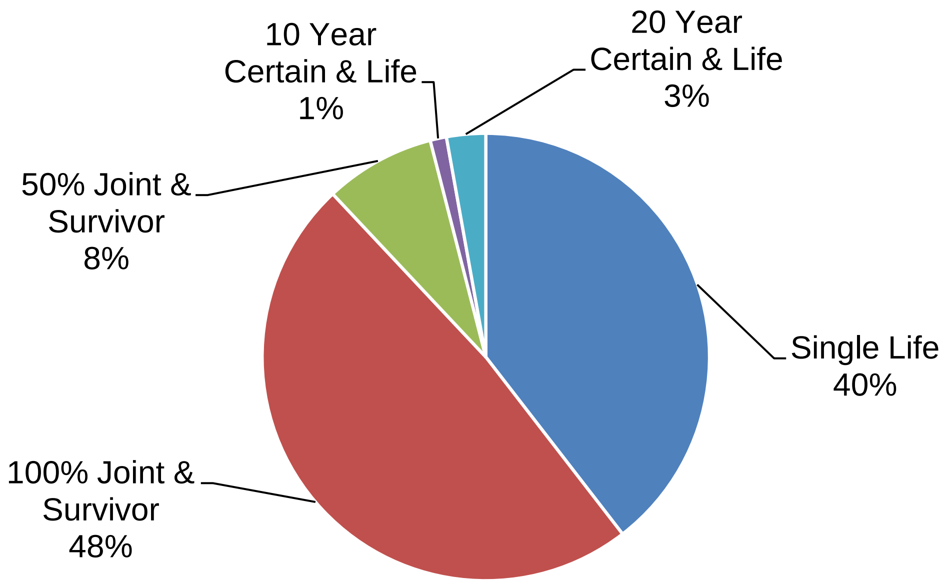

Retired/Purchased Same Fiscal Year
450
400
350
300
250
200
150
100
50
0
332
39
357
40
304
19
366
15
369
17
371
23
425
18
2007
2008
2009
2010
2011
2012
2013
Retirees
Purchased


ACTIVE MEMBERSHIP
TIER STATISTICS
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
9,001
706
8,525
1,382
8,085
1,919
7,620
2,394
3,038
3,655
3,445
2009
2010
2011
2012
2013
Tier 1
Tier 2
Tier 1G
Tier 1 NG


Service Retirees by Fiscal Year
500
450
400
350
300
250
200
150
100
50
0
466
425
351
332
366
369
371
342
357
304
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

Service Retirement Options

Retirement Option	Number
Single Life	168
100% Joint & Survivor	206
50% Joint & Survivor	34
10 Year Certain & Life	5
20 Year Certain & Life	12
Total	**425**



Note: Of total, 1 member (<1%) selected level income option.

Of total, 17 members (4%) selected partial lump sum option.

TFFR RETIREE STATISTICS
OCTOBER 2013

Data Selection

- 7,489 retired members and beneficiaries as of July 2013 based on data from the valuation file.

- Selected various categories of retiree data and grouped data 3 ways.

TFFR Retiree
Statistics by Fiscal Year

Fiscal Year of Retirement Ending June 30	Avg Monthly Pension	Avg Annual Salary	Avg Service Credit	Avg Retirement Age of Member	Avg Current Age of Recipient	Number of Retirees
pre-1979	$ 502	$ 8,031	23.7	58.2	90.0	186
1980	$ 631	$ 13,977	28.8	60.7	91.5	38
1981	$ 658	$ 14,522	27.1	60.3	92.1	39
1982	$ 672	$ 18,761	25.7	60.9	90.9	38
1983	$ 534	$ 13,926	22.5	59.2	88.1	27
1984	$ 883	$ 21,404	31.0	62.5	90.6	92
1985	$ 942	$ 24,720	29.6	60.4	86.5	23
1986	$ 1,006	$ 24,992	31.7	62.1	88.4	110
1987	$ 859	$ 23,042	26.0	60.2	86.2	30
1988	$ 1,062	$ 26,307	29.6	61.1	85.5	141
1989	$ 869	$ 24,944	24.5	58.6	82.4	31
1990	$ 1,112	$ 27,323	29.3	59.8	82.5	267
1991	$ 981	$ 27,603	26.3	60.4	81.8	92
1992	$ 1,234	$ 30,433	30.2	59.4	80.1	184
1993	$ 1,155	$ 33,235	25.8	59.0	78.2	78
1994	$ 1,285	$ 31,974	28.5	59.7	79.1	275
1995	$ 1,245	$ 32,116	27.2	59.1	76.7	205
1996	$ 1,257	$ 32,625	27.2	58.7	75.8	169
1997	$ 846	$ 27,495	20.1	58.1	74.5	78
1998	$ 1,496	$ 34,246	29.0	59.0	74.3	334
1999	$ 1,079	$ 33,139	20.9	58.6	72.6	93
2000	$ 1,656	$ 37,495	28.7	58.9	72.4	423
2001	$ 1,377	$ 37,891	23.2	57.3	69.8	82
2002	$ 1,744	$ 39,248	28.3	58.3	69.8	485
2003	$ 1,730	$ 40,512	27.2	58.3	68.4	283
2004	$ 1,796	$ 41,445	27.6	58.3	67.5	353
2005	$ 1,940	$ 43,168	27.7	58.5	66.7	354
2006	$ 1,967	$ 44,669	27.5	58.8	66.0	370
2007	$ 2,095	$ 47,488	27.5	59.0	64.8	361
2008	$ 2,006	$ 46,119	26.4	59.4	64.6	363
2009	$ 2,159	$ 49,119	27.1	59.2	63.4	343
2010	$ 2,147	$ 50,118	26.2	60.5	63.7	334
2011	$ 2,233	$ 51,422	26.3	60.6	62.9	395
2012	$ 2,372	$ 54,277	27.1	60.7	62.0	362
2013	$ 2,636	$ 58,960	28.2	60.6	60.9	415
2014	$ 3,713	$ 82,828	30.3	61.5	61.6	36
All FY	**$ 1,722**	**$ 40,127**	**27.5**	**59.4**	**70.9**	**7,489**

*Note: 2014 is a partial year (36 retirees) and includes July 1, 2013 retirees. Therefore, averages are higher, since count includes primarily administrators, with some summer school, deferred, disability, and survivors.

TFFR Retiree
Statistics by Formula

Fiscal Year of Retirement Ending June 30	Avg Monthly Pension	Avg Annual Salary	Avg Service Credit	Avg Retirement Age of Member	Avg Current Age of Recipient	Number of Retirees
Old formulas	$ 502	$ 8,031	23.7	58.2	90.0	186
1979-1983 or 1.00%	$ 631	$ 15,397	26.3	60.3	90.9	142
1983-1985 or 1.05%	$ 895	$ 22,067	30.7	62.1	89.8	115
1985-1987 or 1.15%	$ 975	$ 24,574	30.5	61.7	88.0	140
1987-1989 or 1.22%	$ 1,027	$ 26,061	28.7	60.6	84.9	172
1989-1991 or 1.275%	$ 1,078	$ 27,395	28.5	60.0	82.3	359
1991-1993 or 1.39%	$ 1,210	$ 31,267	28.9	59.3	79.5	262
1993-1997 or 1.55%	$ 1,220	$ 31,685	26.9	59.1	77.2	727
1997-1999 or 1.75%	$ 1,405	$ 34,005	27.2	58.9	73.9	427
1999-2001 or 1.88%	$ 1,611	$ 37,560	27.8	58.7	72.0	505
2001-present or 2.00%	$ 2,087	$ 47,557	27.3	59.4	65.0	4,454
All Formulas	**$ 1,722**	**$ 40,127**	**27.5**	**59.4**	**70.9**	**7,489**

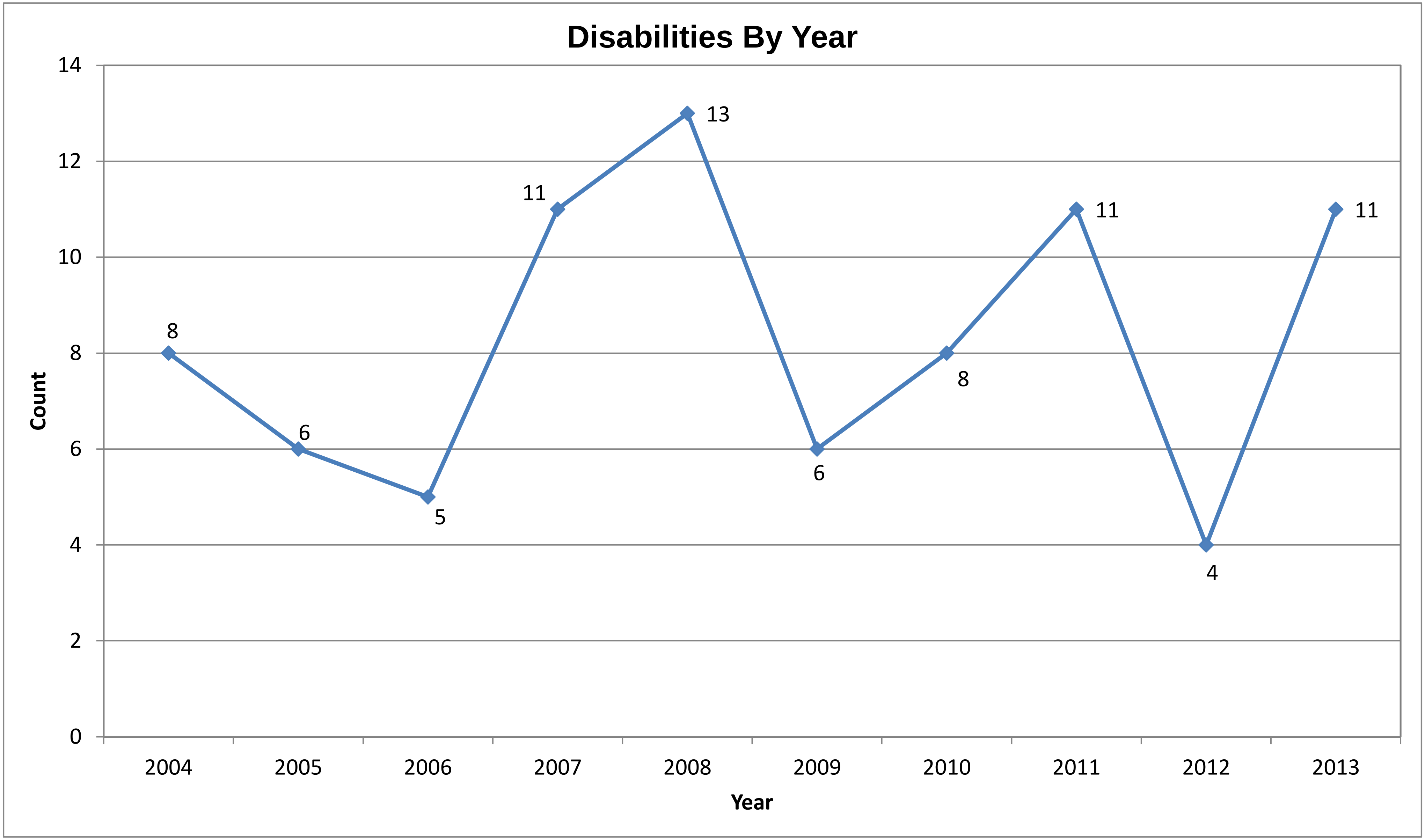
TFFR Retiree Statistics
By Retirement Type

Type	Avg Monthly Pension	Avg Annual Salary	Avg Service Credit	Avg Retirement Age of Member	Avg Current Age of Recipient	Number of Retirees
Death	$ 1,114	$ 32,254	27.9	59.0	73.8	592
Disability	$ 1,176	$ 35,286	15.1	50.1	61.0	123
Early	$ 615	$ 30,552	14.8	60.0	71.3	872
Normal	$ 1,963	$ 42,439	29.6	59.6	70.8	5,881
QDRO	$ 651	$ 40,520	10.7	57.1	67.4	21
All Types	**$ 1,722**	**$ 40,127**	**27.5**	**59.4**	**70.9**	**7,489**

Disability Summary -- 1994 - 2013

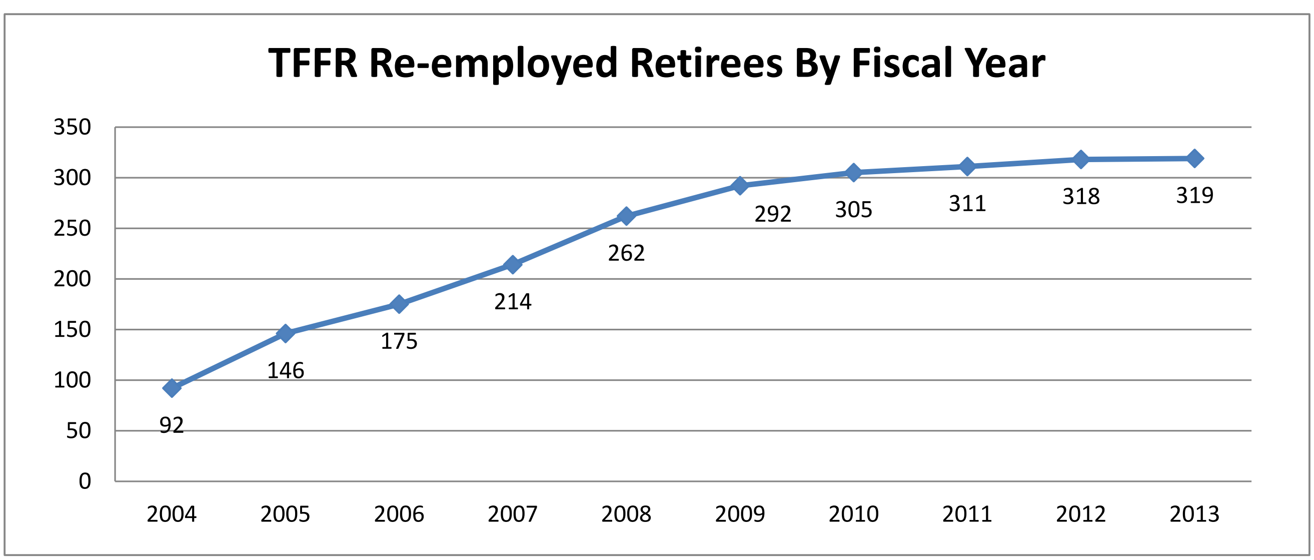
• Total disabilities approved since 1994 - 2013	163*
Of 163, number of physical disabilities:	138
Of 163, number of emotional disabilities:	25
• Average number of disabilities approved per year:	8
• Of 163, number that are living and drawing benefits:	115
Of 163, number that are living and returned to work:	6
Of 163, number that are deceased:	42
• Of 163, option selected was:	
Count of Single Life:	110
Count of 100% Joint & Survivor:	33
Count of 50% Joint & Survivor:	13
Count of 5 Year Certain & Life:	2
Count of 10 Year Certain & Life:	4
Count of 20 Year Certain & Life:	1
• Of 115 living and drawing benefits:	
Average service credit in years:	15.1
Average age in years:	60
Average monthly benefit:	$1,231
Average years benefit was received:	9.6
Number of physical disabilities:	92
Number of emotional disabilities:	23
• Of 6 living and returned to work:	
Average service credit in years:	17
Average age in years:	60
Average monthly benefit:	$1,214
Average years benefit was received:	1.4
Number of physical disabilities:	5
Number of emotional disabilities:	1

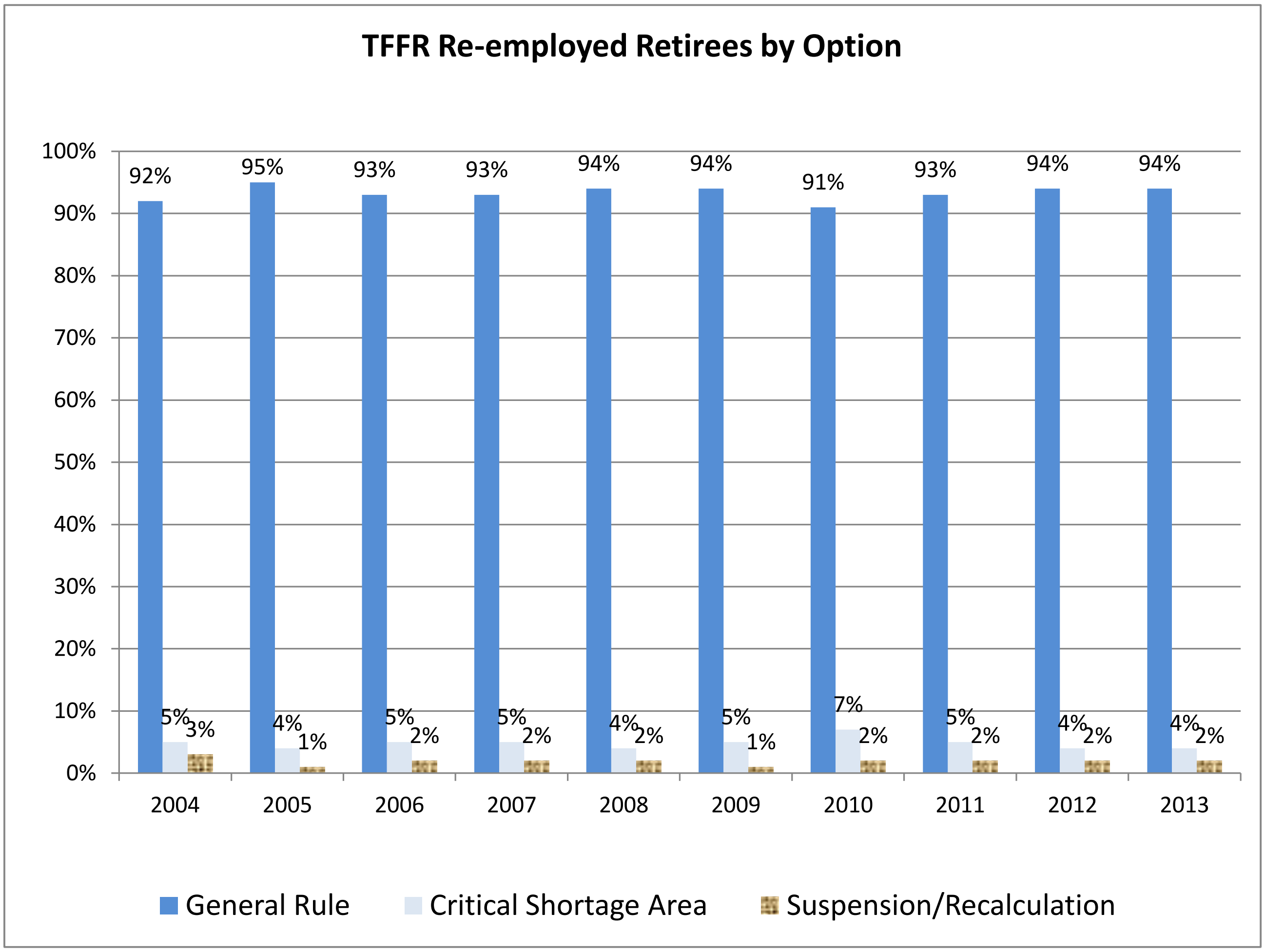
*Approved disabilities removed from total if they returned to employment then refunded or retired.

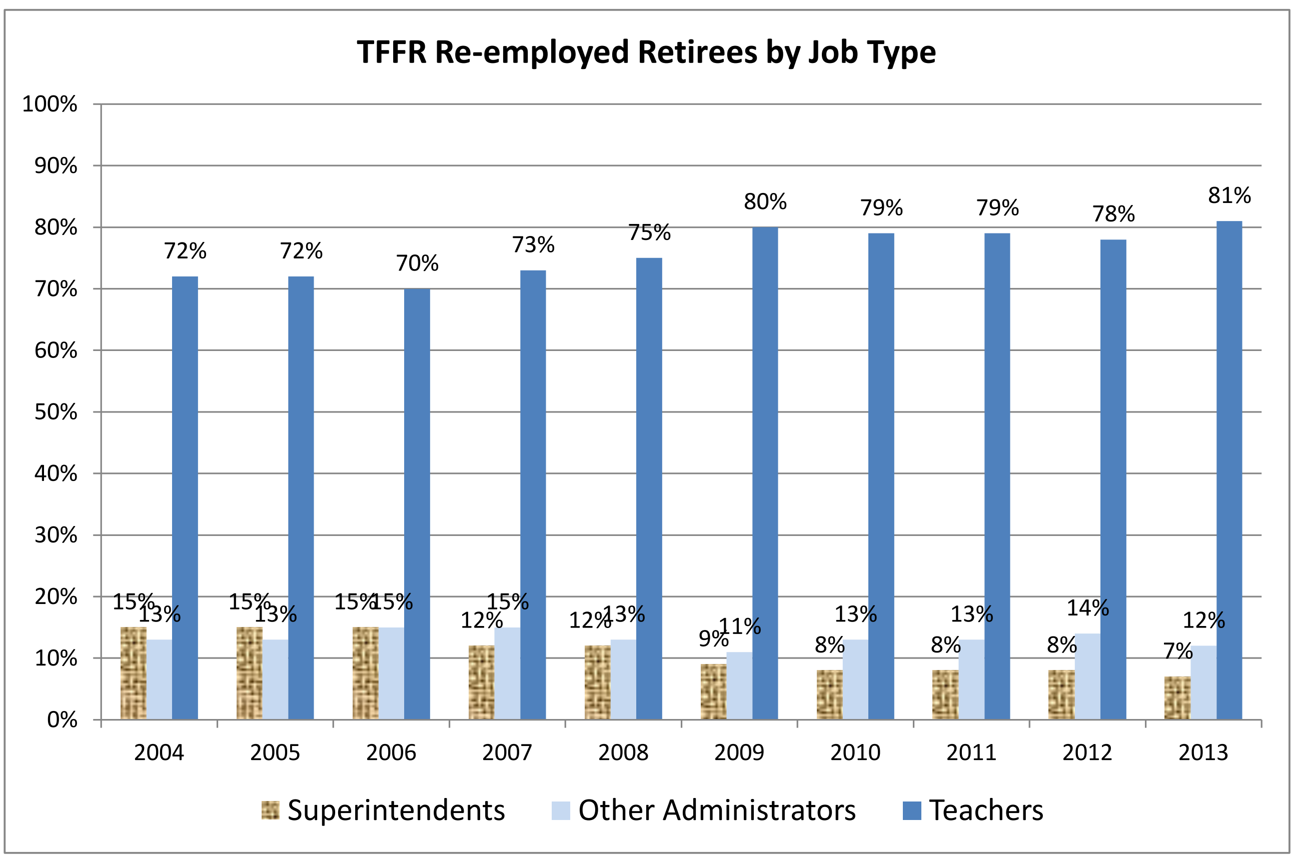

Disabilities By Year
Count
Year
0
2
4
6
8
10
12
14
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
8
6
5
11
13
6
8
11
4
11

TFFR RE-EMPLOYED RETIREE STATISTICS

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Number of Re-employed Retirees	92	146	175	214	262	292	305	311	318	319
Average Age	60	60	60	59	60	60	61	61	62	62
Average Salary	$22,000	$20,000	$21,000	$22,000	$22,151	$21,000	$23,400	$24,700	$24,500	$24,500
General Rule	84	138	163	199	246	273	278	290	298	299
Critical Shortage	5	6	9	11	11	15	20	15	13	13
Suspend & Recalc	3	2	3	4	5	4	7	6	7	7
Foundation Donation	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Superintendents	14	22	27	26	32	26	24	24	26	24
Other Administrators	12	19	27	32	35	32	40	42	44	37
Teachers	66	105	121	156	195	234	241	245	248	258
Number of Employers			101	117	135	132	132	127	132	132
Critical Shortage Areas:										
Science	3	3	4	1	4	3	5	4	3	3
Math	1	0	0	2	2	5	5	3	1	1
Music	0	0	2	1	1	1	1	1	0	0
LD	0	0	0	0	0	1	2	1	2	1
Speech Therapist	0	0	0	0	0	0	0	0	0	0
Speech	1	1	0	0	0	0	0	0	0	0
Voc Ed (School/Work)	0	0	0	0	0	0	0	0	0	0
English	0	1	1	2	3	3	3	1	2	1
Language Arts	0	0	0	0	0	0	0	0	0	0
Industrial Arts	0	1	0	1	0	0	0	0	0	0
Foreign Language	0	0	1	0	0	1	2	2	2	1
Superintendent	0	0	1	1	1	0	0	0	1	1
Counselor	0	0	0	1	0	1	1	1	0	1
Social Studies	0	0	0	1	0	0	0	0	0	0
Consumer Science	0	0	0	1	0	0	0	0	0	0
Psychologist	0	0	0	0	0	0	1	1	1	1
Tech Ed	0	0	0	0	0	0	0	1	1	1
Principal	0	0	0	0	0	0	0	0	0	1
Business	0	0	0	0	0	0	0	0	0	1

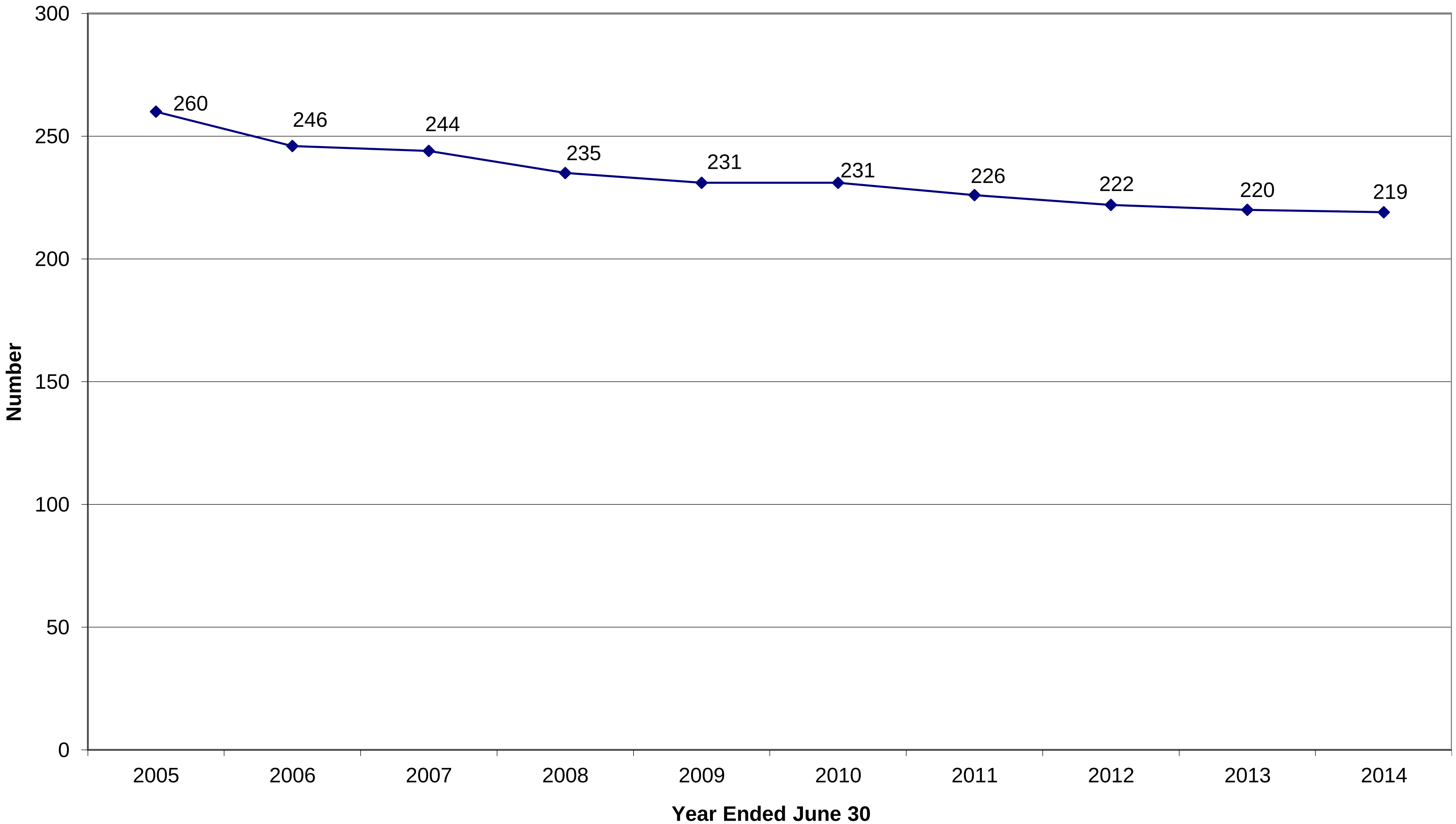



TFFR Re-employed Retirees by Option
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
92%
95%
93%
93%
94%
94%
91%
93%
94%
94%
5%
3%
4%
1%
5%
2%
5%
2%
4%
2%
5%
1%
7%
2%
5%
2%
4%
2%
4%
2%
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
General Rule
Critical Shortage Area
Suspension/Recalculation


TFFR Re-employed Retirees by Job Type
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
15%
13%
72%
15%
13%
72%
15%
15%
70%
12%
15%
73%
12%
13%
75%
9%
11%
80%
8%
13%
79%
8%
13%
79%
8%
14%
78%
7%
12%
81%
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Superintendents
Other Administrators
Teachers

TFFR Participating Employers

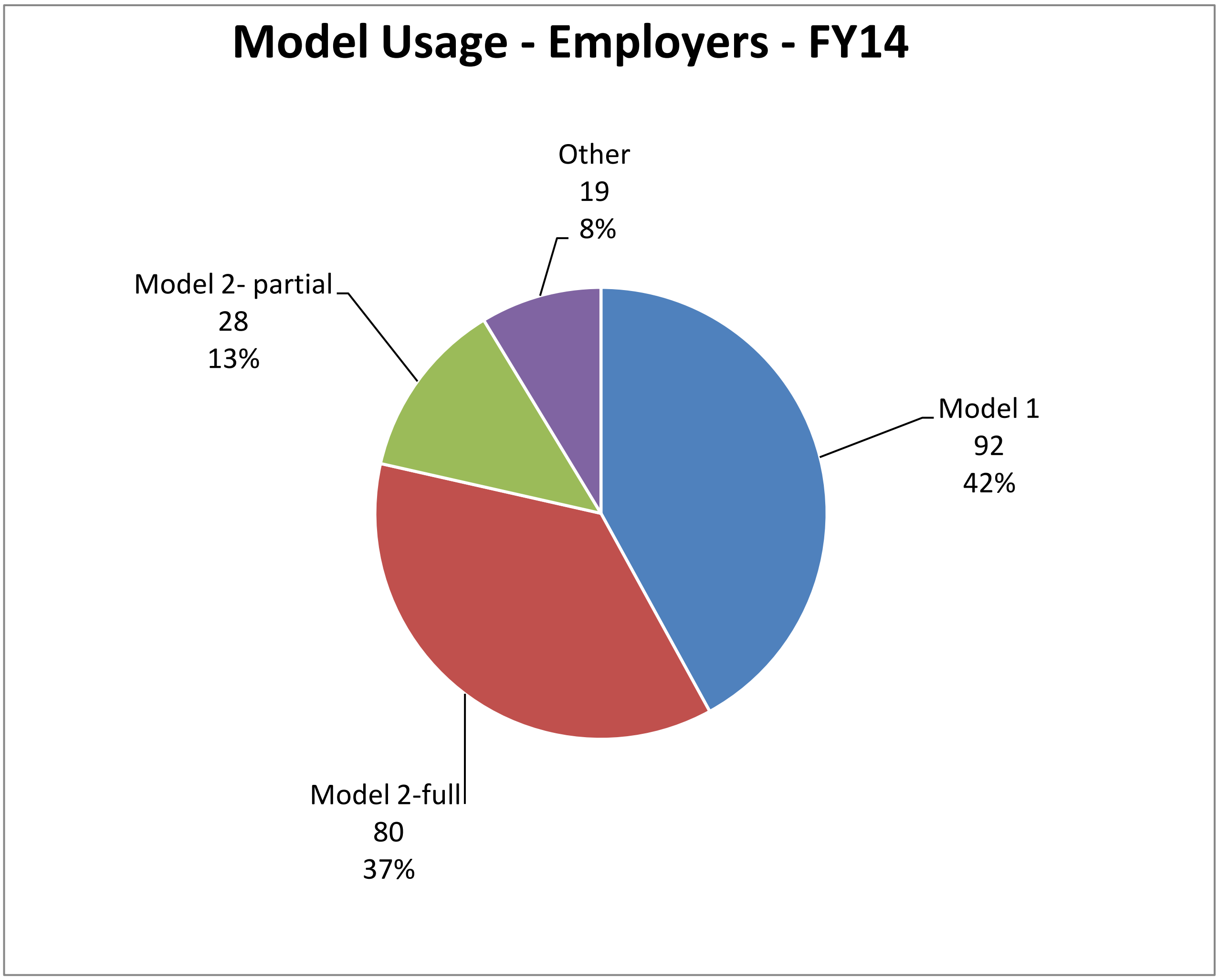
2005 - Present



Model Usage 2013-2014

	Employers	
Model 1	92	42%
Model 2-full	80	37%
Model 2-partial	28	13%
Other	19	8%
Total	219	

Other includes Model 0, 3, 4, 5



RETIREMENT AND INVESTMENT OFFICE
INTERNAL AUDIT UNIT
AUDIT ACTIVITIES REPORT
FOR THE YEAR ENDED JUNE 30, 2013

SEPTEMBER 20, 2013

The audit objective of the Internal Audit Unit is twofold. First, provide comprehensive, practical audit coverage of the Retirement and Investment Office (RIO) programs. Second, assist RIO management, the State Investment Board (SIB), and the Teachers' Fund for Retirement Board (TFFR) by conducting special reviews or audits.

Our audit coverage is based on the Audit Plan for the fiscal year ended June 30, 2013, (Plan), which was reviewed by RIO management and the SIB Audit Committee. The Plan is consistent with the Internal Audit Unit charter and goals, and the goals of RIO. Audit effort is being directed to the needs of RIO and the concerns of management and the Audit Committee.

REGULAR AUDIT COVERAGE 2012-13 Audit Work Plan

<u>Retirement and Investment Office</u>

- **Office Administration – Executive Limitations**

We tested executive performance of the Interim Chief Investment Officer to determine compliance with the SIB's Executive Limitations policy for the seven month period starting June 1, 2012, and ending December 31, 2012.

There were no exceptions noted in the report dated February 1, 2013.

<u>Retirement Program</u>

- **School District Reporting**

We examined school district reporting to TFFR to determine that retirement salaries reported for their members are in compliance with the definition of salary as it appears in NDCC 15-39.1-04(9). Other reporting procedures reviewed during the audit process are eligibility, calculation of service hours and that the resultant years of service reported are in compliance with NDCC 15-39.1-27, and eligibility for TFFR membership. A written report is issued after each audit is completed.

Our objective was to complete forty-three school district audits during fiscal 2013. Forty five audits were completed this year, and at year end, four were in progress and information was requested from fourteen additional school districts.

Due to significant reporting problems, we conducted onsite work for two of the audits; and five audits were one hundred percent of the members. Of the forty-five audits completed, we found that six audited districts were not in compliance, one district was generally in compliance, and thirty eight districts were in compliance with state law and state administrative code.

Reporting problems identified through the audit process include:

- Understated retirement salary by excluding salary for:
  1. In-staff subbing
  2. Eligible coaching
  3. Workshop/in-service stipends
  4. Advisor
  5. Contract (understated amount)

- Overstated retirement salary by including:

  1. Ineligible fringe benefits
  2. Unused sick and personal leave
  3. Referee/official salary
  4. Bus driving
  5. Para-professional salary
  6. Janitorial/maintenance salary

- Reported summer school salaries in wrong fiscal year.
- Reported ineligible part-time teachers' salaries.
- Reported salaries for members who did not have written agreements.
- Reported incorrect service hours.

A written report is filed with the Deputy Executive Director – Chief Retirement Officer and School District Administrator upon completion. This report is also filed quarterly with the Audit Committee.

We also completed four not in compliance follow-up reviews. Three of the Districts were in compliance with no further audit procedures required in the third cycle. The fourth District did not correct the errors noted in the original audit report. We will review a sample of salaries again in fiscal year 2014/15.

This is an audit area that requires special emphasis due to the level of risk identified through previous audit results. Our long-range plans include auditing each school district over a five year period.

- **Statistics for the fiscal year ending June 30, 2013**

Total districts at beginning of third cycle (Jan. 2010)	231
Less: County and State institutions not included	-19
Districts with ten or fewer members not included	-29
Consolidations/closures	-11
Employers to be audited in the third cycle	172

Completed audits (from third cycle)	-108
Remaining audits	64

Benefit Payments Audit

A review of deaths, long outstanding checks, purchase of service, and refunds was completed to determine that established policy and procedures were being followed by the Retirement Services division.

No exceptions noted in the report dated September 17, 2013.

- **TFFR File Maintenance**

We quarterly test changes made to TFFR member account data by RIO employees.

Audit tables are generated and stored indicating any file maintenance changes made to member accounts. Our external auditors recommended that internal audit review these tables on a regular basis.

One exception was noted during the fieldwork for the fourth quarter (April through June 2013). A member action form was not scanned to a member's file and information was incorrectly entered into CPAS.

PROCEDURE AND POLICY

We started developing a Procedure and Policy Manual. For the District audits, detailed instructions were developed for the following processes: selecting the Districts to audit for the fiscal year, selecting the sample members for the Districts to be audited, setting up the workbooks for each District with the salary, contribution, and service hours from CPAS, and requesting the information from the Districts selected.

FINANCIAL AUDIT RESULTS

The annual financial audit of the Retirement and Investment Office for the year ended June 30, 2013, was conducted by independent auditors from the accounting firm CliftonLarsonAllen. The firm has not yet issued the report.

SUMMARY

Based on the results of our audits, and the audits performed by independent auditors, we formed the opinion that adequate controls have been provided over these activities, and that the controls were working effectively and efficiently. We consider the Retirement Services Division to be highly effective in accomplishing its assigned responsibilities. We believe this can be attributed to a very knowledgeable staff; good communication and feedback between management and staff; thorough on-the-job training for staff; and comprehensive job instructions.

At the direction of the Audit Committee, audit effort was directed to activities that are of greatest concern to the Committee, RIO management, and the independent auditors. In the past year, changes have been made to improve efficiency and audit processes.

We are working closely with RIO management, the Audit Committee, and the independent auditors to develop comprehensive audit coverage for the retirement program.

LOOKING AHEAD

The focus of the internal audit function has been on school district reporting to TFFR for its members. We will continue to work on the other areas of audit coverage outlined in our fiscal 2014 Work Plan and any special projects as directed or requested by Executive Director, Deputy Executive Director, or the SIB Audit Committee. We will continue to work closely with management, the independent auditors, and the SIB Audit Committee to increase the efficiency, effectiveness, and economy of the total audit activity.

North Dakota Retirement and Investment Office
SCHOOL DISTRICT COMPLIANCE AUDITS
For the Fiscal Year 7/1/2012 though June 30, 2013

			FISCAL YEARS	MEMBERS IN DISTRICT	REPORT DATE	MEMBER/ EMPLOYER CONTRIB'S DR(CR)	MEMBER'S SALARIES ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
		In compliance	38				LM 25 audits		
		Generally in compliance	1				DT 20 audits		
		Not in compliance	6						
			45						
1	LM	Ashley	6/30/12, 11	19	2/21/2013	(180.50)	1	0	In compliance The District reported the same salary twice.
2	DT	Beach	6/30/12, 11	40	3/25/2013	0.00	0	0	In compliance No written agreements for summer school.
3	LM	Belcourt	6/30/12, 11	150	3/5/2013	0.00	1	3	In compliance Reported service hours incorrectly; did not issue written agreements for summer teachers; and reported salary in the wrong fiscal year.
4	LM	Bismarck	6/30/11, 10	1054	9/13/2012	0.00	0	0	In compliance No errors noted.
5	LM	Center-Stanton	6/30/12, 11	26	4/4/2013	0.00	0	0	In compliance No exceptions noted.
6	LM	Drake	6/30/12, 11	13	3/25/2013	0.00	0	0	In compliance Did not report subbing for a member-isolated occurrence.
7	LM	Dunseith	6/30/12, 11	56	4/30/2013	35,690.59	51	0	Not in compliance Did not report eligible summer training/workshops, summer salary, tutoring; reported ineligible signing bonuses; reported salary in the wrong fiscal year; and did not issue written for part-time and summer school teachers.
8	LM	Enderlin	6/30/12, 11	36	3/21/2013	0.00	0	0	In compliance No exceptions noted.
9	LM	Fessenden-Bowdon	6/30/12, 11	19	4/4/2013	0.00	0	0	In compliance No exceptions noted.
10	LM	Fort Yates 100% audit	6/30/10, 09	88	1/16/2013	2,734.78	25	1	Not in compliance Reported ineligible salary-unused leave, bus driving, signing bonus; did not report eligible salary-bonus, contract, and summer; reported salary in the wrong fiscal year; reported incorrect contract salary and undocumented salary; did not have written agreements for out-of-district teachers; and reported service hours incorrectly.

North Dakota Retirement and Investment Office
SCHOOL DISTRICT COMPLIANCE AUDITS
For the Fiscal Year 7/1/2012 though June 30, 2013

			FISCAL YEARS	MEMBERS IN DISTRICT	REPORT DATE	MEMBER/ EMPLOYER CONTRIB'S DR(CR)	MEMBER'S SALARIES ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
		In compliance	38					LM 25 audits	
		Generally in compliance	1					DT 20 audits	
		Not in compliance	6						
			45						
11	LM	Hankinson	6/30/12, 11	31	4/24/2013	(539.50)	1	0	In compliance Reported ineligible cell phone stipend.
12	DT	Hazen	6/30/12, 11	50	5/13/2013	0.00	0	1	In compliance Did not have written agreements for out-of-district summer teachers; reported service hours incorrectly for a part-time member; and discontinued health insurance on a individual basis for a member.
13	DT	Kenmare	6/30/12, 11	32	5/23/2013	0.00	0	1	In compliance The District does not issue written agreements to summer school teachers; and reported services hours incorrectly for a part-time teacher.
14	LM	Killdeer	6/30/11, 10	45	9/18/2012	0.00	0	0	In compliance The District did not issue written agreements for summer school.
15	DT	Kindred 100% audit	6/30/11, 10	52	2/27/2013	22,229.07	30	0	Not in compliance. The District had software programming issues where TFFR reportable salary and contributions was calculated incorrectly; reported salary in the wrong fiscal year; and did not issue written agreements for summer salary.
16	LM	Mapleton	6/30/12, 11	11	5/16/2013	0.00	0	0	In compliance The District did not report subbing salary for one member and reported service hours incorrectly for one member.
17	DT	McClusky	6/30/11, 10	22	7/30/2012	(2,442.87)	7	6	Not in compliance Reported salary in the wrong fiscal year; did not report eligible contract salary; reported ineligible subbing and recruiting bonuses; service hours incorrect for part-time teachers; and no written agreement for summer special education.
18	LM	Minnewauken 100% audit	6/30/11, 10	33	3/12/2013	8,018.22	19	1	Not in compliance District reported ineligible reimbursed leave, bus driving, bonus, para-professional, and janitorial salary; did not report eligible contract, extra-curricular, and summer salary; reported salary in the wrong fiscal year; and did not have written agree ments for out-of-district teachers.
19	DT	Mott-Regent	6/30/11, 10	31	11/6/2012	0.00	0	0	In compliance No exceptions noted.

North Dakota Retirement and Investment Office
SCHOOL DISTRICT COMPLIANCE AUDITS
For the Fiscal Year 7/1/2012 though June 30, 2013

			FISCAL YEARS	MEMBERS IN DISTRICT	REPORT DATE	MEMBER/ EMPLOYER CONTRIB'S DR(CR)	MEMBER'S SALARIES ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
		In compliance	38				LM 25 audits		
		Generally in compliance	1				DT 20 audits		
		Not in compliance	6						
			45						
20	LM	Mt. Pleasant	6/30/12, 11	33	5/13/2013	0.00	4	0	In compliance The District reported summer salary in the wrong fiscal year; and did not report eligible curriculum mapping salary.
21	DT	Napoleon	6/30/11, 10	29	11/9/2012	(464.01)	1	1	In compliance The District reported ineligible subbing; did not report eligible subbing; did not have written agreements for summer salary.
22	LM	Newburg	6/30/11, 10	19	9/13/2012	0.00	0	0	In compliance No errors noted.
23	DT	New England	6/30/11, 10	21	7/17/2012	0.00	0	0	In compliance No errors noted.
24	LM	New Rockford/Sheyenne	6/30/12, 11	35	6/12/2013	0.00	0	0	In compliance District did not have a written agreement for summer salary.
25	DT	New Salem - Almont	6/30/12, 11	31	5/31/2013	0.00	0	1	In compliance District did not have written agreements for summer school; reported service hours incorrectly for two part-time teachers; and did not report eligible noon hour salary.
26	DT	New Town	6/30/11, 10	76	5/15/2013	340.48	3	1	In compliance District did not report eligible salary; reported ineligible bus driving salary; did not have written agreements for summer salary; reported service hours incorrectly for a member; and longevity and loyalty bonuses are not reportable.
27	LM	North Sargent	6/30/12, 11	25	4/29/2013	0.00	0	1	In compliance Reported service hours incorrectly.
28	DT	North Star	6/30/11, 10	31	1/16/2013	0.00	0	0	In compliance District did not have written agreements for out-of-district teachers; and no written agreements for summer salary.
29	LM	Northern Cass	6/30/12, 11	48	5/20/2013	(643.92)	1	0	In compliance The District reported ineligible bus driving salary; reported the wrong contract salary; and did not issue written agreements for summer salary.
30	DT	Northwood	6/30/11, 10	28	12/13/2012	(69.34)	1	0	In compliance The District did not have written agreements for summer salary; and reported ineligible teacher's aide salary.

North Dakota Retirement and Investment Office
SCHOOL DISTRICT COMPLIANCE AUDITS
For the Fiscal Year 7/1/2012 though June 30, 2013

			FISCAL YEARS	MEMBERS IN DISTRICT	REPORT DATE	MEMBER/ EMPLOYER CONTRIB'S DR(CR)	MEMBER'S SALARIES ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
		In compliance	**38**					LM 25 audits	
		Generally in compliance	**1**					DT 20 audits	
		Not in compliance	**6**						
			45						
31	DT	Oakes	6/30/12, 11	38	6/12/2013	0.00	0	0	In compliance District did not issue written agreements for summer school.
32	DT	Park River	6/30/11, 10	48	3/12/2013	0.00	0	0	In compliance The District did not issue written agreements for extra-curricular and summer salary.
33	DT	Powers Lake 100% audit	6/30/11, 10	23	1/3/2013	2,933.77	17	0	Not in compliance Reported salary in the wrong fiscal year; reported ineligible salary-busing, cleaning, flex cash, mileage/meals, and special education aide; no written agreements for summer salary; did not report eligible salary-conference, drama, and in-service; and software programming error (deductions) - caused wrong retirement salary to be reported.
34	DT	Richland (Colfax)	6/30/12, 11	34	5/15/2013	0.00	0	0	In compliance District reported salary in the wrong fiscal year; reported ineligible bus driving salary; and did not have a written agreement for Driver's Education salary.
35	LM	Rolette	6/30/11, 10	23	2/21/2013	(184.56)	5	0	Generally in compliance The District reported ineligible leave reimbursement and expense reimbursement; did not report eligible contract and extra-curricular salary; and did not issue written agreements for all summer programs.
36	LM	Rural Cass Special Ed.	6/30/12, 11	20	5/1/2013	(2,627.85)	1	0	In compliance Reported an ineiligible annuity to TFFR.
37	LM	St. Thomas	6/30/12, 11	18	5/29/2013	0.00	0	0	In compliance No findings noted.
38	LM	Sawyer	6/30/12, 11	21	5/10/2012	0.00	0	0	In compliance Did not issue written agreements for summer salary.
39	DT	Souris Valley Special Ed.	6/30/12, 11	28	2/20/2013	0.00	0	0	In compliance Did not issue a written agreement to two members reported to TFFR (part-time teacher and out-of-district summer administrator).
40	LM	Stanley	6/30/12, 11	56	2/25/2013	0.00	0	0	In compliance No errors were noted.

North Dakota Retirement and Investment Office
SCHOOL DISTRICT COMPLIANCE AUDITS
For the Fiscal Year 7/1/2012 though June 30, 2013

			FISCAL YEARS	MEMBERS IN DISTRICT	REPORT DATE	MEMBER/ EMPLOYER CONTRIB'S DR(CR)	MEMBER'S SALARIES ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
		In compliance	**38**					LM 25 audits	
		Generally in compliance	**1**					DT 20 audits	
		Not in compliance	**6**						
			45						
41	DT	Strasburg	6/30/12, 11	20	3/8/2013	0.00	0	1	In compliance Reported service hours incorrectly for part-time members.
42	DT	Thompson	6/30/12, 11	37	4/5/2013	329.26	1	0	In compliance Reported a retirement salary incorrectly; reported ineligible ticket-taking; no written agreements for summer salary; and noted a bonus paid to members is no longer reportable.
43	LM	Underwood	6/30/12, 11	29	2/7/2013	0.00	0	0	In compliance No exceptions noted.
44	LM	Upper Valley Spec. Ed.	6/30/12, 11	45	5/20/2013	0.00	0	1	In compliance The District reported service hours incorrectly.
45	DT	Wahpeton	6/30/12, 11	112	6/14/2013	(73.84)	1	0	In compliance District reported salary in the wrong fiscal year; did not have written agreements for two out-of-district summer teachers; and reported adult education salary without a written agreement.
			Totals	2,736		65,049.78	170	19	

Not in Compliance reviews:

			FISCAL YEARS	MEMBERS IN DISTRICT	REPORT DATE	MEMBER/ EMPLOYER CONTRIB'S DR(CR)	MEMBER'S SALARIES ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
1	LM	Eight Mile	6/30/2012		5/8/2013	0.00	0	0	In compliance No exceptions noted.
2	LM	Halliday	6/30/2012		6/28/2013	763.03	1	1	Not in compliance Will look at again 2014/15.
3	DT	Solen-Cannonball	6/30/2012		6/27/2013	0.00	0	0	In compliance No exceptions noted.
4	DT	Velva	6/30/2012		5/1/2013	0.00	0	0	In compliance No exceptions noted.

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
OCTOBER 9, 2013, BOARD MEETING

BOARD MEMBERS PRESENT:	Drew Wrigley, Lt. Governor, Chair Mike Sandal, Vice Chair Clarence Corneil, TFFR Board Commissioner Gaebe, Land Commissioner Mike Gessner, TFFR Board Rob Lech, TFFR Board Howard Sage, PERS Board Kelly Schmidt, State Treasurer Cindy Ternes, Workforce Safety & Insurance Tom Trenbeath, PERS Board
ABSENT:	Adam Hamm, Insurance Commissioner
STAFF PRESENT:	Bonnie Heit, Assistant to the SIB Fay Kopp, Interim Executive Director Darren Schulz, Interim CIO
OTHERS:	Michelle Booth, Korn/Ferry Michael Kennedy, Korn/Ferry Jan Murtha, Attorney General's Office

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 9:30 am on Wednesday, October 9, 2013. The meeting was conducted by teleconference.

A quorum was present for the purpose of conducting business.

The meeting was called to order to review the pool of applicants for the position of ED/CIO of the Retirement and Investment Office.

Mr. Kennedy updated the SIB on Mr. Righter. Mr. Kennedy notified Mr. Righter on October 8, 2013, that the SIB had decided to withdraw their offer of employment to him. Mr. Righter, although disappointed in the decision, thanked the SIB for their consideration of him as a viable candidate.

Mr. Kennedy updated the SIB on Mr. David Hunter, the second candidate interviewed on September 27, 2013. Mr. Kennedy stated Mr. Hunter is still interested in the position. Mr. Kennedy reviewed with the SIB Mr. Hunter's background and reference checks completed thus far and everything is positive.

Mr. Kennedy also discussed with the SIB one other candidate that may be of interest to the SIB. At this point in the process, the SIB concurred to not bring in any other candidates until the SIB reaches a resolution with Mr. Hunter.

COMMISSIONER GAEBE MOVED AND MR. SAGE SECONDED TO INVITE MR. HUNTER BACK FOR A THIRD INTERVIEW BEFORE THE SIB AND ALSO ENCOURAGE HIS SPOUSE TO COME AND TOUR THE BISMARCK/MANDAN COMMUNITY.

AYES: MR. SAGE, MR. SANDAL, MR. CORNEIL, MR. GESSNER, MR. LECH, MR. TRENBEATH, MS. TERNES, COMMISSIONER GAEBE, TREASURER SCHMIDT, LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED
ABSENT: COMMISSIONER HAMM

For clarification purposes, the SIB will pay 100% of the expenses (airfare, rental vehicle, hotel room, and meals), at the state per diem rate, for Mr. Hunter only.

Mr. Kennedy inquired if the SIB had any specific items they would like Mr. Hunter to address for the interview on October 25, 2013. If not, Mr. Kennedy will present some ideas to the SIB for their feedback prior to the meeting.

ADJOURNMENT:

With no further business to come before the SIB, Lt. Governor Wrigley adjourned the meeting at 10:05 am.

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Lt. Governor Wrigley, Chair
State Investment Board

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Bonnie Heit
Assistant to the Board

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
OCTOBER 8, 2013, BOARD MEETING

BOARD MEMBERS PRESENT:
Drew Wrigley, Lt. Governor, Chair
Mike Sandal, Vice Chair
Clarence Corneil, TFFR Board
Commissioner Gaebe, Land Commissioner
Mike Gessner, TFFR Board
Rob Lech, TFFR Board
Howard Sage, PERS Board
Kelly Schmidt, State Treasurer
Cindy Ternes, Workforce Safety & Insurance
Tom Trenbeath, PERS Board

ABSENT:
Adam Hamm, Insurance Commissioner

STAFF PRESENT:
Bonnie Heit, Assistant to the SIB
Fay Kopp, Interim Executive Director
Darren Schulz, Interim CIO

OTHERS:
Michael Kennedy, Korn/Ferry
Jan Murtha, Attorney General's Office
Kim Wassim, HRMS

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 4:00 pm on Tuesday, October 8, 2013. The meeting was conducted by teleconference.

A quorum was present for the purpose of conducting business.

The meeting was called to order to review the recruiting progress of Mr. Deric Righter for the position of ED/CIO of the Retirement and Investment Office since the position was verbally offered to him on September 27, 2013.

The SIB received an update from Mr. Michael Kennedy, Korn/Ferry, on October 7, 2013. Mr. Kennedy discussed with the SIB his recruitment efforts and indicated Mr. Righter is getting closer to making his decision and is leaning towards accepting the offer. At this point, Mr. Righter and his family have decided that Mr. Righter would relocate to Bismarck but his family would stay in Detroit for the next three years and Mr. Righter would commute back and forth. Mr. Kennedy also informed the SIB Mr. Righter was inquiring if there was flexibility on the vacation days offered and was also inquiring about the relocation allowance and if a sign-on bonus and a severance package is available.

The SIB discussed their options at this point of the recruiting process and after discussion,

Commissioner Gaebe exited the meeting at 4:30 pm.

IT WAS MOVED BY MS. TERNES AND SECONDED BY MR. TRENBEATH AND CARRIED ON A ROLL CALL VOTE TO WITHDRAW THE CURRENT OFFER OF EMPLOYMENT TO MR. RIGHTER BASED ON THE ISSUES THAT HAVE COME UP IN THE RECRUITING EFFORTS.

Discussion followed,

Mr. Trenbeath called the question and a roll call vote was taken,

AYES: MS. TERNES, MR. GESSNER, MR. SAGE, MR. TRENBEATH, MR. SANDAL, MR. LECH, MR. CORNEIL, TREASURER SCHMIDT, LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED
ABSENT: COMMISSIONER HAMM, COMMISSIONER GAEBE

A roll call vote was taken on the motion,

AYES: TREASURER SCHMIDT, MR. CORNEIL, MR. LECH, MR. TRENBEATH, MS. TERNES, LT. GOVERNOR WRIGLEY
NAYS: MR. SANDAL, MR. GESSNER, MR. SAGE
ABSENT: COMMISSIONER HAMM, COMMISSIONER GAEBE

A letter to rescind the offer of employment to Mr. Righter will be drafted by Ms. Murtha, signed by Lt. Governor Wrigley, and forwarded to Mr. Righter as soon as possible.

Lt. Governor Wrigley thanked Ms. Murtha for her excellent work and advice.

OTHER:

The next SIB meeting will be held by teleconference on October 9, 2013, at 9:30 am to discuss the pool of applicants for the position of Executive Director/CIO of the Retirement and Investment Office.

ADJOURNMENT:

With no further business to come before the SIB, Lt. Governor Wrigley adjourned the meeting at 5:10 p.m.

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Lt. Governor Wrigley, Chair
State Investment Board

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Bonnie Heit
Assistant to the Board

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
OCTOBER 1, 2013, BOARD MEETING

BOARD MEMBERS PRESENT:
Drew Wrigley, Lt. Governor, Chair
Mike Sandal, Vice Chair
Clarence Corneil, TFFR Board
Jeff Engleson, Deputy Land Commissioner
Mike Gessner, TFFR Board
Adam Hamm, Insurance Commissioner
Rob Lech, TFFR Board
Howard Sage, PERS Board
Kelly Schmidt, State Treasurer

ABSENT:
Cindy Ternes, Workforce Safety & Insurance
Tom Trenbeath, PERS Board

STAFF PRESENT:
Bonnie Heit, Assistant to the SIB
Fay Kopp, Interim Executive Director
Darren Schulz, Interim CIO

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 2:00 pm on Tuesday, October 1, 2013. The meeting was conducted by teleconference.

A quorum was present for the purpose of conducting business.

The meeting was called to order to review recruiting expenses for the final candidate for the position of ED/CIO of the Retirement and Investment Office. The SIB, at their September 27, 2013, meeting, directed Korn/Ferry to offer the ED/CIO position of RIO to Mr. Deric Righter. Mr. Michael Kennedy, Korn/Ferry, contacted the SIB on September 30, 2013, and updated the SIB on the discussions he has had with Mr. Righter since September 27, 2013. Mr. Kennedy indicated Mr. Righter is still very interested in the position and that the family is reviewing the impact of a move to North Dakota. Mr. Kennedy inquired if the SIB would be willing to pay for Mr. Righter and his wife to come to Bismarck to tour the Bismarck/Mandan community and to check on the school systems and real estate.

After discussion,

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MR. ENGLESON AND CARRIED ON A VOICE VOTE TO AUTHORIZE PAYMENT OF FIFTY PERCENT OF THE EXPENSES (AIRFARE, RENTAL CAR, HOTEL, AND MEALS), AT THE STATE PER DIEM RATE, FOR MR. RIGHTER AND HIS WIFE TO COME TO BISMARCK TO TOUR THE BISMARCK/MANDAN COMMUNITY, CHECK INTO THE SCHOOL SYSTEMS, AND REAL ESTATE.

AYES: MR. CORNEIL, COMMISSIONER GAEBE, MR. GESSNER, COMMISSIONER HAMM, MR. SAGE, MR. SANDAL, TREASURER SCHMIDT, MR. LECH, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED
ABSENT: MS. TERNES, MR. TRENBEATH

The SIB also authorized Mr. Sandal to discuss the offer with Mr. Kennedy on behalf of the SIB.

ADJOURNMENT:

With no further business to come before the SIB, Lt. Governor Wrigley adjourned the meeting at 2:30 p.m.

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Lt. Governor Wrigley, Chair
State Investment Board

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Bonnie Heit
Assistant to the Board

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
SEPTEMBER 27, 2013, BOARD MEETING

BOARD MEMBERS PRESENT:
Drew Wrigley, Lt. Governor, Chair
Mike Sandal, Vice Chair
Clarence Corneil, TFFR Board
Jeff Engleson, Deputy Land Commissioner
Mike Gessner, TFFR Board
Adam Hamm, Insurance Commissioner (teleconference)
Rob Lech, TFFR Board
Howard Sage, PERS Board
Kelly Schmidt, State Treasurer
Cindy Ternes, Workforce Safety & Insurance
Kim Wassim, PERS Board

STAFF PRESENT:
Connie Flanagan, Fiscal & Investment Officer
Bonnie Heit, Assistant to the SIB
Fay Kopp, Interim Executive Director
Darren Schulz, Interim CIO

OTHERS PRESENT:
Sparb Collins, PERS
David Hunter, ED/CIO Candidate
Michael Kennedy, Korn/Ferry
Bryan Klipfel, Workforce Safety & Insurance
Jan Murtha, Attorney General's Office
Deric Righter, ED/CIO Candidate

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 8:30 a.m. on Friday, September 27, 2013, at Workforce Safety & Insurance, 1600 E Century Ave., Bismarck, ND.

A quorum was present for the purpose of conducting business.

AGENDA:

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MR. LECH AND CARRIED ON A VOICE VOTE TO ACCEPT THE REVISED AGENDA FOR SEPTEMBER 27, 2013.

AYES: MR. ENGLESON, TREASURER SCHMIDT, MR. SANDAL, COMMISSIONER HAMM, MR. CORNEIL, MS. TERNES, MR. GESSNER, MS. WASSIM, MR. LECH, MR. SAGE, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

MINUTES:

The minutes were considered from the August 23, 2013, meeting,

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. CORNEIL AND CARRIED ON A VOICE VOTE TO ACCEPT THE AUGUST 23, 2013, MINUTES AS WRITTEN.

AYES: MR. GESSNER, MR. ENGLESON, MR. SAGE, MS. TERNES, TREASURER SCHMIDT, MR. LECH, COMMISSIONER HAMM, MR. CORNEIL, MS. WASSIM, MR. SANDAL, AND LT. GOVERNOR WRIGLEY
NAYS: NONE

MOTION CARRIED

EXECUTIVE DIRECTOR/CHIEF INVESTMENT OFFICER CANDIDATE INTERVIEWS:

Mr. Kennedy reviewed with the SIB Korn/Ferry's timeframe and process for the recruitment of candidates for the ED/CIO position of the Retirement and Investment Office (RIO) to date. Mr. Kennedy then reviewed the backgrounds of Mr. Righter and Mr. Hunter.

The SIB interviewed Mr. Righter.

The SIB recessed at 10:30 am and reconvened at 10:45 am

The SIB interviewed Mr. Hunter and concluded at 12:15 pm.

The SIB reviewed and discussed the two candidates; interviews, presentation skills, backgrounds, overall impressions, and each trustee's ratings. The SIB also discussed compensation and benefits available, within state guidelines, for the ED/CIO position.

The SIB also discussed with Mr. Kennedy reference and background checks completed by Korn/Ferry thus far on the two candidates and all were favorable. Korn/Ferry will conduct additional reference checks on the finalist and will report those findings back to the SIB. The State of ND will also conduct a background check on the finalist as required by NDCC 12-60-24.

After discussion,

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. WASSIM AND CARRIED ON A ROLL CALL VOTE TO OFFER THE POSITION OF ED/CIO OF RIO TO MR. DERIC RIGHTER CONTINGENT UPON ADDITIONAL REFERENCE CHECKS BY KORN/FERRY AND A BACKGROUND CHECK BY THE STATE OF ND.

AYES: TREASURER SCHMIDT, MR. SANDAL, MS. TERNES, MR. LECH, MR. CORNEIL, MS. WASSIM, MR. ENGLESON, MR. GESSNER, COMMISSIONER HAMM, MR. SAGE, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. GESSNER AND CARRIED ON A ROLL CALL VOTE TO OFFER MR. RIGHTER AN ANNUAL SALARY OF $220,000 FOR THE POSITION OF ED/CIO OF RIO CONTINGENT UPON ADDITIONAL REFERENCE CHECKS BY KORN/FERRY AND A BACKGROUND CHECK BY THE STATE OF ND.

Discussion followed,

Mr. Sage called the question,

AYES: MR. LECH, MS. TERNES, TREASURER SCHMIDT, MR. SANDAL, MR. SAGE, COMMISSIONER HAMM, MR. GESSNER, MR. ENGLESON, MS. WASSIM. MR. CORNEIL, LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

A roll call vote was then taken on the motion,

AYES: TREASURER SCHMIDT, MR. GESSNER, COMMISSIONER HAMM, MR. LECH, MR. SANDAL
NAYS: MS. TERNES, MR. ENGLESON, MR. SAGE, MS. WASSIM, MR. CORNEIL, LT. GOVERNOR WRIGLEY

MOTION FAILED

IT WAS MOVED BY MR. CORNEIL AND SECONDED BY MR. SAGE AND CARRIED ON A ROLL CALL VOTE TO OFFER MR. RIGHTER AN ANNUAL SALARY OF $210,000 FOR THE POSITION OF ED/CIO OF RIO CONTINGENT UPON ADDITIONAL REFERENCE CHECKS BY KORN/FERRY AND A BACKGROUND CHECK BY THE STATE OF ND.

AYES: MR. CORNEIL, MR. SANDAL, MR. SAGE, MR. LECH, MS. WASSIM, MS. TERNES, COMMISSIONER HAMM, MR. ENGLESON, LT. GOVERNOR WRIGLEY
NAYS: MR. GESSNER, TREASURER SCHMIDT
MOTION CARRIED

IT WAS MOVED BY MR. CORNEIL AND SECONDED BY MS. WASSIM AND CARRIED ON A ROLL CALL VOTE TO OFFER THE SAME BENEFIT PACKAGE TO MR. RIGHTER AS WAS OFFERED TO THE PREVIOUS ED/CIO AND TO ALSO ALLOW UP TO $8,000 FOR RELOCATION EXPENSES.

AYES: COMMISSIONER HAMM, MR. GESSNER, MR. SAGE, MS. TERNES, MS. WASSIM, TREASURER SCHMIDT, MR. CORNEIL, MR. ENGLESON, MR. LECH, MR. SANDAL, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Lt. Governor Wrigley thanked the Search Committee; Treasurer Schmidt, Commissioner Gaebe, Mr. Sandal, Mr. Gessner, the staff of RIO, and Mr. Michael Kennedy for their assistance in the search for a new ED/CIO.

OTHER:

Ms. Connie Flanagan will be resigning as Fiscal and Investment Officer of RIO effective October 15, 2013. The SIB thanked Ms. Flanagan for her years of service to the State and RIO and wished her well.

Ms. Kopp and Mr. Schulz reviewed their action plan to address the Fiscal & Investment Officer vacancy as well as other vacancies in the office.

The next SIB meeting is scheduled for October 25, 2013, at 8:30 am at the Peace Garden Room, State Capitol, Bismarck, ND.

The next SIB Audit Committee meeting is scheduled for September 27, 2013, at 2:00 pm at Workforce Safety & Insurance.

ADJOURNMENT:

With no further business to come before the SIB, Lt. Governor Wrigley adjourned the meeting at 1:30 p.m.

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Lt. Governor Wrigley, Chair
State Investment Board

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Bonnie Heit
Assistant to the Board

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF AUGUST 31, 2013

	August-13					July-13					Current Fiscal YTD		Prior FY13		3 Years Ended 6/30/2013		5 Years Ended 6/30/2013	
		Allocation		Month			Allocation		Month									
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Gross	Net
TOTAL FUND	1,830,949,283	100.0%	100.0%	-1.28%	-1.31%	1,863,460,201	100.0%	100.0%	2.92%	2.90%	1.60%	1.55%	13.97%	13.63%	12.18%	11.81%	3.42%	2.92%
POLICY TARGET BENCHMARK				-1.16%	-1.16%				2.95%	2.95%	1.76%	1.76%	11.95%	11.95%	10.80%	10.80%	4.60%	4.60%
ATTRIBUTION ANALYSIS																		
Asset Allocation				-0.05%	-0.05%				0.03%	0.03%	-0.02%	-0.02%	0.06%	0.06%	0.03%	0.03%		
Manager Selection				-0.08%	-0.10%				-0.06%	-0.08%	-0.14%	-0.19%	1.97%	1.62%	1.36%	0.98%		
TOTAL RELATIVE RETURN				-0.13%	-0.15%				-0.03%	-0.05%	-0.16%	-0.21%	2.03%	1.68%	1.38%	1.01%		
GLOBAL EQUITIES	1,075,190,372	58.7%	57.0%	-2.05%	-2.08%	1,100,319,003	59.0%	57.0%	4.87%	4.84%	2.71%	2.66%	19.30%	18.93%				
Benchmark				-2.03%	-2.03%				4.74%	4.74%	2.61%	2.61%	18.07%	18.07%				
Epoch (1)	92,001,406	5.0%	4.5%	-1.67%	-1.68%	93,721,352	5.0%	4.5%	4.65%	4.64%	2.90%	2.80%	20.85%	20.10%	11.82%	11.41%	6.38%	5.23%
Calamos	24,516,032	1.3%	1.5%	-1.72%	-1.73%	24,943,637	1.3%	1.5%	4.05%	4.03%	2.26%	2.14%	8.37%	7.65%	N/A	N/A	N/A	N/A
LSV	189,336,200	10.3%	10.0%			193,599,947	10.4%	10.0%			3.68%	3.56%	N/A	N/A	N/A	N/A	N/A	N/A
Total Global Equities	305,853,638	16.7%	16.0%	-1.85%	-1.87%	312,264,936	16.8%	16.0%	5.28%	5.27%	3.33%	3.22%	17.06%	16.32%				
MSCI World (2)				-2.13%	-2.13%				5.27%	5.27%	3.02%	3.02%	18.58%	18.58%				
Domestic - broad	409,239,755	22.4%	21.5%	-2.87%	-2.89%	420,752,197	22.6%	21.5%	5.74%	5.72%	2.70%	2.66%	24.02%	23.70%				
Benchmark				-2.85%	-2.85%				5.72%	5.72%	2.71%	2.71%	21.93%	21.93%				
Large Cap Domestic																		
LA Capital	123,697,459	6.8%	5.0%	-2.57%	-2.58%	127,023,387	6.8%	5.0%	5.24%	5.22%	2.53%	2.50%	18.86%	18.65%	19.03%	18.82%	7.30%	7.08%
Russell 1000 Growth				-1.71%	-1.71%				5.30%	5.30%	3.50%	3.50%	17.07%	17.07%	18.68%	18.68%	7.47%	7.47%
LA Capital	86,352,862	4.7%	2.9%	-3.06%	-3.07%	88,070,123	4.7%	2.8%	5.67%	5.66%	2.44%	2.41%	21.63%	21.44%	19.08%	18.81%	7.66%	7.39%
Russell 1000				-2.76%	-2.76%				5.35%	5.35%	2.45%	2.45%	21.24%	21.24%	18.63%	18.63%	7.12%	7.12%
Northern Trust	42,570,099	2.3%	2.3%	-3.40%	-3.42%	44,141,732	2.4%	2.4%	5.68%	5.66%	2.09%	2.04%	23.67%	23.35%	19.75%	19.49%	8.15%	7.95%
Clifton	60,024,339	3.3%	6.4%	-3.11%	-3.11%	61,894,743	3.3%	6.4%	5.08%	5.08%	1.81%	1.81%	20.44%	20.43%	N/A	N/A	N/A	N/A
S&P 500				-2.90%	-2.90%				5.09%	5.09%	2.04%	2.04%	20.60%	20.60%	18.45%	18.45%	7.01%	7.01%
Total Large Cap Domestic	312,644,758	17.1%	16.6%	-2.92%	-2.94%	321,129,985	17.2%	16.6%	5.39%	5.37%	2.31%	2.28%	23.13%	22.92%	18.57%	18.23%	3.73%	3.29%
Russell 1000 (2)				-2.76%	-2.76%				5.35%	5.35%	2.45%	2.45%	21.24%	21.24%	18.62%	18.62%	7.10%	7.10%
Small Cap Domestic																		
SEI	96,552	0.0%	0.0%	-1.75%	-1.75%	98,268	0.0%	0.0%	0.00%	0.00%	-1.75%	-1.75%	386.46%	386.46%	46.90%	46.90%	19.57%	19.06%
Callan	53,813,131	2.9%	2.4%	-2.31%	-2.36%	55,121,209	3.0%	2.4%	6.83%	6.79%	4.37%	4.27%	27.71%	27.01%	20.26%	19.54%	9.71%	9.16%
Clifton	42,685,314	2.3%	2.4%	-3.20%	-3.24%	44,402,736	2.4%	2.4%	6.97%	6.93%	3.54%	3.46%	25.30%	24.72%	20.17%	19.68%	N/A	N/A
Total Small Cap Domestic	96,594,997	5.3%	4.8%	-2.71%	-2.75%	99,622,212	5.3%	4.8%	6.89%	6.84%	3.99%	3.90%	26.86%	26.22%	20.05%	19.46%	10.27%	9.59%
Russell 2000				-3.18%	-3.18%				7.00%	7.00%	3.60%	3.60%	24.21%	24.21%	18.67%	18.67%	8.77%	8.77%
International - broad	266,678,243	14.6%	14.5%	-1.74%	-1.79%	271,463,825	14.6%	14.5%	4.98%	4.92%	3.15%	3.04%	17.71%	16.98%				
Benchmark				-1.40%	-1.40%				4.47%	4.47%	3.01%	3.01%	15.51%	15.51%				
Developed International																		
State Street	23,622,916	1.3%	1.3%	-1.65%	-1.69%	24,020,280	1.3%	1.3%	5.91%	5.87%	4.16%	4.09%	23.17%	22.63%	10.23%	9.54%	-1.10%	-1.80%
MSCI EAFE (3)				-1.32%	-1.32%				5.28%	5.28%	3.88%	3.88%	18.62%	18.62%	10.04%	10.04%	-0.63%	-0.63%
Capital Guardian	32,522,426	1.8%	2.6%	-1.66%	-1.69%	33,057,471	1.8%	2.7%	6.00%	5.97%	4.24%	4.18%	21.31%	20.83%	10.29%	9.77%	0.66%	0.12%
MSCI EAFE (4)				-1.32%	-1.32%				5.28%	5.28%	3.88%	3.88%	18.62%	18.62%	8.10%	8.10%	-0.01%	-0.01%
Clifton	96,023,349	5.2%	5.2%	-1.60%	-1.66%	97,548,432	5.2%	5.2%	5.81%	5.74%	4.11%	3.98%	17.25%	16.39%	9.03%	8.71%	N/A	N/A
MSCI EAFE				-1.32%	-1.32%				5.28%	5.28%	3.88%	3.88%	18.62%	18.62%	10.04%	10.04%		

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF AUGUST 31, 2013

	August-13					July-13					Current Fiscal YTD		Prior FY13		3 Years Ended 6/30/2013		5 Years Ended 6/30/2013	
		Allocation		Month			Allocation		Month									
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Gross	Net
DFA	30,033,655	1.6%	1.3%	-1.18%	-1.23%	30,409,412	1.6%	1.3%	7.51%	7.46%	6.24%	6.15%	24.89%	24.22%	12.34%	11.63%	2.91%	2.21%
Wellington	34,858,775	1.9%	1.3%	0.00%	-0.06%	34,939,755	1.9%	1.3%	5.68%	5.62%	5.68%	5.56%	26.16%	25.31%	17.16%	16.27%	5.82%	4.90%
S&P/Citigroup BMI EPAC < $2BN				***-0.35%***	***-0.35%***				***5.04%***	***5.04%***	***4.67%***	***4.67%***	***18.05%***	***18.05%***	***9.78%***	***9.78%***	***1.26%***	***1.26%***
Total Developed International	**217,061,121**	**11.9%**	**11.8%**	**-1.30%**	**-1.35%**	**219,975,351**	**11.8%**	**11.8%**	**6.06%**	**6.01%**	**4.68%**	**4.57%**	**20.94%**	**20.22%**	**10.69%**	**10.15%**	**2.10%**	**1.54%**
MSCI EAFE (4)				***-1.32%***	***-1.32%***				***5.28%***	***5.28%***	***3.88%***	***3.88%***	***18.62%***	***18.62%***	***8.10%***	***8.10%***	***-0.01%***	***-0.01%***
Emerging Markets																		
JP Morgan	9,104,568	0.5%	0.5%	-4.10%	-4.17%	9,494,581	0.5%	0.5%	-0.48%	-0.55%	-4.56%	-4.69%	5.11%	4.28%	4.79%	4.01%	1.36%	0.57%
PanAgora	6,337,443	0.3%	0.5%	-4.63%	-4.68%	6,646,023	0.4%	0.5%	1.54%	1.49%	-3.16%	-3.27%	6.28%	5.58%	4.47%	3.72%	-0.81%	-1.55%
UBS	8,562,287	0.5%	0.8%	-4.32%	-4.40%	8,949,669	0.5%	0.8%	0.46%	0.39%	-3.88%	-4.03%	-0.62%	-1.55%	3.19%	2.34%	-0.59%	-1.46%
NTGI	13,039,370	0.7%	0.5%	-1.75%	-1.76%	13,275,426	0.7%	0.5%	1.08%	1.07%	-0.69%	-0.72%	N/A	N/A	N/A	N/A	N/A	N/A
DFA	12,573,453	0.7%	0.5%	-4.13%	-4.18%	13,122,776	0.7%	0.5%	0.51%	0.46%	-3.64%	-3.75%	9.18%	8.47%	6.59%	5.80%	6.52%	5.78%
Total Emerging Markets	**49,617,122**	**2.7%**	**2.8%**	**-3.61%**	**-3.66%**	**51,488,475**	**2.8%**	**2.8%**	**0.59%**	**0.54%**	**-3.04%**	**-3.13%**	**4.55%**	**3.82%**	**6.69%**	**5.97%**	**2.00%**	**1.17%**
MSCI Emerging Markets				***-1.72%***	***-1.72%***				***1.05%***	***1.05%***	***-0.69%***	***-0.69%***	***2.87%***	***2.87%***	***3.48%***	***3.48%***	***-0.25%***	***-0.25%***
Private Equity																		
Coral Momentum Fund (Formerly Fund VI)	1,357,487	0.1%		0.00%	0.00%	1,357,487	0.1%		0.00%	0.00%	0.00%	0.00%	14.19%	14.19%	-4.54%	-4.54%	-15.94%	-16.01%
Brinson 1998 Partnership Fund	54,688	0.0%		0.00%	0.00%	54,688	0.0%		0.00%	0.00%	0.00%	0.00%	16.27%	16.27%	4.87%	4.87%	-5.39%	-5.63%
Brinson 1999 Partnership Fund	530,791	0.0%		0.00%	0.00%	530,791	0.0%		0.00%	0.00%	0.00%	0.00%	9.46%	9.46%	10.71%	10.71%	0.36%	0.11%
Brinson 2000 Partnership Fund	1,420,563	0.1%		0.00%	0.00%	1,420,563	0.1%		0.00%	0.00%	0.00%	0.00%	6.03%	6.03%	12.52%	12.52%	2.75%	2.50%
Brinson 2001 Partnership Fund	1,721,922	0.1%		0.00%	0.00%	1,721,922	0.1%		0.00%	0.00%	0.00%	0.00%	12.43%	12.43%	14.42%	14.42%	4.80%	4.55%
Brinson 2002 Partnership Fund	931,342	0.1%		0.00%	0.00%	931,342	0.0%		0.00%	0.00%	0.00%	0.00%	6.52%	6.52%	17.45%	17.45%	4.71%	4.45%
Brinson 2003 Partnership Fund	352,151	0.0%		0.00%	0.00%	352,151	0.0%		0.00%	0.00%	0.00%	0.00%	6.11%	6.11%	8.51%	8.51%	2.19%	1.94%
Total Brinson Partnership Funds	5,011,457	0.3%		0.00%	0.00%	5,011,457	0.3%		0.00%	0.00%	0.00%	0.00%	8.66%	8.66%	13.26%	13.26%	3.18%	2.93%
Brinson 1999 Non-US Partnership Fund	242,490	0.0%		0.00%	0.00%	242,008	0.0%		0.00%	0.00%	0.00%	0.00%	27.87%	27.87%	27.63%	27.63%	10.48%	10.21%
Brinson 2000 Non-US Partnership Fund	513,512	0.0%		0.00%	0.00%	513,113	0.0%		0.00%	0.00%	0.00%	0.00%	-1.13%	-1.13%	9.56%	9.56%	-2.18%	-2.43%
Brinson 2001 Non-US Partnership Fund	310,204	0.0%		0.00%	0.00%	311,044	0.0%		0.00%	0.00%	0.00%	0.00%	9.41%	9.41%	4.02%	4.02%	-7.57%	-7.82%
Brinson 2002 Non-US Partnership Fund	872,033	0.0%		0.00%	0.00%	1,031,017	0.1%		0.00%	0.00%	0.00%	0.00%	8.55%	8.55%	15.73%	15.73%	-2.33%	-2.59%
Brinson 2003 Non-US Partnership Fund	865,986	0.0%		0.00%	0.00%	829,725	0.0%		0.00%	0.00%	0.00%	0.00%	32.82%	32.82%	20.45%	20.45%	6.27%	6.00%
Brinson 2004 Non-US Partnership Fund	570,792	0.0%		0.00%	0.00%	581,411	0.0%		0.00%	0.00%	0.00%	0.00%	8.52%	8.52%	9.90%	9.90%	-2.30%	-2.55%
Total Brinson Non-US Partnership Fund	3,375,018	0.2%		0.00%	0.00%	3,508,318	0.2%		0.00%	0.00%	0.00%	0.00%	13.16%	13.16%	14.49%	14.49%	0.02%	-0.24%
Adams Street 2008 Non-US Partnership Fd	2,256,985	0.1%		0.00%	0.00%	2,156,397	0.1%		0.00%	0.00%	0.00%	0.00%	10.58%	10.58%	9.37%	9.37%	2.05%	-2.17%
Brinson BVCF IV	2,392,944	0.1%		0.00%	0.00%	2,392,944	0.1%		0.00%	0.00%	0.00%	0.00%	32.89%	32.89%	83.51%	83.51%	53.63%	53.35%
Adams Street Direct Co-investment Fund	7,510,344	0.4%		0.00%	0.00%	7,510,344	0.4%		0.00%	0.00%	0.00%	0.00%	11.74%	11.74%	13.70%	13.70%	3.10%	2.69%
Adams Street 2010 Direct Fund	438,303	0.0%		0.00%	0.00%	417,683	0.0%		0.00%	0.00%	0.00%	0.00%	2.36%	2.36%	4.96%	4.96%	N/A	N/A
Adams Street 2010 Non-US Emerging Mkts	151,413	0.0%		0.00%	0.00%	151,413	0.0%		0.00%	0.00%	0.00%	0.00%	-5.04%	-5.04%	N/A	N/A	N/A	N/A
Adams Street 2010 Non-US Developed Mkts	679,671	0.0%		0.00%	0.00%	679,671	0.0%		0.00%	0.00%	0.00%	0.00%	11.47%	11.47%	0.81%	0.81%	N/A	N/A
Adams Street 2010 Partnership Fund	1,323,778	0.1%		0.00%	0.00%	1,323,778	0.1%		0.00%	0.00%	0.00%	0.00%	10.31%	10.31%	15.54%	15.54%	N/A	N/A
Total Adams Street 2010 Funds	2,593,165	0.1%		0.00%	0.00%	2,572,545	0.1%		0.00%	0.00%	0.00%	0.00%	8.27%	8.27%	9.88%	9.88%	N/A	N/A
Matlin Patterson Global Opportunities	5,493	0.0%		0.00%	0.00%	5,493	0.0%		0.00%	0.00%	0.00%	0.00%	18.21%	18.21%	-1.05%	-1.05%	10.88%	10.07%
Matlin Patterson Global Opportunities II	677,885	0.0%		0.00%	0.00%	677,885	0.0%		-0.03%	-0.03%	-0.03%	-0.03%	-12.14%	-12.14%	-53.08%	-53.08%	-45.68%	-45.80%
Matlin Patterson Global Opportunities III	12,386,024	0.7%		0.00%	0.00%	12,386,024	0.7%		0.00%	0.00%	0.00%	0.00%	25.08%	25.08%	41.76%	41.76%	16.69%	15.28%
InvestAmerica (Lewis and Clark Fund)	2,804,987	0.2%		0.00%	0.00%	2,804,987	0.2%		0.00%	0.00%	0.00%	0.00%	17.77%	17.77%	10.58%	10.58%	7.57%	6.05%
L&C II	4,653,937	0.3%		0.00%	0.00%	4,860,509	0.3%		0.00%	0.00%	0.00%	0.00%	-4.18%	-4.18%	-5.04%	N/A	N/A	N/A
Hearthstone MSII	0	0.0%		0.00%	0.00%	0	0.0%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-100.00%	-100.00%
Hearthstone MSIII	0	0.0%		0.00%	0.00%	0	0.0%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	50.20%	50.20%	-100.00%	-100.00%
Corsair III (2)	5,247,230	0.3%		0.00%	0.00%	5,247,230	0.3%		-1.48%	-1.48%	-1.48%	-1.48%	-10.93%	-10.93%	-1.72%	-2.07%	-5.61%	-6.74%
Corsair III - ND Investors LLC (2)	5,320,176	0.3%		0.00%	0.00%	5,320,176	0.3%		0.22%	0.22%	0.22%	0.22%	8.19%	8.19%	4.27%	4.18%	2.33%	2.09%
Corsair IV	4,840,660	0.3%		0.00%	0.00%	4,840,660	0.3%		-1.85%	-1.85%	-1.85%	-1.85%	8.75%	8.75%	-5.01%	-5.19%	N/A	N/A
Capital International (CIPEF V)	8,735,695	0.5%		0.00%	0.00%	8,735,695	0.5%		-0.22%	-0.22%	-0.22%	-0.22%	-10.03%	-10.03%	6.63%	6.63%	3.60%	2.40%
Capital International (CIPEF VI)	4,645,555	0.3%		0.00%	0.00%	4,645,555	0.2%		-1.88%	-1.88%	-1.88%	-1.88%	-22.38%	-22.38%	N/A	N/A	N/A	N/A
EIG (formerly TCW)	11,155,497	0.6%		0.00%	0.00%	13,279,487	0.7%		0.00%	0.00%	0.00%	0.00%	0.37%	0.37%	6.67%	6.67%	11.10%	10.10%
Quantum Resources	4,172,971	0.2%		0.00%	0.00%	4,212,101	0.2%		-3.52%	-3.52%	-3.52%	-3.52%	36.60%	36.60%	38.33%	38.33%	-31.99%	-37.56%
Quantum Energy Partners	4,275,224	0.2%		0.00%	0.00%	4,312,748	0.2%		0.04%	0.04%	0.04%	0.04%	18.79%	18.79%	23.23%	23.23%	9.73%	7.86%
Total Private Equity (8)	**93,418,735**	**5.1%**	**5.0%**	**0.00%**	**0.00%**	**95,838,045**	**5.1%**	**5.0%**	**-0.41%**	**-0.41%**	**-0.41%**	**-0.41%**	**6.69%**	**6.69%**	**8.85%**	**8.85%**	**0.59%**	**0.27%**

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF AUGUST 31, 2013

	August-13					July-13					Current Fiscal YTD		Prior FY13		3 Years Ended 6/30/2013		5 Years Ended 6/30/2013	
		Allocation		Month			Allocation		Month									
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Gross	Net
GLOBAL FIXED INCOME	400,222,498	21.9%	22.0%	-0.72%	-0.74%	404,801,570	21.7%	22.0%	0.30%	0.28%	-0.43%	-0.47%	5.94%	5.71%				
Benchmark				-0.53%	-0.53%				0.63%	0.63%	0.09%	0.09%	0.93%	0.93%				
Domestic Fixed Income	314,927,875	17.2%	17.0%	-0.57%	-0.58%	318,339,162	17.1%	17.0%	0.16%	0.14%	-0.41%	-0.44%	7.56%	7.37%				
Benchmark				-0.54%	-0.54%				0.65%	0.65%	0.11%	0.11%	2.22%	2.22%				
Investment Grade Fixed Income																		
PIMCO (DiSCO II) (8)	43,305,632	2.4%	1.9%	0.27%	0.27%	43,275,156	2.3%	1.9%	1.00%	1.00%	1.27%	1.27%	33.07%	33.07%	N/A	N/A	N/A	N/A
BC Aggregate				-0.51%	-0.51%				0.14%	0.14%	-0.37%	-0.37%	-0.69%	-0.69%				
State Street	20,761,276	1.1%	1.2%	-0.75%	-0.75%	20,961,076	1.1%	1.2%	-1.85%	-1.85%	-2.59%	-2.59%	N/A	N/A	N/A	N/A	N/A	N/A
BC Long Treasuries				-0.75%	-0.75%				-1.86%	-1.86%	-2.59%	-2.59%	-8.36%	-8.36%				
PIMCO (Unconstrained) (9)	26,204,639	1.4%	1.4%	-0.82%	-0.82%	26,475,468	1.4%	1.4%	-0.12%	-0.12%	-0.94%	-0.94%	2.20%	2.20%	N/A	N/A	N/A	N/A
3m LIBOR				0.02%	0.02%				0.02%	0.02%	0.05%	0.05%	0.34%	0.34%				
Declaration (Total Return) (9)	26,389,253	1.4%	1.4%	0.08%	0.08%	26,367,293	1.4%	1.4%	0.00%	0.00%	0.08%	0.08%	7.83%	7.83%	N/A	N/A	N/A	N/A
3m LIBOR				0.02%	0.02%				0.02%	0.02%	0.05%	0.05%	0.34%	0.34%				
Western Asset	44,392,607	2.4%	2.4%	-0.29%	-0.30%	44,608,692	2.4%	2.4%	-0.14%	-0.16%	-0.43%	-0.46%	-1.31%	-1.48%	N/A	N/A	N/A	N/A
PIMCO (MBS)	65,659,707	3.6%	3.6%	-0.32%	-0.33%	66,096,457	3.5%	3.6%	-0.29%	-0.30%	-0.61%	-0.64%	-0.45%	-0.62%	N/A	N/A	N/A	N/A
BC Mortgage Backed Securities Index				-0.29%	-0.29%				-0.09%	-0.09%	-0.38%	-0.38%	-1.10%	-1.10%				
Total Investment Grade Fixed Income	226,713,114	12.4%	12.0%	-0.25%	-0.26%	227,784,141	12.2%	12.0%	-0.11%	-0.12%	-0.36%	-0.38%	5.13%	5.04%	5.86%	5.65%	4.28%	3.78%
BC Aggregate				-0.51%	-0.51%				0.14%	0.14%	-0.37%	-0.37%	-0.69%	-0.69%	3.51%	3.51%	5.19%	5.19%
Below Investment Grade Fixed Income																		
Loomis Sayles	81,798,375	4.5%	4.6%	-1.48%	-1.52%	83,226,366	4.5%	4.6%	1.06%	1.03%	-0.43%	-0.51%	12.75%	12.25%	11.41%	10.91%	10.28%	9.77%
Goldman Sachs 2006 Fund (8)	1,793,398	0.1%	0.1%	0.41%	0.41%	1,968,970	0.1%	0.1%	-0.72%	-0.72%	-0.32%	-0.32%	18.49%	18.49%	6.96%	6.96%	3.82%	1.93%
Goldman Sachs Fund V (8)	4,622,989	0.3%	0.3%	0.00%	0.00%	5,359,686	0.3%	0.3%	-1.03%	-1.03%	-1.03%	-1.03%	17.11%	17.11%	15.96%	15.96%	13.95%	13.42%
Total Below Investment Grade Fixed Income	88,214,761	4.8%	5.0%	-1.35%	-1.39%	90,555,022	4.9%	5.0%	0.91%	0.87%	-0.46%	-0.52%	14.10%	13.64%	11.75%	11.35%	8.27%	7.62%
LB High Yield 2% Issuer Constrained Index				-0.61%	-0.61%				1.90%	1.90%	1.28%	1.28%	9.50%	9.50%	10.69%	10.69%	11.00%	11.00%
International Fixed Income	85,294,623	4.7%	5.0%	-1.31%	-1.34%	86,462,407	4.6%	5.0%	0.79%	0.76%	-0.53%	-0.59%	0.83%	0.48%				
Benchmark				-0.51%	-0.51%				0.54%	0.54%	0.04%	0.04%	-3.40%	-3.40%				
Developed Investment Grade Int'l FI																		
UBS Global (Brinson)	41,124,770	2.2%	2.5%	-0.70%	-0.73%	41,413,535	2.2%	2.5%	2.16%	2.14%	1.45%	1.40%	-3.45%	-3.74%	3.64%	3.34%	2.89%	2.59%
BC Global Aggregate ex-US (6)				-0.51%	-0.51%				0.54%	0.54%	0.04%	0.04%	-3.40%	-3.40%	3.46%	3.46%	3.11%	3.11%
Brandywine	44,169,853	2.4%	2.5%	-1.87%	-1.90%	45,048,872	2.4%	2.5%	-0.44%	-0.47%	-2.30%	-2.37%	5.00%	4.59%	9.95%	9.53%	8.53%	8.11%
BC Global Aggregate (ex-US)				-0.53%	-0.53%				1.26%	1.26%	0.72%	0.72%	-2.18%	-2.18%	3.55%	3.55%	3.43%	3.43%
Total Developed Investment Grade Int'l FI	85,294,623	4.7%	5.0%	-1.31%	-1.34%	86,462,407	4.6%	5.0%	0.79%	0.76%	-0.53%	-0.59%	0.83%	0.48%	6.89%	6.53%	5.97%	5.61%
BC Global Aggregate ex-US				-0.51%	-0.51%				0.54%	0.54%	0.04%	0.04%	-3.40%	-3.40%	3.46%	3.46%	3.11%	3.11%

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF AUGUST 31, 2013

	August-13					July-13					Current Fiscal YTD		Prior FY13		3 Years Ended 6/30/2013		5 Years Ended 6/30/2013	
		Allocation		Month			Allocation		Month									
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Gross	Net
GLOBAL REAL ASSETS	***335,825,286***	***18.3%***	***20.0%***	***0.46%***	***0.43%***	***343,812,733***	***18.5%***	***20.0%***	***0.23%***	***0.20%***	***0.70%***	***0.64%***	***8.29%***	***7.89%***				
Benchmark				***0.58%***	***0.58%***				***0.56%***	***0.56%***	***1.14%***	***1.14%***	***8.09%***	***8.09%***				
Global Real Estate																		
INVESCO - Core	65,494,205			0.00%	-0.04%	65,494,188			0.00%	-0.04%	0.00%	-0.08%	13.36%	12.84%	15.85%	15.38%	0.04%	-0.46%
INVESCO - Fund II (8)	10,309,590			0.00%	0.00%	10,309,590			0.00%	0.00%	0.00%	0.00%	23.44%	23.44%	35.58%	35.58%	-15.67%	-16.63%
INVESCO - Fund III (9)	10,064,222			0.00%	0.00%	18,522,722			0.00%	0.00%	0.00%	0.00%	16.79%	16.79%	N/A	N/A	N/A	N/A
INVESCO - Asia Real Estate Fund (8)	10,807,165			-1.09%	-1.09%	10,550,963			0.00%	0.00%	-1.09%	-1.09%	-5.61%	-5.61%	-4.32%	-4.32%	N/A	N/A
J.P. Morgan Strategic & Special Funds	60,215,196			1.30%	1.23%	59,440,337			1.39%	1.32%	2.71%	2.57%	14.62%	13.66%	16.20%	15.23%	0.20%	-0.82%
J.P. Morgan Alternative Property Fund	2,649,751			11.40%	11.39%	2,654,351			0.00%	-0.01%	11.40%	11.38%	15.24%	15.13%	15.71%	15.35%	-6.30%	-7.55%
J.P. Morgan Greater Europe Fund (8)	4,691,569			-0.70%	-0.70%	4,724,481			2.41%	2.41%	1.70%	1.70%	-48.64%	-48.64%	-106.48%	-106.48%	N/A	N/A
J.P. Morgan Greater China Property Fund (8)	9,682,341			0.00%	0.00%	9,682,342			-0.04%	-0.04%	-0.04%	-0.04%	-4.51%	-4.51%	2.30%	2.30%	1.53%	0.33%
Total Global Real Estate	**173,914,040**	**9.5%**	**10.0%**	**0.51%**	**0.47%**	**181,378,974**	**9.7%**	**10.0%**	**0.51%**	**0.47%**	**1.02%**	**0.95%**	**11.04%**	**10.55%**	**15.90%**	**15.36%**	**-1.43%**	**-2.21%**
NCREIF TOTAL INDEX				***0.95%***	***0.95%***				***0.95%***	***0.95%***	***1.90%***	***1.90%***	***10.72%***	***10.72%***	***13.14%***	***13.14%***	***2.79%***	***2.79%***
Timber																		
TIR - Teredo (7)	35,765,603	2.0%		0.00%	0.00%	35,765,603	1.9%		0.00%	0.00%	0.00%	0.00%	5.64%	5.64%	3.09%	3.09%	5.33%	5.20%
TIR - Springbank	54,968,505	3.0%		0.00%	0.00%	54,968,505	2.9%		0.02%	0.02%	0.02%	0.02%	-2.45%	-2.45%	-3.02%	-3.02%	-4.88%	-4.92%
Total Timber	**90,734,108**	**5.0%**	**5.0%**	**0.00%**	**0.00%**	**90,734,108**	**4.9%**	**5.0%**	**0.01%**	**0.01%**	**0.01%**	**0.01%**	**0.58%**	**0.58%**				
NCREIF Timberland Index(8)				***0.31%***	***0.31%***				***0.31%***	***0.31%***	***0.62%***	***0.62%***	***9.35%***	***9.35%***	***3.71%***	***3.71%***	***0.47%***	***2.51%***
Infrastructure																		
JP Morgan (Asian)	13,624,013	0.7%		0.00%	0.00%	13,624,013	0.7%		0.11%	0.11%	*0.11%*	0.11%	*23.99%*	23.99%	6.83%	6.83%	N/A	N/A
JP Morgan (IIF)	44,031,299	2.4%		1.60%	1.52%	43,338,772	2.3%		0.00%	-0.08%	1.60%	1.44%	10.64%	9.57%	7.42%	6.12%	-0.12%	-1.56%
Credit Suisse	13,521,826	0.7%		-0.24%	-0.24%	14,736,867	0.8%		-1.08%	-1.08%	-1.31%	-1.31%	9.43%	9.43%	N/A	N/A	N/A	N/A
Total Infrastructure (8)	**71,177,138**	**3.9%**	**5.0%**	**0.92%**	**0.87%**	**71,699,652**	**3.8%**	**5.0%**	**-0.19%**	**-0.24%**	**0.72%**	**0.62%**	**12.33%**	**11.60%**				
CPI				***0.12%***	***0.12%***				***0.04%***	***0.04%***	***0.16%***	***0.16%***	***1.75%***	***1.75%***				
Cash Equivalents																		
Northern Trust STIF	19,711,127			0.02%	0.02%	14,526,895			0.00%	0.00%	0.02%	0.02%	0.10%	0.10%	0.12%	0.12%	0.33%	0.30%
Total Cash Equivalents	**19,711,127**	**1.1%**	**1.0%**	**0.02%**	**0.02%**	**14,526,895**	**0.8%**	**1.0%**	**0.00%**	**0.00%**	**0.02%**	**0.02%**	**0.10%**	**0.10%**	**0.13%**	**0.13%**	**0.35%**	**0.34%**
90 Day T-Bill				***0.01%***	***0.01%***				***0.01%***	***0.01%***	***0.01%***	***0.01%***	***0.11%***	***0.11%***	***0.11%***	***0.11%***	***0.30%***	***0.30%***

NOTE: Monthly returns and market values are preliminary and subject to change.
New asset class structure began October 1, 2011. Composite returns for new composites not available prior to that date.
Portfolios moved between asset classes will show historical returns in new position.

(1) Epoch was included in the Large Cap Domestic Equity composite through 12/31/11.
(2) Prior to January 1, 2012, the benchmark was S&P 500.
(3) This benchmark was changed to the MSCI EAFE (unhedged) as of December 1, 2004.
(4) This benchmark was changed to the MSCI EAFE (unhedged) as of April 1, 2011.
(5) Prior to January 1, 2005, the benchmark was the First Boston Convertible Index.
(6) Prior to December 1, 2009, the benchmark was the Citigroup World Gov't Bond Index ex-US
(7) Prior to June 1, 2006, the Teredo properties were under the management of RMK.
(8) All limited partnership-type investments' returns will only be reported net of fees, which is standard practice by the investment consultant.

Amended: Item VI - time changed from 10:00 am to 10:30 am.

ND STATE INVESTMENT BOARD

AGENDA

Friday, October 25, 2013, 8:00 a.m.
Workforce Safety & Insurance
Bismarck ND

I. CALL TO ORDER AND ACCEPTANCE OF AGENDA

II. ACCEPTANCE OF MINUTES (September 27, 2013, October 1, 2013, October 8, 2013, October 9, 2013)

III. INVESTMENTS
A. Declaration (Account Updates) - Mr. Pluta, Mr. Casey (60 min)
B. Global Equity Portfolio - Mr. Schulz (enclosed) (60 min)

IV. GOVERNANCE
A. Audit Committee Liaison Report **(Board Acceptance Needed)** - Mr. Gessner (enclosed) (5 min)

V. QUARTERLY MONITORING - 9/30/13 (enclosed). (Questions Only - Board Acceptance) (5 min)
A. Executive Limitations/Staff Relations - Ms. Kopp (enclosed).
B. Budget/Financial Conditions - Ms. Walcker (enclosed).
C. Investment Program - Mr. Schulz (enclosed).
D. Retirement Program - Ms. Kopp (enclosed).

VI. EXECUTIVE DIRECTOR/CHIEF INVESTMENT OFFICER CANDIDATE INTERVIEW

10:30 am Board Interview - David Hunter

12:30 pm Conclusion and Wrap Up of Interview

VII. OTHER
Next Meetings:
SIB meeting - November 22, 2013, 8:30 a.m. - Peace Garden Room, State Capitol
SIB Audit Committee meeting - November 22, 2013, 1:00 p.m. - Peace Garden Room, State Capitol

VIII. ADJOURNMENT

MEMORANDUM

TO: TFFR Board

FROM: Fay Kopp

DATE: October 17, 2013

SUBJ: TFFR Centennial Celebration

After the October 24 TFFR board meeting, there will be a TFFR Centennial Celebration. RIO staff has also been invited to attend, along with member and employer stakeholder groups.

At the celebration, the TFFR Centennial slide show will be presented which highlights TFFR's 100-year history. Darlene is also baking cakes for the event!

NDTFFR CELEBRATES 100 YEARS 1913-2013
NDTFFR CELEBRATES 100 YEARS 1913-2013
NDTFFR CELEBRATES 100 YEARS 1913-2013
NDTFFR CELEBRATES 100 YEARS 1913-2013
NDTFFR CELEBRATES 100 YEARS 1913-2013

TFFR Centennial Celebration - 4 pm

100 Years of Proud Service to ND Educators

Third Quarter 2013

A MESSAGE FROM THE EXECUTIVE DIRECTOR

Mom

By Meredith Williams, NCTR Executive Director

My mom first taught in a one-room school in suburban (read rural) Selby, South Dakota. My mom, probably like your mom, left me with a variety of memorable and meaningful sayings that often come into play in my daily life.

These are tough times for educator pension plans. Our critics have certainly come out of the woodwork and are quite vocal in their protests. Now is truly the time to circle the wagons and develop common approaches to ensure that our educators have sustainable pension plans. Unfortunately, sometimes we are too focused on making noise. Recently, I have been hearing increasing noise about an old saw called Pension Obligation Bonds, or POB's for short.

POB's have been around for a long time; they seem to go in cycles. The one thing they have in common is that they generally have not worked. Key components to a successful POB include timing, sustained fiscal discipline by the plan sponsor, and a very long-term approach.

Of course, there is money to be made with those providing such vehicles; and so, every so often, POB's are resurrected. Sometimes with a new name, a supposedly new approach. Sometimes, they are even touted as a no-cost, risk-free approach.

Mom taught me many things. First, there is no free lunch; everything has a cost.

> *"Beware of the free lunch."*

Beware of the free lunch. If you are buying proposals or products, be skeptical. Shop with those who have a documented proposal or product and a track record. There are no shortcuts to success. Modern portfolio theory, asset allocation, long-term investing, risk management, fiscal and contribution discipline remain the cornerstones of a sustainable pension plan.

In these trying times, we need to expend our efforts on developing and articulating meaningful solutions to meet our industry's challenges. Let's not be distracted by disproven approaches with new names. Our educators deserve no less. As mom would say, "You can't put lipstick on a pig!"

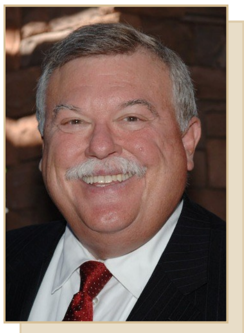
I look forward to seeing you at our 91st Annual Conference.

Teachers Impact Lives Forever. ❖

CAPITOL COMMENTARY

Detroit's Bankruptcy and Public Pensions

By Leigh Snell, NCTR Federal Relations Director



Detroit's recent bankruptcy filing has served to rekindle calls for Federal "reform" of public pensions. However, the facts about Detroit's economic woes and its pension funds do not support Congressional intervention.

First, there is no municipal bankruptcy crisis. Chapter 9 filings are actually very rare, with only 14 localities, or one out of every 1,525 eligible (0.06 percent), having sought bankruptcy protection over the past five years. Furthermore, only 12 states specifically authorize Chapter 9 filings for their general-purpose local governments, and 12 states conditionally authorize such filings, while 26 states either have no Chapter 9 authorization outlined, their laws are unclear, or such filings are otherwise prohibited.

Also, Detroit's situation is not the norm. Its economic/financial position is the result of a combination of many unfortunate factors, some of them relatively unique to the city. Detroit's population has declined 63% since its postwar peak, including a 26% decline since 2000. This declining population has resulted in a decrease in state revenue sharing since FY 2002 of approximately 48%. Property tax revenues have decreased by approximately 19.7% over the past five years, and income tax revenues have decreased by approximately 30% since 2002.

But perhaps most important is the fact that public employees and their pension benefits simply did not create Detroit's economic problems, nor are they the cause of its bankruptcy. Detroit pays a relatively modest median pension of about $19,000 a year to general government retirees and approximately $30,000 to police and fire retirees, who are not covered by Social Security.

Also, according to detailed calculations performed by professional actuaries in conformance with general accepted accounting principles as set by the Governmental Accounting Standards Board (GASB), the City's General Retirement System and its Police and Fire Retirement have, respectively, 82.8 percent and 99.9 percent of the assets needed to pay benefits to current and future retirees over their lifetimes. A separate assessment suggesting that the plans are less well funded describes the data it presents as "very rough preliminary guesstimates" based on "rules of thumb and knowledge from general experience" rather than the product of detailed actuarial calculations.

In short, the issues that Detroit's public pensions face are primarily the result of the city's problems, and not a cause of those problems.

> ***"Calls for one-size-fits-all Federal regulation are therefore unwarranted."***

Calls for one-size-fits-all Federal regulation are therefore unwarranted. State and local governments have made tough budgetary decisions in response to the Great Recession, as well as meaningful changes to their pension plans without the need for Federal mandates. Indeed, for most plans, studies show these reforms fully offset or more than offset the impact of the recent financial crisis on the governments' pension contributions.

Finally, there is no provision in Chapter 9 for a Federal bailout; it is fear-mongering to suggest that filing for Chapter 9 is synonymous to asking for one.

Costly Federal regulation of state and local governments in reaction to isolated cases of Chapter 9 filings is counterproductive and will interfere with reform initiatives already being undertaken in states and localities around the country. ❖

THE LATEST WORD

UPDATES FROM NCTR

NCTR'S BEST RESOURCE—OUR OWN MEMBERS!

At the end of July, NCTR held its **13TH ANNUAL TRUSTEE WORKSHOP** in Cambridge, Massachusetts. Public fund trustees from 25 state and local retirement systems gathered for a three-day workshop hosted at Harvard University, Pierce Hall—Room 209, to be exact.

This year's agenda was developed in partnership with the Trustee Leadership Forum (TLF) at The Initiative for Responsible Investment (IRI) at the Hauser Institute for Civil Society at Harvard University. Topics were selected to resonate with the trustees, regardless if they were new in the role or had many years of experience.

The agenda was developed to bring out viewpoints from all member systems, regardless of size or structure. There was spirited interaction among the trustees and panelists. As one trustee wrote on the evaluation, the format "...gave us the opportunity to know the challenges and accomplishments of fellow trustees." The Workshop was also credited as "interesting and thought provoking," with "knowledgeable panels with current and pertinent information." Year in, year out, that's the NCTR goal!

NCTR members have an opportunity to gather again October 5–9 in Washington, DC for the 91st Annual Conference, "Pensions & Politics: The New Realities!" More than 48 pension fund member systems from across the nation will be in attendance. This year, with the help of our program committees, NCTR has developed a program that will not only educate our members, but also stimulate ideas and conversation on a wide range of important pension related topics and issues. You can view the full agenda and other details about the Conference at www.nctr.org.

Member participation at our February Winter Committee Meetings, May Workshops, June Directors' Meeting, and our Trustee Workshop this year was incredible. NCTR was fortunate to call upon its best resource for input on ideas—our own members! Together, we shared knowledge, challenges, and successes. And while every attendee's role may vary, one thing remains very clear—NCTR members are dedicated like no others to retirement security.

Thank you for allowing NCTR to stand by your side. I look forward to seeing you in Washington, DC. ❖

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A RETURN TO THE CLASSROOM

Attendees take notes during the NCTR 13th Annual Trustee Workshop (right). They gained perspectives on the trustee role from IRI speakers, took an in-depth look at ESG risk factors and divestments, and were briefed on pension reform, improving corporate governance, and the latest on GASB.

The three-day workshop wrapped up with dinner among the botanical wonders and dinosaur bones of the Harvard Museum of Natural History.

91ST ANNUAL CONFERENCE LAUNCHES NEXT WEEK!

GUEST SPEAKERS

Who better to explain the politics that dominate the news and affect the lives of all Americans than consummate political analysts COKIE & STEVE ROBERTS? Monday morning, this esteemed duo, respected veterans of the Washington political scene, provide "A View from Washington."

Wednesday morning opens with the Honorable THOMAS P. DINAPOLI, 54th Comptroller of the State of New York. He began his public service career when elected as a trustee of the Mineola Board of Education—the first 18-year-old in New York State to hold public office. For +35 years, he has dedicated himself to making government more accountable and transparent to all.

Photo by Chris VanAntwerp of VanClub Photography

2013 National Teacher of the Year, JEFF CHARBONNEAU, greets his students every day with the words, "Welcome back to another day in paradise." Jeff believes that paradise must be built, maintained, and improved by removing the words 'can't,' 'too hard' and 'impossible' from our vocabulary. Tuesday night, we'll hear from Jeff following a dinner in his honor.

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SHIFTS IN SYSTEM DIRECTORS

DANIEL D. ANDERSEN is the new Executive Director of the Utah Retirement Systems (URS), having replaced Robert V. Newman who retired September 1. Andersen, who was URS legal counsel since 1993, has been involved in every aspect of URS operations.

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Center for State & Local Government Excellence

Issue Brief

How Sensitive is Public Pension Funding to Investment Returns?

September 2013

This issue brief provides yet more reinforcement for the importance of adopting sound pension funding policies. While it is important to look at investment returns and adjust them as needed, the Boston College research team found a range of outcomes, even if investment returns are met.

For example, pension plan sponsors that pay 100 percent of the annual required contribution (ARC) can expect to reach full funding in a 30-year time frame if plans earn their assumed return. However, if employers reset the amortization period each year, they will not achieve that goal, even if their investment returns are realized.

Given the volatility of investment returns, employers are well advised to follow prudent pension funding policies and to be disciplined about making contributions. The Pension Funding Task Force recommends basing pension policies on an actuarially determined ARC and managing employer costs as a consistent percentage of payroll (see "Pension Funding: A Guide for Elected Officials" at http://slge.org/publications/pension-funding-a-guide-for-elected-officials). Rolling amortization periods can create a false security that pensions will be properly funded.

The Center for State and Local Government Excellence gratefully acknowledges ICMA-RC's financial support to undertake this retirement research project.

Elizabeth K Kellar

Elizabeth K. Kellar
President and CEO
Center for State and Local Government Excellence

How Sensitive is Public Pension Funding to Investment Returns?

By Alicia H. Munnell, Jean-Pierre Aubry, and Josh Hurwitz*

Introduction

A recent *Issue in Brief* projected that, under the most likely scenario, the aggregate funded ratio for state and local pension plans will increase from 73 percent in 2012 to 81 percent in 2016.[1] The "optimistic" and "pessimistic" scenarios assume higher or lower, but also constant, rates of return. While this type of deterministic analysis is useful, an analysis that takes into account the variability of investment returns from year to year provides a more complete picture of the risks of serious underfunding. Hence, this *brief* builds on the previous analysis by extending the projections of pension funding through 2042, using stochastically generated investment returns to quantify the probability that specific outcomes will occur. This exercise, for illustrative purposes, centers around the average real return adopted by plans themselves.

The discussion proceeds as follows. The first section describes historical investment returns and the assumptions currently used by public plans. A key point is that the real return—the nominal return net of inflation—is the relevant concept for public plans because benefits are generally indexed for inflation both before (through salary increases) and after retirement (through cost-of-living adjustments). The second section presents a stochastic "Monte Carlo" framework and explains why this model is more helpful than a deterministic model that uses constant rates of return. The third section projects pension funding through 2042 (30 years from the most recent plan data) using stochastically generated real investment returns under alternative assumptions regarding how much of the Annual Required Contribution (ARC) plans pay and what amortization methods they use. The final section concludes that—even if the median long-run return equals the assumed rate—the potential variability in returns, when combined with paying less than the full ARC and the funding procedures currently used by many plan sponsors, will produce less than full funding over the next 30 years.

Historical Returns and Assumptions

To determine the annual contributions necessary to fund a pension system, plan sponsors make assumptions about mortality, employee turnover, inflation and, most importantly, the expected long-term rate of return on assets.[2] Rates of return have always been important, but are even more so today as public plans have matured. In mature plans, investment returns matter immensely because: 1) assets are large relative to the funding base; 2) cash flows are negative; and 3) a significant portion of participants are retired and no longer contributing. Before examining state and local return assumptions, it is first necessary to

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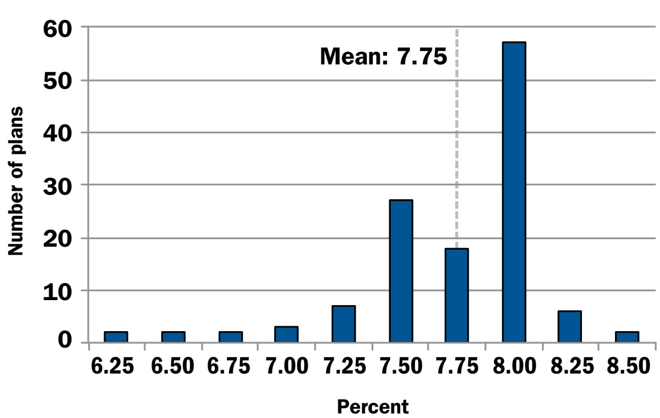
determine the most relevant measure of return: nominal or real.

Nominal vs. Real Returns

In 2012, the nominal, long-term return assumption used by state and local pension plans averaged 7.75 percent, ranging from 6.25 percent to 8.50 percent (see Figure 1).

While the nominal return assumption typically receives the most scrutiny, the assumed real return—that is, the nominal return minus the assumed rate of inflation—is of primary importance.[3] The real return is key because with fully indexed pension plans – that is, plans where benefits both before and after retirement keep pace with inflation—the inflation assumption has no impact on the required contribution. Yes, higher nominal returns will produce more revenues. But, if these returns are driven by higher inflation, they will also raise initial benefits (through higher wage growth) and the cost-of-living-adjustment (COLA) paid after retirement. So, as long as the same inflation embedded in the nominal rate of return is used to project salary increases and COLAs, the required contribution rate for a plan that assumes a 4.5 percent real return and a 3.5 percent inflation rate (8 percent nominal) is exactly the same as that for a plan that assumes the same real rate of return and an inflation rate of 2 percent (6.5 percent nominal).[4]

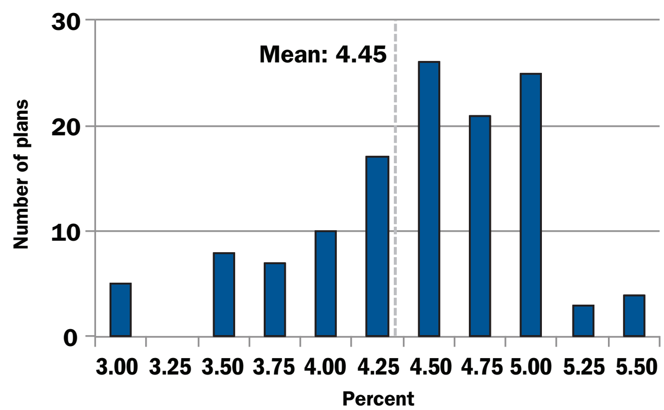
Figure 1. *Distribution of Nominal Long-Term Investment Return Assumptions, 2012*



Source: Various 2012 actuarial valuation reports.

Thus, when assessing the assumptions used by public plans, the focus should be on the real rate of return. The average inflation assumption in 2012 for plans in the *Public Plans Database* was 3.3 percent, well above the 2.3 percent reported by the Federal Reserve Bank of Philadelphia *Survey of Professional Forecasters* and also much higher than the Federal Reserve's inflation target of 2.0 percent.[5] Deducting each plan's inflation assumption from its assumed nominal return yields real returns ranging from 3.0 percent to 5.5 percent, with an average of 4.45 percent (see Figure 2).

Figure 2. *Distribution of Real Long-Term Investment Rate of Return Assumptions, 2012*



Source: Various 2012 actuarial valuation reports.

Evaluating the Real Return Assumptions

One question is how plans' assumed real return of 4.45 percent stacks up against historical returns. Table 1 shows the compound annualized real returns for broad asset classes over the periods 1926-2012 and 1975-2012.[6] Real returns on equities have exceeded 4.45 percent over

Table 1. *Compound Annualized Real Returns on Assets, 1926-2012 and 1975-2012*

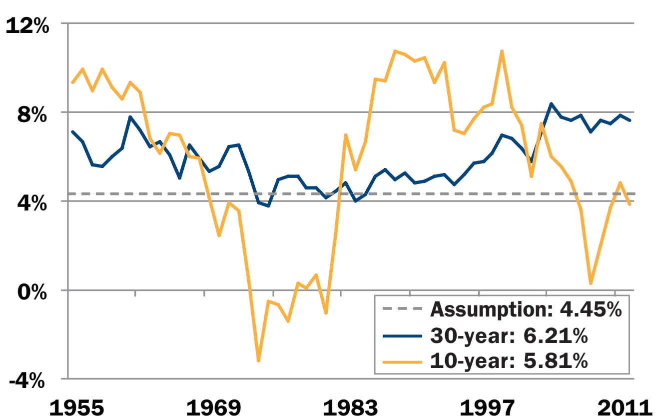
	1926-2012	1975-2012
Equities		
Domestic large-cap	6.8%	7.7%
Domestic small-cap	8.8	11.6
International	N/A	6.8
Bonds		
Long-term corporate	3.2	5.5
Long-term government	2.8	5.3
Intermediate-government	2.5	4.1

Source: Authors' calculations from Morningstar, Inc. (2013) and French (2013).

the long term, while returns on bonds have been lower. However, since 1975, even bond returns have exceeded the benchmark.

An alternative approach is to calculate the return that a portfolio invested 65 percent in stocks and 35 percent in bonds – roughly the portfolio of today's public plans – would have produced historically.[7] Figure 3 shows rolling 10-year and 30-year geometric real returns for a hypothetical portfolio of 65/35 stocks/bonds from 1955-2012. (That is, for each year, the value shown is the average return on the hypothetical portfolio over the previous 10- or 30-year period, respectively. The straight line in Figure 3 is the average long-term return assumption of 4.45 percent used by public plans.)[8] During the 1955-2012 period, the average rolling 10- and 30-year real returns for the hypothetical portfolio exceeded the long-term return assumption by at least 100 basis points.[9] The rolling 10-year returns fell below the assumed long-term rate in 19 years. About one-quarter of these occurrences were during the period

Figure 3. *10-Year and 30-Year Geometric Real Returns for Hypothetical Portfolios of 65 Percent Stocks and 35 Percent Bonds, 1955-2012*



Sources: Authors' calculations from Morningstar, Inc. (2013) and French (2013).

that followed the 2008 financial crisis. The rolling 30-year real returns fell below the assumed long-term rate in only three years.

Therefore, it appears that the average long-term real return assumption is quite reasonable *based on history*, particularly over longer periods.[10] But whether future returns will persist at the same levels, particularly in the aftermath of the recent financial crisis, is an open question. Many investment experts suggest that future equity returns could be considerably below historical averages.[11] In addition, returns on bonds are at historically low levels as the Fed has attempted to stimulate the economy in the wake of the financial crisis and the Great Recession. For example, the current nominal rate on a 30-year Treasury bond is 3.6 percent; subtracting inflation of 2.0 percent yields a real return of 1.6 percent, compared to 2.8 percent over the period 1929-2012. Thus, real returns could be considerably lower than the 4.45 percent assumed by plan sponsors.

Selecting the appropriate long-term return, however, is not the focus of this *brief*. Rather, the strategy is to assume that plans' long-term return assumption turns out to equal the long-term average, and then to demonstrate that the substantial volatility around the average exhibited by financial assets creates a significant chance of not achieving funding targets.

A "Monte Carlo" Model

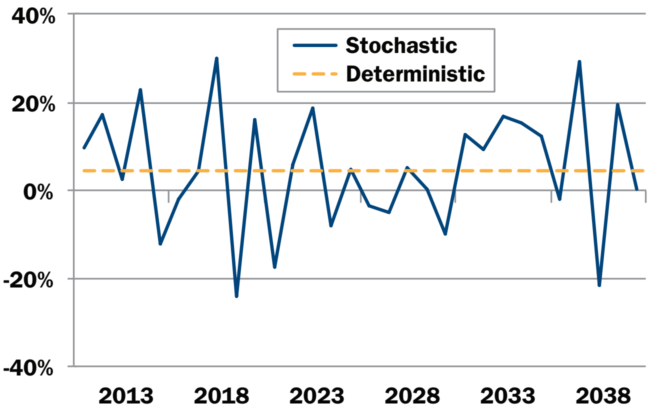
Given the large variation in investment returns, the most appropriate way to project pension finances is with a stochastic model. While deterministic models simplify a complex process by imposing single point estimates, stochastic models project a process with many possible outcomes. More importantly, stochastic models can quantify the probability of any given outcome occurring, such as the likelihood that pension plans will achieve a given funding target.

A common stochastic model—the Monte Carlo model—can be used to simulate for each asset class in a portfolio a large number of potential return outcomes that are based on an assumed probability distribution (e.g. normal distribution) and each asset class's average return, deviation from the mean (volatility), and covariance with other asset classes.[12]

Since the Monte Carlo projections are based on historical data, the median return would be more than 100 basis points higher than the 4.45 percent return assumed by public plan sponsors. To focus on the implications of financial volatility, the Monte Carlo projections are assumed to average 4.45 percent rather than the higher historical number or a lower number suggested by many financial experts.

In order to get a sense of the difference between the stochastic and deterministic approaches, Figure 4 compares rates of return in a single 30-year Monte Carlo run to a deterministic projection with the same geometric return (4.45 percent). The figure shows that even if the long-run return matches a plan's assumptions, the volatility in year-to-year returns can create large fluctuations in required contributions and, if poor returns are concentrated in the early years of the period, could have an adverse effect on funding.

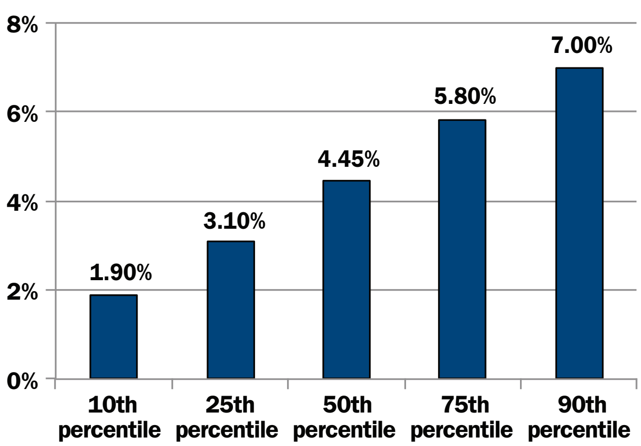
Figure 4. *Stochastic and Deterministic 30-Year Real Return Projections, 4.45 Percent Long-Term Average*



Source: Authors' calculations from Morningstar, Inc. (2013) and French (2013).

Figure 5 shows how 100,000 computer runs, similar to the single example shown above, can produce a range of possible returns over the 30-year projection period. Mechanically, the exercise involves calculating the 30-year geometric real return for each run, arraying those returns in, say, ascending order, then looking at the 10,000th return (10th percentile), the 25,000th return (25th percentile), the 50,000th return (50th percentile), etc., based on the assumption that the median long-term return is equal to 4.45 percent. At the 25th percentile, the return is 3.10 percent and at the 75th percentile it is equal to 5.80 percent. That is, 25 percent of the 100,000 return outcomes are less than or equal to 3.10 percent and 75 percent of them are less than or equal to 5.80 percent.

Figure 5. *30-Year Compound Annualized Average Real Returns from Monte Carlo Model, by Percentile*



Source: Authors' calculations from Morningstar, Inc. (2013) and French (2013).

State and Local Funded Ratios, 2012-2042

The next step is to use the real investment returns from the Monte Carlo model to project pension funding through the year 2042. The asset allocation for the projections is based on the current average state/local portfolio. Salary inflation and COLAs are indexed to the average inflation assumption of 3.3 percent, placing sole importance on the real return. Other important assumptions are as follows:

- *Benefit growth:* Since 2000, growth in pension benefits has averaged about 8 percent. The assumption is that long-term benefit growth will slow gradually to 4.5 percent, reflecting benefit reductions for new employees and suspensions of COLAs.
- *Employee contribution rate:* The assumption is that employees will contribute 6 percent of salary, the average for 2012.
- *Employer contributions:* The assumption is that employers will pay 80 percent of their annual required contribution (ARC), the percent paid in 2012.
- *Discount rate/investment return:* The discount rate and nominal investment return assumption of 7.75 percent is equal to the average assumed rate in 2012. As discussed, this figure consists of 3.30 percent inflation and a 4.45 percent real return.
- *Valuation of assets:* Actuarial assets are calculated using a five-year period for smoothing market gains and losses.
- *Amortization:* Amortization payments are calculated as a constant percent of payroll, and the model incorporates an open 30-year amortization schedule – the maximum currently permitted by the Governmental Accounting Standards Board (GASB). In practice, an open 30-year amortization schedule is explicitly used by only a handful of plans (albeit including CalPERS). However, many plans have statutory contribution rates that are set so low that it will take them over 30 years to fund. These two

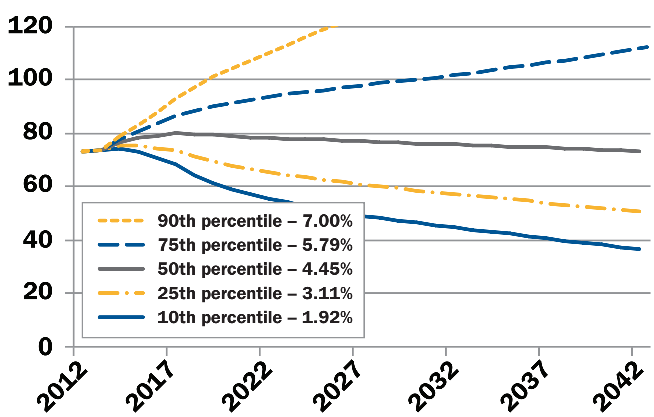
types of plans account for roughly one-third of the plans in the *Public Plans Database*.

For the amortization methods used by each plan in the *Public Plans Database*, see "Amortization Methods for Unfunded Liabilities 2011-12."

Based on these assumptions, the exercise is to determine funded levels using Monte Carlo projections to simulate 100,000 possible paths of returns and, thereby, funded ratios.

Figure 6 shows projected funded ratios under the baseline assumptions discussed above. To achieve a fully funded status, returns will have to come in higher than assumed. If real returns average 7 percent, plans will be fully funded within the decade. With real returns of 5.79 percent, plans will be fully funded in 20 years. The 50th percentile line indicates that the assumed rate of return will result in a funded ratio between 75 percent and 80 percent. This outcome reflects two factors. First, employers are paying less than the full ARC, so even if assumed returns are realized, plans will not reach full funding. Second, the payments to amortize the unfunded liability are calculated as a percent of future payroll, which combined with an open 30-year amortization period, produces lower contributions than originally scheduled (see The Impact of an Open 30-Year Amortization Period, pg. 8).

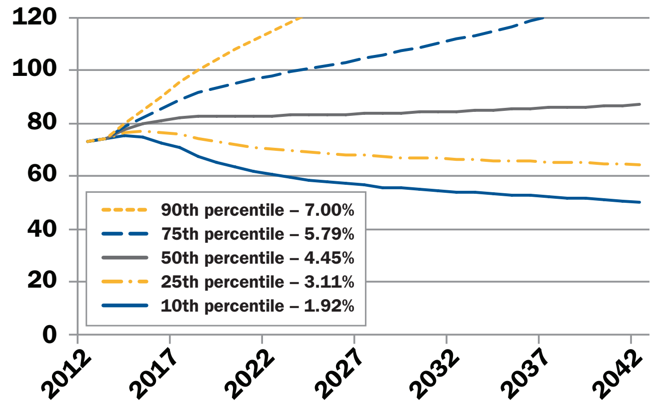
Figure 6. *Projected State and Local Funded Ratios When Paying 80 Percent of the ARC, by Percentile*



Note: To create the figure, the 100,000 funded ratios were sorted each year and percentiles calculated. The rates of return reflect the 30-year geometric returns for each percentile.
Sources: Authors' calculations from Morningstar, Inc. (2013), French (2013), the *Public Plans Database* (2012), and Munnell et al. (2013).

To sort out the relative importance of paying the full ARC, the second scenario continues to calculate the amortization payment as a constant percent of future payroll (with an open 30-year amortization period) but assumes that the employer pays 100 percent of the ARC (see Figure 7). In this case, the 50th-percentile line shows a gradually increasing funded status, but assets amount to only 87 percent of liabilities by the end of the period analyzed. The only way to achieve a fully funded status under this scenario is with higher returns. There is also a 25-percent probability that returns could come in low enough to produce funding levels near 60 percent.

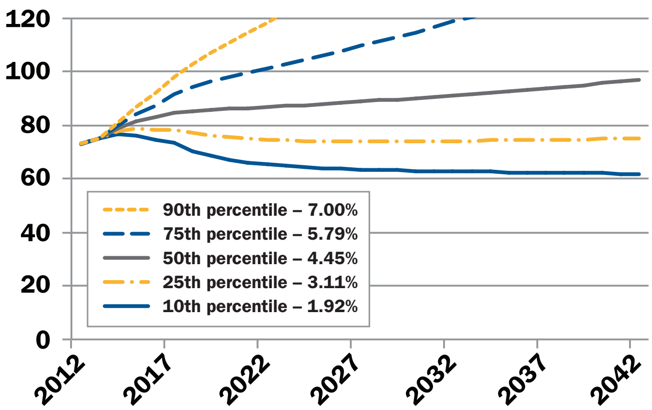
Figure 7. *Projected State and Local Funded Ratios When Paying the Full ARC, by Percentile*



Source: Authors' calculations.

As noted, not paying the full ARC is only one of the impediments to full funding, even when the average return equals the assumed rate. The other is that combining percent of pay with an open 30-year amortization schedule produces amortization payments that are inadequate to fund the system within 30 years. Increasing the payments can be accomplished in numerous ways. One possibility, used by about one-fifth of the plans in our sample, is to shift the amortization payments from percent of pay to level dollar amounts. The impact of using level dollar payments, under an open 30-year period and assuming sponsors pay 100 percent of the required amount, is shown in Figure 8. Because more money is being contributed, funding approaches 100 percent toward the end of the 30-year period if the average return that plans earn equals the assumed 4.45 percent. Of course, if returns are higher, employers will see full funding considerably sooner. In terms of downside risks, at the 25th percentile of possible outcomes, funding skims along a little below 80 percent, as opposed to a little above 60 percent when the amortization payment is calculated as a percent of payroll.

Figure 8. *Projected State and Local Funded Ratios When Paying the Full ARC and Calculating the ARC as a Level Dollar Amount, by Percentile*



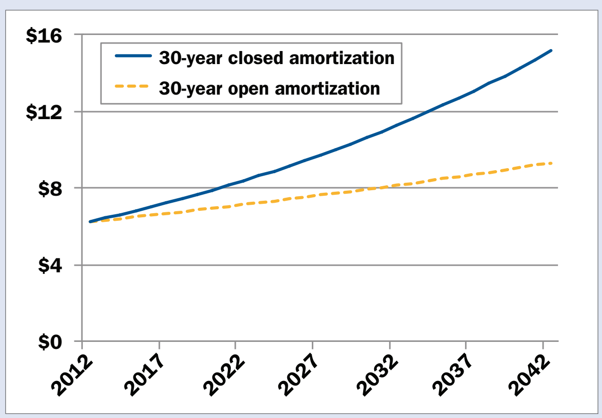
Source: Authors' calculations.

Another alternative, followed by nearly half of the plans in our sample, is to use a *closed* 30-year amortization period. In practice, many of the plans using this approach tend to "start over" periodically by resetting the 30-year period midway through – just as the required payments begin to escalate substantially. While this tendency reduces the effectiveness of using a closed-period method, it is still clearly better than relying on an *open* 30-year amortization period. However, because these mid-course corrections are difficult to predict, our analysis adopts another variant of the percent-of-pay open approach, one that uses a 15-year period rather than the GASB maximum of 30 years. The impact of this scenario is shown in Figure 9 (pg. 9). Because sponsors are paying more, the process produces full funding within 30 years if returns average the assumed 4.45 percent. The variability in potential returns produces funding outcomes that are broadly similar to the level dollar method.

The Impact of an Open 30-year Amortization Period

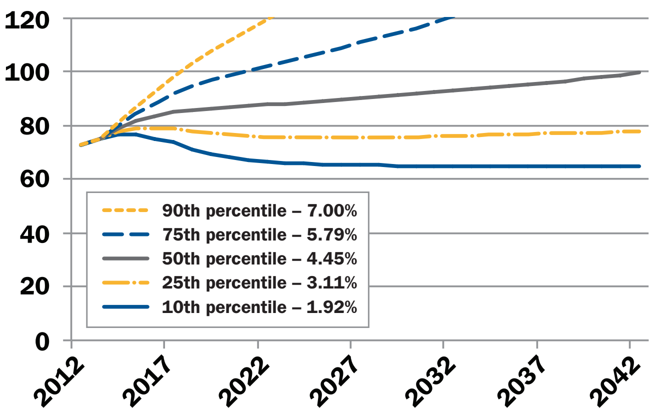
The combined effect of setting the amortization payment as a fixed percent of future payrolls, and then resetting the amortization payment each year as the 30-year amortization period rolls forward, leads to significantly lower amortization payments than originally scheduled. Assume that, under a constant percent of payroll approach, the amortization payment to fully eliminate the unfunded liability over 30 years is calculated to equal $6 per $100 of payroll. The notion is that payroll will rise about 4 percent each year, so the required payment will rise to 6.24 ($6 x 1.04) in year 2 and then to $6.49 in year 3 and so on. These amounts are shown in the solid rising line in the figure below. But if the amortization period is open rather than closed, the 30-year funding period rolls forward each year. That is, under the open scenario, the amortization payment in year 2 is once again calculated on the basis of paying off the liability in 30 years. With 30 years rather than 29 years to pay off the unfunded liability, the payment in year 2 is lower under the open approach. In year 3, when the funding period rolls forward again, the recalculated payment reflects a 30-year horizon rather than 28 years. Thus, each year as the funding period rolls forward, the gap between the originally scheduled amount and the actual amount (represented by the dashed line) grows wider. Thus, the sponsor will never contribute enough to fully fund the plan within 30 years.

ARC Payments Calculated as a Percent of Payroll: Closed 30-Year Amortization Compared to Open 30-Year Amortization



Source: Authors' illustration.

Figure 9. *Projected State and Local Funded Ratios when paying 100 percent of the ARC with an open 15-yr amortization, by Percentile*



Source: Authors' calculations.

Conclusion

The expected rate of return is the most important assumption required to fund a pension system. While the nominal rate typically receives the most scrutiny, the real rate has the greatest implications for plan funding. For illustrative purposes, this brief uses the average real return assumption used by public plans to explore how the variability of returns can affect plan funding.

To account for the uncertain path of future returns, the analysis uses a stochastic model to project pension funding to the year 2042. Under the baseline scenario, the 50th-percentile funded ratio never reaches full funding even if the assumed return materializes, but rather hovers a little below 80 percent. This pattern reflects two problems. First, employers have been paying only 80 percent of the ARC. Rectifying the contribution shortfall improves the picture somewhat, but funding is still only 87 percent after 30 years and the risk of ending up below 60 percent remains substantial. The second problem is the combined effect of calculating the amortization payment as a percent of payrolls with an open 30-year amortization period.

Alternative funding arrangements yield better outcomes. However, plans that follow such approaches still face a significant risk of poor returns, even if the long-run average equals 4.45 percent, leading to less than full funding in 30 years.

Endnotes

1 Munnell et al. (2013).

2 Not only does the rate-of-return assumption directly affect the required contribution to the pension system through its impact on anticipated asset values, it also influences the required contribution indirectly through the liability value, which is calculated using the same rate. While classic finance theory suggests that liabilities be discounted using a rate that reflects their true risk, the Governmental Accounting Standards Board (GASB) currently advocates the use of a discount rate that equals the plan's expected long-term investment rate of return. In 2014, new GASB guidelines will go into effect that call for a blended discount rate reflecting: 1) the expected return for the portion of liabilities that are projected to be covered by plan assets; and 2) the return on high-grade municipal bonds for the portion that are to be covered by other resources.

3 The technical definition for the real rate of return is $r = (1+n)/(1+i)-1$, where n stands for the nominal rate of return and i stands for inflation. However, public pension plans typically report their rate-of-return assumption using a common approximation of this formula, $r = n-i$. For example, a plan that assumes an 8.0 percent nominal return and a 3.5 percent inflation rate will report a real return assumption of 4.5 percent, whereas the technically correct real return is 4.35 percent.

4 This relationship applies for a final-pay plan that bases benefits on the final year's salary and provides a COLA. For plans that base benefits on an average of several years' salaries, the equilibrium only holds when those salaries are inflation-adjusted. For plans with no COLAs and that use a nominal final average salary calculation, overestimating actual inflation by 1.5 percent causes a roughly 12-percent underestimate of the required contribution rate. This result has the same annual impact on asset levels as an investment loss of about 40 basis points (0.4 percent).

5 Since 2010, the average nominal rate-of-return assumption for state and local plans has declined by about 25 basis points, from 8.0 percent to 7.73 percent. The majority of this change has come from lowered inflation expectations. For example, in 2011, CalPERS lowered its nominal return assumption from 7.75 percent to 7.5 percent, reflecting a decrease in the assumed inflation rate from 3.0 percent to 2.75 percent.

6 Data on annual returns on international stocks for the period 1975 to 2012 come from French (2013).

7 In order to closely simulate the asset allocation of a typical state/local portfolio, we will first define a $100 investment in "stocks" as $56 in domestic large-cap stocks, $14 in domestic small-cap stocks, and $30 in international stocks. Similarly, we will define a $100 investment in bonds as $30 in long-term corporate bonds, $30 in long-term government bonds, and $40 in intermediate-term government bonds. This estimate is based on the aggregate asset allocation of the plans in the *Public Plans Database*. Given that international stock data are limited prior to 1975, we replace the equity allocation to international stocks with large-cap domestic stocks until that year.

8 Equities (50 percent) and bonds (26.5 percent) account for about 76.5 percent of actual state and local portfolios. The remaining 23.5 percent of portfolios, for which historical data were not available, consists of alternatives (6.75 percent), real estate (6.5 percent), cash (2 percent), and other investments (8.25 percent).

9 In addition to the 65/35 stock/bond portfolio, we also tested two other hypothetical portfolios: a 60/40 portfolio and a 70/30 portfolio. The results for these two alternatives were quite similar to the 65/35 portfolio.

10 Given that public pension plans are generally viewed as per-

petual entities, a 30-year investment horizon seems appropriate.

11 For example, financial services firms such as GMO (Montier 2013) and Standard Life Investments (The Economist 2013) have projected that real returns on both equities and bonds will fall well short of historical averages for the next several years. However, the debate over prospects for investment returns is far from settled. Two leading academic experts – Jeremy Siegel and Robert Shiller – have expressed strongly opposing views on future stock returns, with Siegel adopting a bullish position (Siegel 2013).

12 We assume constant average returns based on historical data and a normal probability distribution. Kopcke et al. (2013) demonstrate the impact of mean-reversion and "fat tails" on Monte Carlo return projections. All projections in this analysis simulate 100,000 runs.

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Amortization Methods for Unfunded Liabilities, 2011-12

Plan name	Amortization period (years)
LEVEL PERCENT OF PAY OPEN	
Alabama ERS[a,1]	30
Alabama Teachers[a,1]	30
Arkansas PERS	30
California PERF[a,b,2]	30
Delaware State Employees	20
Georgia Teachers	30
Houston Firefighters	30
Illinois Municipal[3]	15
Michigan Municipal[4]	20
Missouri Local[5]	15
North Dakota PERS	20
Phoenix ERS	20
St. Paul Teachers	25
Virginia Retirement System[6]	29
Washington PERS 1	10
Washington Teachers Plan 1	10
Wisconsin Retirement System[a,b,7]	20
Wyoming Public Employees[a]	30
STATUTORY CONTRIBUTION RATE	
Arkansas Teachers[b]	66
California State Teachers' Retirement System[a,8]	30
City of Austin ERS	27
Colorado Municipal[a,9]	25
Colorado School[a,10]	33
Colorado State[a,11]	35
Denver Schools	Infinite
Hawaii ERS[12]	30
Idaho PERS[13]	25
Montana PERS	Infinite
Montana Teachers[a,14]	23
New Mexico PERF	Infinite
New Mexico Teachers	56
North Dakota Teachers[a,15]	51
Ohio PERS	30
Ohio Police & Fire	Infinite
Ohio School Employees	30
Ohio Teachers	Infinite
Oklahoma Teachers	22
South Carolina Police[16]	29
South Carolina RS[16]	30
Texas ERS[a]	Infinite
Texas LECOS[a]	Infinite

continued

Plan name	Amortization period (years)
Texas Teachers	Infinite
LEVEL DOLLAR	
Open	
Arizona SRS	30
Denver Employees[b]	30
Georgia ERS[a]	30
New Jersey PERS[17]	30
New Jersey Police & Fire[17]	30
New Jersey Teachers[17]	30
St. Louis School Employees	30
Fixed	
Indiana PERF[a,18]	30
Indiana Teachers[a]	30
Los Angeles County ERS	30
Louisiana SERS[a,19]	30
Louisiana Teachers[a,19]	30
Maine Local	16
Maine State and Teacher[20]	16
Nebraska Schools	30
Pennsylvania State ERS[a,21]	30
University of California[22]	30
Closed	
DC Police & Fire	20
DC Teachers	20
Michigan SERS[a]	24
North Carolina Local Government	12
North Carolina Teachers and State Employees	12
TN Political Subdivisions[a,23]	9
TN State and Teachers[a,24]	9
West Virginia PERS	23
West Virginia Teachers	22
LEVEL PERCENT OF PAY	
Fixed	
Alaska PERS[a]	25
Alaska Teachers[a]	25
Contra Costa County	18
Florida RS[a]	30
Maryland PERS[25]	25
Maryland Teachers[25]	25
Missouri PEERS[26]	30
Missouri Teachers[26]	30
Nevada Police Officer and Firefighter[27]	20
Nevada Regular Employees[27]	20
Oregon PERS[a,28]	16
Pennsylvania School Employees[a,29]	24

continued

Plan name	Amortization period (years)
San Diego County	20
San Francisco City & County[30]	15
Texas County & District[a,31]	20
Closed	
Arizona Public Safety Personnel	24
Chicago Teachers[32]	47
Connecticut SERS	19
Connecticut Teachers	19
Duluth Teachers[33]	23
Fairfax County Schools[b]	27
Illinois SERS[34]	33
Illinois Teachers[a,34]	33
Illinois Universities[34]	33
Iowa PERS	30
Kansas PERS	20
Kentucky County	25
Kentucky ERS	25
Kentucky Teachers	25
Massachusetts SERS	28
Massachusetts Teachers[b]	29
Center for Retirement Research	3
Michigan Public Schools[a,35]	24
Minneapolis ERF[a]	19
Minnesota PERF[a,36]	19
Minnesota State[36]	28
Minnesota Teachers[37]	25
Mississippi PERS[a,38]	30
Missouri DOT and Highway Patrol[a,39]	23
Missouri State Employees[a,40]	30
New Hampshire Retirement System[a]	26
Oklahoma PERS[a]	15
Rhode Island PERS	23
Rhode Island Municipal	23
South Dakota PERS[a,41]	29
Texas Municipal Retirement System[a,42]	25
Utah Noncontributory	21
Vermont State Employees	25
Vermont Teachers	25
Washington LEOFF Plan 1	12
AGGREGATE COST[43]	
New York State Teachers[a]	16
New York City ERS	Not available
New York City Teachers	Not available
NY State & Local ERS	14
NY State & Local Police & Fire	12

continued

Plan name	Amortization period (years)
Washington LEOFF Plan 2	Not available
Washington PERS 2/3—Not available	Not available
Washington School Employees Plan 2/3	Not available
Washington Teachers Plan 2/3	Not available

Note: Funding under a closed approach dictates that the total unfunded liability must be paid off by a certain date (i.e. 2040). Each year, the remaining number of years over which to pay down the total UAAL gets shorter and shorter. On the other hand, funding under an open approach dictates that the total unfunded liability must be paid off within a certain number of years from when total UAAL is calculated (generally 20 to 30 years). In this method the funding horizon for the total UAAL is always 20 to 30 years away because each year, when the total UAAL is calculated, the amortization period is also reset. Funding under a fixed method falls somewhere between the open and closed methods. Under a fixed method, an *individual* UAAL is calculated for each year and amortized over a fixed period – generally 20 or 30 years. At any given point, the system will be paying down various individual UAALs created in past years, each with varying time remaining in their fixed period. As with the closed method, each *individual* UAAL must be paid off by a set date (20 to 30 years from the individual UAAL's creation). But, like the open period, the *total* UAAL (simply the sum of all the individual UAALs) will always have a horizon of 20 to 30 years, the period over which the most recent individual UAAL is scheduled to be paid off.
Sources: Various 2011 and 2012 actuarial valuation reports.

a Reviewed by plan administrator.

b Data are based on the 2011 valuation, the most recent valuation available at the date of release.

Endnotes

1 Beginning with the 2013 actuarial valuation, the boards for Alabama ERS and Teachers are considering a shift from their current method – a level percent of payroll, 30-year open – to a level percent of payroll, 30-year closed.

2 Beginning with the 2013 valuation for Public Agency Plans and the 2014 valuation for State and Schools, all past and future gains and losses will be amortized over 30 years. Benefit improvements, method changes, and assumption changes will be amortized over 20 years. Contribution rates will have a 5-year ramp-up, 10-year peak rate, and a 5-year ramp-down.

3 The amortization method used by the Illinois Municipal Retirement System varies according to an employer's taxing authority. For those with taxing authority, unfunded liabilities are amortized over a 29-year closed period (with a rolling period at 15 years). For non-taxing employers, the unfunded liabilities are amortized over a 10-year rolling period. Unfunded liabilities associated with benefit changes for SLEP members (Public Act 94-712) are amortized over 24 years for most employers.

4 There are 27 years for positive unfunded liabilities and 10 years for negative unfunded liabilities. From 2012, the 27-year period will decline by one year in each of the following seven annual valuations. Then, a rolling 20-year amortization schedule will be used. For closed divisions (new hires are not covered by MERS defined benefit plan or hybrid provisions in a linked division) of active municipalities, the amortization period for positive unfunded liabilities is decreased annually by 2 years until the period reaches 5 years.

5 For Missouri Local, actuarial gains or losses for each employer are amortized over various closed periods ranging from 15 to 30 years. Benefit changes adopted by employers are amortized over a closed 30-year period. Once a 15-year period is reached, the amortization period becomes open. Adoption of the Non-Contributory Refund provision is amortized over a closed 15-year period.

6 For Virginia Retirement System, the amortization method is as follows: 29 years from 2012 valuation decreasing by one each year in subsequent valuations until reaching 20 years. From that point forward, the system will implement a 20-year open amortization, computed as level percent of payroll.

7 As of 2012, the remaining amortization period for the frozen initial unfunded liability for Wisconsin RS is 17 years.

8 Contributions to California State Teachers Retirement System (CalSTRS) are set by statute, but the amortization period is not. The amortization period chosen by CalSTRS (30 years for active members and 15 years for retired members) reflects its methodological approach to measuring its unfunded liability.

9 Colorado Municipal is projected to be fully funded in 2037, and potentially earlier based on the outcome of litigation.

10 Due to a scheduled increase in the statutory rate, Colorado Schools is projected to be fully funded in 2045.

11 Due to a scheduled increase in statutory rate, Colorado State is projected to be fully funded in 2047.

12 Hawaii ERS uses an open group calculation that incorporates the reduction to new hire benefits into its projections of contribution adequacy.

13 For Idaho PERS, statute dictates that the rate must be adequate to pay off the UAAL within a maximum of 25 years. As of the 2012 actuarial valuation, the statutory contribution rate is sufficient to amortize the unfunded liability within 8.2 years.

14 In 2013, the Montana Legislature passed HB 377 which, as of July 1, 2013, will fully fund the teachers system in 22 years.

15 For North Dakota Teachers, the statutory rates are intended to be sufficient to pay normal cost and to amortize the UAAL over a period of 30 years beginning July 1, 2013, although at any given time the statutory rates may be insufficient.

16 As specified by South Carolina statute, in the event that the scheduled employer and member contribution rate is insufficient to maintain a 30-year amortization period for financing the unfunded liability of the System, the Board shall increase the employer and member contribution rates in equal amounts, as necessary, to maintain a funding period that does not exceed 30 years.

17 For New Jersey PERS, Police and Fire, and Teachers, beginning with the July 1, 2010 actuarial valuation: 30-year level dollar open; beginning with the July 1, 2019 actuarial valuation: 30-year level dollar closed; beginning with the July 1, 2029 actuarial valuation (when the remaining amortization period reaches 20 years): a maximum of 20-year level dollar open period.

18 Indiana PERF re-established its total UAAL in 2006.

19 For Louisiana SERS and Teachers, the initial UAAL is scheduled to be paid off by 2029. Experience gains and losses are amortized over 30 years. Benefit increases are amortized over 10 years.

20 For Maine PERS, the initial UAAL was set in 1997 and is scheduled to be paid off by 2028.

21 The Pennsylvania State ERS re-established its total UAAL on December 31, 2009, to be amortized over a closed 30-year period beginning July 1, 2010 and ending on June 30, 2040. The impact of Act 2010-120 will be amortized over a 30-year period beginning July 1, 2011 and ending on June 30, 2041. Other actuarial gains and losses occurring after 2009 are amortized over a 30-year period. Benefit improvements, including cost-of-living increases, are amortized over a 10-year period.

22 The University of California RS re-established its total UAAL on July 1, 2010, to be amortized over 30 years. Any changes in UAAL due to actuarial experience gains or losses after July 1, 2010 are amortized over a 30-year period. Any changes in UAAL due to a change in actuarial assumptions or plan provisions are amortized over a 15-year period.

23 Each political subdivision participating in the Tennessee Retirement System may choose the appropriate amortization period for its unfunded liability in order to manage contribution rate volatility.

24 The Tennessee State and Teachers plans re-established their total UAAL on July 1, 2009, to be amortized over a closed 20-year period. Effective July 1, 2011, the amortization period was reset to 9 years for the State and 6 years for Teachers.

25 For Maryland PERS and Teachers, the unfunded liability base as of July 1, 2000 is being amortized over a 20-year closed period (with 8 years remaining as of July 1, 2012).

26 For Missouri PEERS and Teachers, increases or decreases in the liability caused by changes in the benefit provisions are amortized over 20 years.

27 For the Nevada Retirement Systems, the actuarial experience gains and losses (including those from 2011/2012) will be amortized over the truncated average remaining period of all prior amortization layers until the average remaining amortization period is less than 20 years. At that point, fixed amortization periods of 20 years will be used.

28 The Oregon Retirement System employs various amortization methods for each plan within the system:

OPSRP – Each year's additional UAAL is amortized as a level percent of payroll over 16 years.

Tier 1/Tier 2 – Each year's additional UAAL is amortized as a level percent of payroll over 20 years.

Pre-SLGRP – The UAAL is amortized as a level percent of payroll to be paid off in full by 2027.

Initial UAL for employers first joining the SLGRP before Dec. 31, 2009 – The UAAL is amortized as a level percent of payroll to be paid off in full by 2027.

Initial UAL for employers first joining the SLGRP in 2010 or later – Each year's additional UAAL is amortized as a level percent of payroll over 18 years from the last odd-year actuarial valuation.

29 The Pennsylvania Act 2010-120 sets a 24-year amortization period for the unfunded accrued liability as of June 30, 2010 and each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any legislation after June 30, 2010 that increases the liability will be funded over 10 years.

30 For the San Francisco City and County Retirement System, actuarial gains and losses, assumption changes, and supplemental COLAS are amortized over an open 15-year period; plan amendments and changes in interest crediting rate are amortized over 20-year closed periods.

31 For Texas County and District, changes to the UAAL due to actuarial gains and losses, assumption changes, or plan changes that result in UAAL decreases are amortized over a new 20-year period. Plan changes that result in UAAL increases are amortized over new 15-year periods.

32 According to Illinois state statute, the Chicago Teachers must be 90 percent funded by 2059.

33 For Duluth Teachers, the initial UAAL is scheduled to be paid off by 2035 (23 years). Any new UAAL arising due to plan design or assumption changes is scheduled to be paid off within 30 years of the UAAL's creation. If you add the two contribution rates generated from the amortization of these two UAALs under their specific amortization schedule, you would be able to pay off the total UAAL over 27 years.

34 According to Illinois state statute, the Illinois SERS, Teachers, and Universities must be 90 percent funded by 2045.

35 According to Public Act 300 of 2012, the impact of the Early Retirement Incentive program of 2010 will be re-amortized over a 10-year period for Michigan Public Schools.

36 For Minnesota PERF and State Employees, any negative UAAL is amortized over 30 years as a level percentage of payroll.

37 For Minnesota Teachers, any negative unfunded actuarial accrued liability is amortized over 30 years as a level percentage of payrolls. For increases in the unfunded actuarial accrued liability due to a change in the actuarial assumptions, plan provisions, or actuarial cost method, a new amortization period is determined by blending the period needed to amortize the prior unfunded actuarial accrued liability over the prior amortization period and the increase in unfunded actuarial accrued liability amortized over 30 years. If there is a decrease in the unfunded actuarial accrued liability, no change is made to the amortization period.

38 Mississippi PERS has a funding target of at least 80 percent by 2042. If the projected funded ratio in 2042 is less than 75 percent, the contribution rate will be increased until the projected 80 percent target is reached. If a funded ratio of 100 percent or more is attained, and is projected to remain above 100 percent for the ensuing 30 years, a reduced contribution pattern will be established provided the projected funded ratio remains at or above 100 percent in every future year.

39 The board for Missouri DOT and Highway Patrol initiated a temporary accelerated funding policy in 2009. It stipulated a closed 12-year amortization period for unfunded retiree liabilities and a closed 27-year amortization period for other unfunded liabilities. Both amortization periods start July 1, 2013. This policy will remain in effect until the retiree liability is 100 percent funded or the permanent policy – a closed 23-year period (starting July 1, 2013) for all the UAAL – produces a higher contribution rate.

40 During the 2030 actuarial valuation, the Missouri State Employees retirement board shall reexamine the amortization period to determine whether or not it should be reduced below 15 years.

41 The South Dakota PERS Board of Trustees established a funding policy objective that the statutorily required contributions were sufficient to amortize the UAAL over a period of 29 years effective June 30, 2012, declining by one year until a 20-year funding period is achieved.

42 For Texas Municipal Retirement System, the amortization method varies according to the size of the participating municipality. For cities with an unfunded liability and 20 or more employees, the amortization as of the valuation date is a level percentage of payroll over a closed period of either 25 or 30 years. The surplus for overfunded cities is amortized over a 25-year open period. Ad hoc benefit enhancements are amortized over individual 15-year periods using a level dollar policy.

43 Plans that use the aggregate cost method do not calculate accrued liabilities. These plans derive their underfunding by taking the difference between their assets and the total liability. To calculate the required contribution, the plan amortizes the funding gap as a level percent of future payrolls for current employees only. This has three major implications. First, by measuring underfunding as the difference between assets and total liability, rather than assets and accrued liability, the aggregate cost plans aim to fund a larger gap. Second, because the contribution rate is a percent of future payroll for current employees only, rather than current and new employees, contributions are less backloaded. This is because total payrolls for current employees will only begin to decline as they leave the workforce or retire. Total payrolls would continue to increase, if you allowed for replacement of current employees by new hires. Lastly, because contributions are a calculated as a percent of future payrolls for current employees, they must also be made over the remaining career of current employees. Currently, the remaining career for state and local workers is, on average, about 10 to 15 years – at the low end of amortization periods used by most plans.

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13-457

NASRA Issue Brief:
Public Pension Plan Investment Return Assumptions

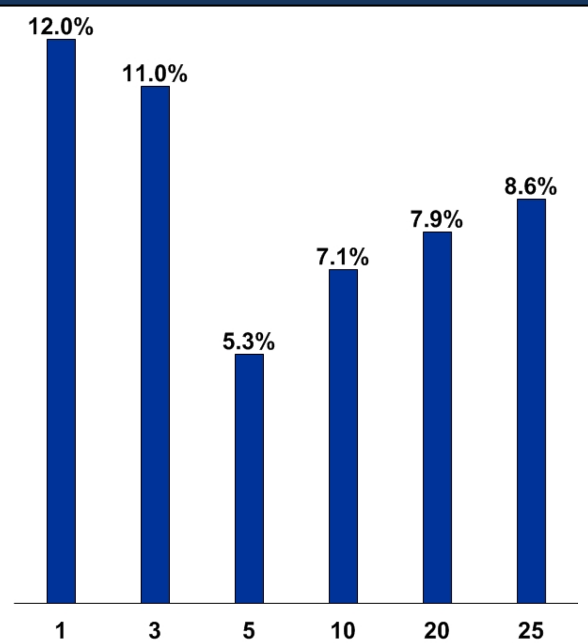
Updated October 2013

As of June 30, 2013, state and local government retirement systems held assets of $3.58 trillion.[1] These assets are held in trust and invested to pre-fund the cost of pension benefits. The investment return on these assets matters, as investment earnings account for a majority of public pension financing. A shortfall in long-term expected investment earnings must be made up by higher contributions or reduced benefits.

Funding a pension benefit requires the use of projections, known as actuarial assumptions, about future events. Actuarial assumptions fall into one of two broad categories: demographic and economic. Demographic assumptions are those pertaining to a pension plan's membership, such as changes in the number of working and retired plan participants; when participants will retire, and how long they'll live after they retire. Economic assumptions pertain to such factors as the rate of wage growth and the investment return on the fund's assets.

As with other actuarial assumptions, projecting public pension fund investment returns requires a focus on the long-term. This brief discusses how investment return assumptions are established and evaluated and compares these assumptions with public funds' actual investment experience.

Figure 1: Median public pension annualized investment returns for period ended 6/30/2013



Source: Callan Associates, Inc.

Public pension fund investment return assumptions have been the focus of growing attention in recent years. With current low interest rates and volatile investment returns, some believe these assumptions are unrealistically high. Because investment earnings account for a majority of revenue for a typical public pension fund, the accuracy of the assumption has a major effect on the plan's finances and actuarial funding level.

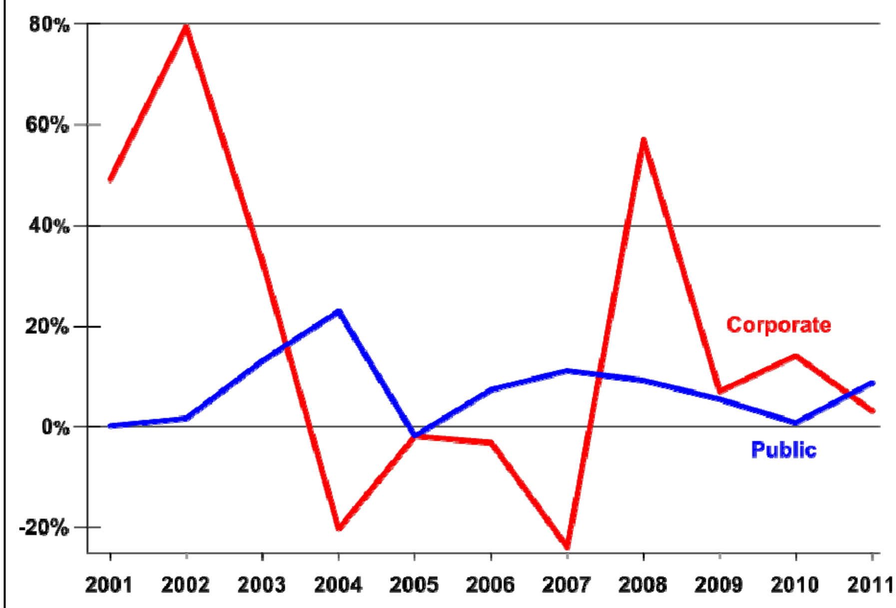
An investment return assumption that is set too low will overstate liabilities and costs, causing current taxpayers to be overcharged and future taxpayers to be undercharged. A rate set too high will understate liabilities, undercharging current taxpayers, at the expense of future taxpayers. An assumption that is significantly wrong in either direction will cause a misallocation of resources and unfairly distribute costs among generations of taxpayers.

Although public pension funds, like other investors, have experienced sub-par returns in the wake of the 2008-09 decline in global equity values, median public pension fund returns over longer periods meet or exceed the assumed rates used by most plans. As shown in Figure 1, at 8.6 percent, the median annualized investment return for the 25-year period ended June 30, 2013, exceeds the average assumption of 7.75 percent (see Figure 4), while the 10-year return is slightly below this assumption.

[1] Federal Reserve, *Flow of Funds Accounts of the United States: Flows and Outstandings, Second Quarter 2013*, Table L.118

Public retirement systems employ a process for setting and reviewing their actuarial assumptions, including the expected rate of investment return. Most systems review these assumptions regularly, pursuant to state or local statute or system policy. The process for establishing and reviewing the investment return assumption involves consideration of various financial, economic, and market factors, and is based on a very long-term view, typically 30 to 50 years. A primary objective for using a long-term approach in setting the return assumption is to promote stability and predictability of cost.

Figure 2: Annual change in contributions from prior year, corporate vs. public pensions



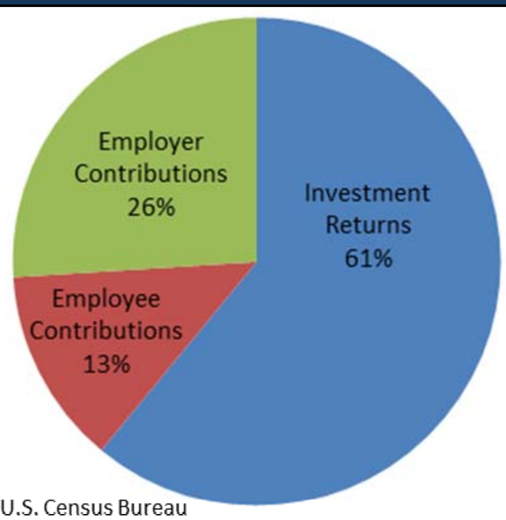
Source: U.S. Department of Labor, U.S. Census Bureau

Unlike public pension plans, corporate plans are required by federal regulations to make contributions on the basis of current interest rates. As Figure 2 shows, this method results in plan costs that are volatile and uncertain, often changing dramatically from one year to the next. This volatility is due in part to fluctuations in interest rates. This volatility has been identified as a leading factor in the decision among corporations to abandon their pension plans. By focusing on the long-term and relying on a stable investment return assumption, public plans experience less volatility of costs.

As Figure 3 shows, since 1982, public pension funds have accrued an estimated $5.3 trillion in revenue, of which $3.2 trillion, or 61 percent, is estimated to have come from investment earnings. Employer contributions account for $1.4 trillion, or 26 percent of the total, and employee contributions total $662 billion, or 13 percent.

Public retirement systems operate over long timeframes and manage assets for participants whose involvement with the plan can last more than half a century. Consider the case of a newly-hired public school teacher who is 25 years old. If this pension plan participant elects to make a career out of teaching school, he or she may work for 35 years, to age 60, and live another 25 years, to age 85. This teacher's pension plan will receive contributions for the first 35 years and then pay out benefits for another 25 years. During the entire 60-year period, the plan is investing assets on behalf of this participant. To emphasize the long-term nature of the investment return assumption, for a typical career employee, more than one-half of the investment income earned on assets accumulated to pay benefits is received *after* the employee retires.

Figure 3: Public Pensions Sources of Revenue, 1982-2011



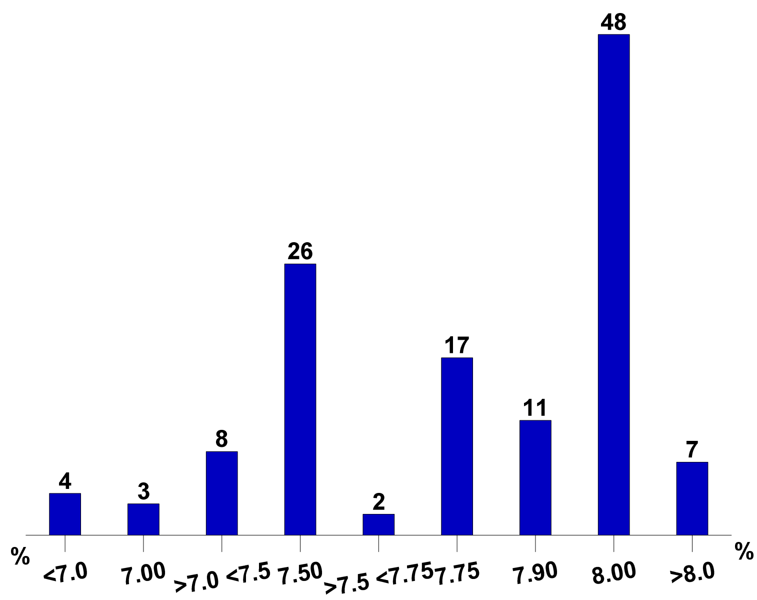
Source: U.S. Census Bureau

The investment return assumption is established through a process that considers factors such as economic and financial criteria; the plan's liabilities; and the plan's asset allocation, which reflects the plan's capital market assumptions, risk tolerance, and projected cash flows.

Standards for setting an investment return assumption, established and maintained by professional actuaries, recommend that actuaries consider a range of specified factors, including current and projected interest rates and rates of inflation; historic and projected returns for individual asset classes; and historic returns of the fund itself. The investment return assumption reflects a value within the projected range.

Many public pension funds have reduced their return assumption in recent years. Among the 126 plans measured in the Public Fund Survey (see Figure 4), more than one-half have reduced their investment return assumption since fiscal year 2008. While 8.0 percent remains the predominant rate assumption, the average is 7.75 percent. Appendix A details the assumptions in use or adopted by the 126 plans in the Public Fund Survey.

Figure 4: Distribution of investment return assumptions



Source: Public Fund Survey, Oct 2013

Conclusion

Over the last 25 years, a period that has included three economic recessions and four years when median public pension fund investment returns were negative (including the 2008 decline), public pension funds have exceeded their assumed rates of investment return. Changes in economic and financial conditions are causing many public plans to reconsider their investment return assumption. Such a consideration must remain consistent with the long timeframe under which plans operate.

See Also:

Actuarial Standards of Practice No. 27, Actuarial Standards Board, http://www.actuarialstandardsboard.org/pdf/asops/asop027_109.pdf

The Liability Side of the Equation Revisited, Missouri SERS, September 2006, http://www.mosers.org/~/media/Files/Adobe_PDF/About_MOSERS/Board-Newsletters/Operations-Outlook/operations_outlook_September06.ashx

The Public Fund Survey is sponsored by the National Association of State Retirement Administrators and the National Council on Teacher Retirement, http://www.publicfundsurvey.org (registration required)

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Appendix A: Investment Return Assumption by Plan

(Figures reflect the nominal assumption in use, or announced for use, as of October 2013)

Plan	Rate (%)
Alabama ERS	8.00
Alabama Teachers	8.00
Alaska PERS	8.00
Alaska Teachers	8.00
Arizona Public Safety Personnel	8.00
Arizona SRS	8.00
Arkansas PERS	8.00
Arkansas Teachers	8.00
California PERF	7.50
California Teachers	7.50
Chicago Teachers	8.00
City of Austin ERS	7.75
Colorado Affiliated Local	7.50
Colorado Fire & Police Statewide	7.50
Colorado Municipal	8.00
Colorado School	8.00
Colorado State	8.00
Connecticut SERS	8.00
Connecticut Teachers	8.50
Contra Costa County	7.25
DC Police & Fire	6.50
DC Teachers	6.50
Delaware State Employees	7.50
Denver Employees	8.00
Denver Public Schools	8.00
Duluth Teachers[1]	8.00
Fairfax County Schools	7.50
Florida RS	7.75
Georgia ERS	7.50
Georgia Teachers	7.50
Hawaii ERS	7.75
Houston Firefighters	8.50
Idaho PERS	7.00
Illinois Municipal	7.50
Illinois SERS	7.75
Illinois Teachers	8.00
Illinois Universities	7.75
Indiana PERF	6.75
Indiana Teachers	6.75
Iowa PERS	7.50
Kansas PERS	8.00
Kentucky County	7.75
Kentucky ERS	7.75
Kentucky Teachers	7.50
LA County ERS	7.60
Louisiana SERS	8.00
Louisiana Teachers	8.00
Maine Local	7.25
Maine State and Teacher	7.25
Maryland PERS	7.75
Maryland Teachers	7.75
Massachusetts SERS	8.25
Massachusetts Teachers	8.25
Michigan Municipal	8.00
Michigan Public Schools	8.00
Michigan SERS	8.00
Minnesota PERF[1]	8.00
Minnesota State Employees[1]	8.00
Minnesota Teachers[1]	8.00
Mississippi PERS	8.00
Missouri DOT and Highway Patrol	8.25
Missouri Local	7.25
Missouri PEERS	8.00
Missouri State Employees	8.00
Missouri Teachers	8.00
Montana PERS	7.75
Montana Teachers	7.75
Nebraska Schools	8.00
Nevada Police Officer and Firefighter	8.00
Nevada Regular Employees	8.00
New Hampshire Retirement System	7.75
New Jersey PERS	7.90
New Jersey Police & Fire	7.90
New Jersey Teachers	7.90
New Mexico PERF	7.75
New Mexico Teachers	7.75
New York City ERS	7.50
New York City Teachers	8.00
New York State Teachers	8.00
North Carolina Local Government	7.25
NC Teachers and State Employees	7.25

North Dakota PERS	8.00
North Dakota Teachers	8.00
NY State & Local ERS	7.50
NY State & Local Police & Fire	7.50
Ohio PERS	8.00
Ohio Police & Fire	8.25
Ohio School Employees	7.75
Ohio Teachers	7.75
Oklahoma PERS	7.50
Oklahoma Teachers	8.00
Oregon PERS	7.75
Pennsylvania School Employees	7.50
Pennsylvania State ERS	7.50
Phoenix ERS	8.00
Rhode Island ERS /1	7.50
Rhode Island Municipal /1	7.50
San Diego County	8.00
San Francisco City & County	7.58
South Carolina Police	7.50
South Carolina RS	7.50
South Dakota PERS[3]	7.25
St. Louis School Employees	8.00
St. Paul Teachers[1]	8.00

Texas County & District	8.00
Texas ERS	8.00
Texas LECOS	8.00
Texas Municipal	7.00
Texas Teachers	8.00
TN Political Subdivisions	7.50
TN State and Teachers	7.50
Utah Noncontributory	7.50
Vermont State Employees[2]	8.10
Vermont Teachers[2]	7.90
Virginia Retirement System	7.00
Washington LEOFF Plan 1	7.90
Washington LEOFF Plan 2	7.90
Washington PERS 1	7.90
Washington PERS 2/3	7.90
Washington School Employees Plan 2/3	7.90
Washington Teachers Plan 1	7.90
Washington Teachers Plan 2/3	7.90
West Virginia PERS	7.50
West Virginia Teachers	7.50
Wisconsin Retirement System	7.20
Wyoming Public Employees	8.00

1. The Minnesota Legislature, which sets in statute investment return assumptions used by public plans in the state, established the use of "select-and-ultimate" rates for investment return assumptions. These plans will use an assumed rate of 8.0 percent for five years, through FY 16, then return to 8.5 percent. For more information on select-and-ultimate rates, please see Actuarial Standards of Practice No. 27: http://www.actuarialstandardsboard.org/pdf/asops/asop027_145.pdf.

2. The Vermont retirement systems adopted "select-and-ultimate" rates in 2011; the rates shown reflect the single rates most closely associated with the funding results for the respective plans, based on their projected cash flows.

3. The SDRS set the rate at 7.25% through FY 2018, after which it will rise to 7.50%.

Pensions&Investments

Promoting pension reform

By: Pensions & Investments

Published: September 30, 2013, roger Schillerstrom

Since it began its pension project in 2007, the Pew Charitable Trust has shed considerable light, and focused needed attention, on the funding challenges of public employee retirement systems.

In the past year it has extended that project, offering assistance to policymakers in states and municipalities seeking to reform their retirement system. For the outreach, it has teamed with the Laura and John Arnold Foundation, which also has its own area of interest and research in public-sector plan reform, with experts from both organizations consulting with policymakers.

Their involvement, as with any outside intervention, could provide valuable assistance so long as the assistance includes a framework for analyzing the issues in a comprehensive, evenhanded manner and presents choices that meet the resources of the entities as well as the needs of participants for a secure retirement income.

A framework for pension reform must have a balanced approach to be sustainable. It must be fair and involve all constituents in the makeover, including representatives of employees, employers and taxpayers. It must also provide transparency to assumptions, funding, benefits and conflicts of interest.

Pension legislation and regulation must address the stakes of all key constituencies, according to Keith Ambachtsheer, president of KPA Advisory Services Ltd., in his September report to clients. Otherwise, as he states, they should "not be permitted to come into force."

One type of plan that legislators and public employee plan executives should examine is the cash balance plan, a variation on the defined benefit plan that shares the investment risk and rewards between sponsor and beneficiary, and thus addresses the stakes of key constituencies.

State and local retirement systems are grappling with a combined $1 trillion in unfunded obligations by their own measure and an estimated $3 trillion using assumptions used by academics, according to a July paper by Natalya Shnitser, associate research scholar in law and John R. Raben/Sullivan & Cromwell executive director of the Yale Law School Center for the Study of Corporate Law.

While some public plans are well funded, such as the State of Wisconsin Investment Board, New York State Common Retirement Fund and the Florida Retirement System, many are deeply underfunded in large part because of a failure to contribute the actuarially required amount each year to fund pension obligations.

Local government pension plans were funded an aggregate 69% in fiscal year 2012, down 11 percentage points from the previous year, according to a September report by Wilshire Associates Inc. of 106 county and city defined benefit plans.

Many plans are on a course that jeopardizes their sustainability. The crisis can either serve as a wake-up call for policymakers to embrace a well-rounded reform, or panic them to take sudden action that provides only a temporary fix or even worsens the situation, kicking the can of reform down the road, causing unfunded obligations to grow and making the pension promise of retirement income security more uncertain for participants.

The goal of any intervention should be to engineer pension reform that balances the needs of employees for retirement income with other demands on public-sector budgets for public services as well as the resources of the tax base.

But a reform that tilts to one constituency or set of constituencies — by shortchanging other public services, or putting in danger the state or local economy because of unaffordable tax demands, or placing unanticipated assistance burdens on public budgets due to a reform that generates insufficient retirement income — will eventually unravel, forcing a call to undo the reform and return to the drawing board to fix the damage.

Pew doesn't prescribe solutions but seeks to frame issues, present choices and provide resources to assist policymakers to make decisions to best fit their situation, including risks, means and politics. Policymakers considering reform should also considering mining objective resources such as the Employee Benefit Research Institute.

Reform should begin with the recognition there is no single answer or plan, whether DB or DC.

The nature of defined benefit plans, while they provide in the ideal retirement security promised by employers, are complex to fund and understand, while they are vulnerable to manipulation on both the benefit and funding sides.

The impulse of legislators to boost benefits without balancing that generosity with actuarially sound funding is at the root of much of the cause of the mounting unfunded obligations.

Replacing defined benefit plans with defined contribution plans, while it might serve some sponsors of public pension plans, can seem an uneven trade-off by reducing costs in favor of taxpayers and public budgets, while exposing participants to all the investment risk and the uncertainty of building an adequate retirement income.

One solution corporations and some public funds have adopted in recent years is a cash balance plan — a defined benefit plan that contains features of a defined contribution plan.

Some 36% of private-sector defined benefit participants were in cash balance plans as of 2010, according to the Department of Labor's Bureau of Labor Statistics. That's up from 25% in 2005.

The plans provide a shared risk for employer and employee. The plans are funded by an accumulation of benefits, based on employer contributions. They provide a minimum benefit often based on years of service and not dependent on market returns, as well as sharing a part of the return generated by the investment of the pension fund assets.

Their funding requirement is more certain, eliminating much of the actuarial complications that lead legislators to put off full funding of pension contributions. Employers rather than participants oversee investments, enabling economies of scale and more diverse professional management. Depending on the generosity of the pension formula, the minimum benefit often is generally less than that promised by a traditional defined benefit plan, favoring interests of taxpayers. But participants have the opportunity to earn more, depending on the investment return generated by the assets. In addition, like a traditional defined benefit plan, the Pension Benefit Guaranty Corp. protects benefits of a cash balance plan.

On the other hand, research in June by Jack VanDerhei, EBRI's research director, found voluntary enrollment 401(k) plans provide a stronger outcome advantage over traditional defined benefit or cash balance plans.

Reform depends in large part on the willingness of legislators to properly fund public-sector pension benefits, which are outside federal funding requirements imposed on private-sector plan sponsors. The less the discipline, the more reform might have to tilt to defined contribution-type plans. A more responsible commitment could lead to keeping and strengthening traditional defined plans, demonstrating they can thrive in a dynamic economy. N

Pew's pension reform activism drawing critics

Some concerned over recent advocacy role in public pension reform

BY HAZEL BRADFORD | SEPTEMBER 30, 2013

Officials at the Pew Charitable Trusts are finding their motives questioned as they move beyond their traditional role as researchers into providing technical assistance to troubled public retirement systems.

For the researchers working on Pew's Public Sector Retirement Systems Project, which provides research and technical assistance, the foundation's more hands-on role to help policymakers try to fix pension problems is a natural extension of their research work.

“Our research has shown that a number of states have put themselves in (an unsustainable) position, so we focused on the need for smart, thoughtful reforms,” said David Draine, senior researcher at Pew in Washington. “We wanted to be able to give them the technical assistance to let them make the decisions on their own.”

For public pension advocates, however, Pew's higher profile represents a troubling foray into activism that coincides with its partnership with the Laura and John Arnold Foundation in Houston. The foundation underwrites several conservative approaches to causes including education and pension reform. The foundation provides financial assistance and staff, including economist Josh McGee, vice president of the foundation's public accountability project, which covers public pension funds. Pew officials do not disclose their funding agreements.

Pew has “done quality work. Why Pew found it necessary to get in bed with an advocacy group is beyond me,” said Meredith Williams, Denver-based executive director of the National Council on Teacher Retirement, and former executive director of the $43 billion Public Employees' Retirement Association of Colorado, Denver. “It's hard to tell who is leading the parade. How can you be a research organization when you are also an advocate? I find it very troubling.”

The foundation, which listed assets of $725.6 million at the end of 2011, the most recent data available, reported spending $322,000 in 2011 on pension educational assistance and $33,000 on a pension reform forum.

The Pew partnership officially began in 2012, but those tax records are not yet available. Mr. Arnold is a former Enron Corp. energy trader who started the Houston hedge fund firm Centaurus Advisors LLC. Mr. and Ms. Arnold supported Barack Obama and other Democratic candidates, Mr. McGee said.

Unsustainable promises

In an August commentary on the foundation's website, the Arnolds wrote about retirement debt contributing to Detroit's recent bankruptcy. Absent drastic steps, other cities and states are heading that way, they warned. In the commentary, they blame elected officials for making unsustainable promises and unions that "shortsightedly exert enormous pressure on politicians to make these deals ... viciously opposing candidates who support fiscally responsible solutions." But the Arnolds dispute that their pension reform work is anti-union or anti-employee. It is for the sake of public employees, the Arnolds wrote, that they want jurisdictions to face "the true magnitude of their pension problems" and make structural reforms.

Pew's Mr. Draine pointed out that while the direct consulting with policymakers and private groups is a new focus when it comes to public pension funds, Pew Charitable Trusts took on similar roles for other issues, including environmental causes, jails and police, and early childhood development programs. "We want to work with places that want reform and need reform," Mr. Draine said.

One high-profile pension consultation was in Kentucky, where Pew Charitable Trusts and the Laura and John Arnold Foundation were invited to work with a bipartisan task force trying to address pension problems that included chronic underpayment of required contributions and an $18 billion unfunded liability. In March, the Kentucky Legislature approved a cash balance plan for members of the $14 billion Kentucky Retirement Systems, Frankfort, hired after Jan. 1, 2014, who will be guaranteed a 4% return plus 75% of returns above that 4%, and another bill to catch up on actuarially required contributions by fiscal year 2015.

The partnership also has provided similar technical assistance in Arizona, Colorado, Florida and Montana, but not always to public policymakers in a public venue. In Colorado, for example, research was shared with two private groups, Mr. Draine said.

Apart from Pew, the foundation also supports other research projects, including a recent report with the libertarian Manhattan Institute for Policy Research on teacher pension funds.

A single objective

Mr. Draine insists the partnership is based on a single objective: “to give good analyses. Politicians really need a 50-state perspective, and there's really a ton of innovation. They need the actual analysis in a timely fashion, and they need someone to help figure it out,” he said.

But others see a more disruptive motive. The Institute for America's Future, a Washington-based group backed by labor unions and others, issued a report Sept. 26 that calls the Pew-Arnold partnership “a plot against pensions” that has “distorted the conversation about public pensions and created a movement to convert traditional public pensions into riskier and costlier schemes.”

David Sirota, the report's author and a nationally syndicated columnist, said in an interview that the Pew-Arnold partnership “manufactures a pension crisis” that focuses too much on cutting retirement benefits and too little on corporate subsidies and tax expenditures that could help shore up public finances. “Legislators need to understand and the public needs to understand the context of these (pension) shortfalls, and that they are manageable,” Mr. Sirota said.

The institute and other pension advocacy groups also are uncomfortable with what they see as an agenda that's too politicized because of the Arnold Foundation's activism and deep pockets, and the access that Pew's reputation makes possible.

“Their partnership is driving the debate around pension reform,” said Roger Hickey, institute co-director. “This report documents an active effort by these so-called charitable foundations to undermine” pensions for public-sector workers, many of whom do not have Social Security, Mr. Hickey said. “It shows what has happened in seven states and what that template suggests will happen in other states.”

Messrs. McGee and Draine say they have no agenda.

“We go into every situation with our data hats on and let the data guide the process,” Mr. McGee said. “We don't come in pushing one best way. But we have principles — things that all plans should include. Any retirement plan should have a reasonable savings rate that will provide a path to a secure retirement.” He also advocates for the economies of scale and investment acumen that come with sponsor-provided retirement programs.

Debate 'a little bit stilted'

To critics who cast him as anti-defined benefit plan, Mr. McGee said, “this whole DB-vs.-whatever debate is a little bit stilted because it doesn't provide for true protection for workers. The traditional DB plan as it's been implemented in the U.S. has problems. It allows plan sponsors to underfund plans, and there is severe back loading that places all employees on an insecure retirement path."

Mr. McGee said he understands public pension advocates "are getting pressure from a lot of people who are cut fanatics, but we're not that. I don't think (critics of the partnership have) taken the time to understand us, and understand that there is common ground. I just want politicians to pay for what they promise."

A commitment to funding "is the thread that runs through every successful system," Mr. Draine said. "That's the only thing we're prescriptive about. That's what we've been shouting from the rooftops for years now. It's very hard to bind future legislators to good decision-making, but we can set good examples. It's crucial that outside groups like Pew and Arnold Foundation hold policymakers to their pension promises."

Kentucky pension reform draws praise from Pew

By Paula Aven Gladych
September 27, 2013 • Reprints

Kentucky's plan to fix its retirement system is drawing positive reviews from the think-tank types at The Pew Charitable Trusts.

The state has been struggling with its pension obligations since at least 2002, when it According to Pew, the state's bipartisan reform effort this year resulted in a "fair and effective" retirement system for both employees and taxpayers. The state legislature passed a bill that is projected to improve the fiscal health of the pension system by billions of dollars, ensuring that state and local governments can keep their promises to Kentucky's public workers, according to The Pew report.

The reforms included a new retirement plan for anyone hired after Jan. 1, 2014, a requirement that future cost-of-living adjustments be paid for before they are given, and a plan that commits the Legislature to full funding of pension promises in future years. Accompanying legislation would raise $100 million annually to help pay the estimated $131 million a year needed to make up the gap in Kentucky's pension contribution.

Kentucky's pension plans were only 30 percent funded in 2012 — one of the worst-funded retirement systems in the country. The total unfunded liability in the pension plans covering employees other than teachers was $13.9 billion — more than the tax revenue the state collected that year. The state was forced to make some tough decisions to save basic public services, worker benefits and the overall fiscal health of the state.

So why was Kentucky's pension system in such horrible shape? The state made what turned out to be some bad policy choices, including not making the required pension system contributions and not paying for benefit increases, which led to almost $14 billion in pension debt just for the Kentucky Employees Retirement System, which covers state government workers.

According to Pew, the state Legislature created a pensions task force in early 2012 to investigate the state's pension challenges and identify a path forward. The group sought input from public employees, taxpayers, business groups and local governments over a six-month span.

The task force's report eventually became the legislation that passed the state Senate and House and was signed into law by Gov. Steve Beshear on April 4.
Pew said in its report that it is now up to the state's policymakers to enact and follow the pension reforms moving forward or "no reform effort will ever be successful."

New law, higher returns boost teachers' pension's finances

September 28, 2013 12:30 am • By Charles S. Johnson of The Standard State Bureau

HELENA — Major changes passed by the 2013 Legislature and higher investment returns have put the Montana Teachers' Retirement System pension plan on a much sounder financial footing, actuaries told the board Friday.

Here were highlights from the actuarial valuation report presented to the board by actuaries from Cavanaugh Macdonald Consulting:

The TRS pension fund's future shortfall, formally known as an unfunded liability, dropped to $1.525 billion as of July 1 this year from $1.963 billion in mid-2012. That's a reduction of 22 percent.

The length of time needed to fully fund all TRS pension fund liabilities dropped to 20 years as of July 1 from infinite a year ago. The Montana Constitution requires public pensions to be actuarially funded, which means benefits must be fully funded in 30 years or less.

If a forthcoming lawsuit successfully overturns the Legislature's reduction in the fund's annual cost-of-living increases for retirees – known as guaranteed annual benefit adjustments or GABA – the amortization period would be 29 years, still under the 30-year requirement.

In addition, the funding ratio for the pension fund has increased to 66.8 percent as of July 1 from 59.2percent a year ago.

The rate of return on TRS investments was 12.94 percent for the year ending June 30. State pension fund investments lost about one-fourth of their value during the national recession in 2008 and 2009. Losses of this magnitude were commonplace in many public pensions and private investments.

“It took a long time to get there, but it’s good to see the results,” said Todd Green of the actuarial firm. “It’s pretty satisfying from our standpoint.”

David Senn, TRS executive director, presented the results to a legislative committee later Friday and said, “We are actuarially funded now, thanks to House Bill 377, the Legislature and the governor.”

He also praised the state Board of Investments, which oversees the investment of the pension funds.

HB377 was a proposal by Gov. Steve Bullock. The new law increased contribution rates for employees covered by TRS by 1 percent. Employers also are paying 1 percent more, plus an additional 0.10 percent annually until it reaches 2 percent.

The bill cut the GABA payments for retirees until the system is 90 percent funded.
In addition, the state is pumping $25 million in new money into the TRS pension every year. School districts that maintain separate retirement funds will make a one-time $22 million payment into the TRS pension fund on Sept. 1.

State Budget Director Dan Villa, who worked on the proposal to fix TRS, was pleased by the actuarial results.

“This is better than anything I can say,” he said.
Eric Feaver, president of the MEA-MFT, which represents teachers and other education employees, among its members, also was happy with the results.

“Good numbers are always better than bad,” he said in a statement. “Market gains and increased employer and employee contributions that MEA-MFT proposed long ago and supported throughout the last legislative session have made all the difference.”

He said the actuarial report also showed that HB 377 would have amortized TRS and saved teacher pensions “without making one dollar change” in the guaranteed annual benefit adjustments.

“We will soon sue the state to restore GABA to its fullest, contractual extent,” Feaver said. “And we expect to win.”

As of July 1, the TRS pension fund had 18,249 active full-time and part-time members and 13,868 retired members and beneficiaries. The market value of the pension fund’s assets was $3.2 billion

Actuarial results are due Oct. 10 for the state’s other largest pension fund, the Public Employees’ Retirement System.

DesMoinesRegister.com

Written by Gretchen Tegeler
Sep. 28, 2013 |

Iowa View: What's the state of our state's pension system?

With Detroit's public pension woes on the front pages lately, it's relevant to ask about the status of Iowa's public pension plans.

The state of Iowa sponsors four statewide public pension systems that include separate plans for state and local employees, police and fire, peace officers and judges. By far the largest is the Iowa Public Employees Retirement System (IPERS), which itself administers three separate plans. IPERS' largest plan covers 284,000 "regular" members including most current, former and retired state employees, teachers and most other local non-public safety employees.

Compared with other large public sector defined benefit plans, IPERS benefits are moderate, contributions are reasonably shared between employers and employees, and the system is well managed. It typically ranks in the top or middle tier of plans according to most measures.

Unfortunately, although IPERS may look good in comparison with other defined benefit plans, this does not mean there is no cause for concern among Iowa taxpayers.

Any defined benefit plan is a promise to pay specific benefits at future points in time. Benefits are funded through a combination of contributions (by taxpayers and employees) and earnings on investments. Typically contributions make up about one-third of the funding, and investment earnings make up two-thirds.

Because defined benefits are promises made by government, ultimately taxpayers are at risk with defined benefit plans if contributions are insufficient, if investment earnings fall below assumed levels, or both.

The IPERS system has experienced both issues over the past decade. It lost nearly 20 percent of its asset value in 2009, which unfortunately followed eight years of underfunding of liabilities. The result: IPERS' unfunded liability (dollars that should have been set aside in connection with past employment, but weren't) has grown fivefold over the past 10 years, and now nears $6 billion ($6.8 billion for all plans). And that's assuming plan assets will return, on average, 7.5 percent per year for the next 30 years. That's a big assumption.

Another way to look at it is in terms of the plans' reported funded ratio, which compares assets with liabilities. IPERS is funded at 79.9 percent. Using this metric, Detroit's two pension plans appear better funded than IPERS (82.8 percent and 99.9 percent). Before 2008, 100 percent funding was always the goal for the best systems. Now, 80 percent is a floor below which a system is considered "underfunded." In fact, under Michigan law, if funding falls below 80 percent the emergency manager is allowed to replace members of the pension boards.

IPERS contributions have been increased

After nearly 30 years of stable rates, IPERS' contribution rates have recently been raised more than 50 percent to gradually erase the $6 billion shortfall and restore funding to 100 percent. Iowa taxpayers are now funding a total of $625 million each year for IPERS ($750 million per year for all defined-benefit plans). Compared with just six years ago, this is about $200 million more per year than what was then needed ($250 million all plans).

Much has been written about the impacts of this spike in pension costs on cities in Iowa. Like Detroit, cities are cutting back on libraries, parks and even public safety services in order to afford the pension payments. And they are raising taxes. The downward cycle has begun.

But there are impacts across all governments in Iowa. For perspective, consider this $250-million-per-year "premium" payment is the same as the total dollar amount of commercial property tax relief that was afforded through last session's legislation. Or that $250 million per year could place 3,700 more teachers in Iowa classrooms. How far are we willing to go to fund public pensions? What else are we willing to give up? And what if the assumptions are wrong?

Detroit's emergency manager brought in an outside actuary to re-evaluate that city's pension obligations using what were characterized as more realistic actuarial assumptions and methods. This review had the effect of ballooning their pension obligations from less than $1 billion to $3.5 billion.

New accounting standards in place

While some have questioned the motives for this particular outside review, there is no doubt that public pension actuarial practices are being questioned from many quarters. The Governmental Accounting Standards Board (GASB) will be requiring the use of different assumptions for financial reporting purposes, and Moody's Investors Service is using a different set of assumptions to determine its ratings for government entities. Even within the actuarial profession there is active disagreement among public and private pension actuaries. According to the New York Times, the Society of Actuaries, fearing reputational risk to the entire actuarial profession, formed a blue-ribbon panel to look into the reasons for underfunding of public pension plans.

Applying Moody's methodology, IPERS' state share only of the system's total unfunded liability would grow from the $1.1 billion reported by the system to $2.3 billion. If the entire IPERS system were similarly re-evaluated, it is likely the IPERS' unfunded liability would be closer to $12 billion rather than the reported $6 billion. This level of debt nearly equals the combined total of all other public debt in Iowa. While it may appear that Iowa is now starting to keep up with most of its pension obligations, albeit at considerable expense to taxpayers and erosion in public services, there may be considerably more exposure than has even yet been disclosed. Do we really want to take this risk?

Three-quarters of private sector companies have moved away from defined benefit plans because they found the level of risk associated with them to be unacceptable.

What's happened in Detroit — and what is starting to happen even in Iowa — should open our eyes to the risks inherent in public sector defined benefit plans.

Even the best plans like IPERS create sizable risk to taxpayers, and create an expectation for future generations to pay for services that were rendered in the past and from which they will not benefit. Iowans need to understand the ultimate financial risk associated with these plans. They can then make a conscious choice about whether it is appropriate to ask taxpayers – particularly future taxpayers – to bear it, or whether it's time to consider alternative structures that more equitably assign risk and make sure that in Iowa, at least, promises already made to public employees can be kept.

ArgusLeader.com

September 30, 2013

Public employees' benefits might get enhanced

Board would add 401(k)-type contribution to S.D. plan

By David Montgomery

As South Dakota's public retirement system erases the last of its losses from the recession of 2008-09, its leaders are planning a bold change to the 40-year-old pension plan.

Instead of increasing retirees' usual benefits the next time the plan develops a surplus, leaders of the South Dakota Retirement System want to add a new benefit — a "defined contribution" plan like a 401(k) instead of the normal "defined benefit" pension.

The defined contribution plan would be on top of the existing defined benefit pension, which Rob Wylie, executive director of the retirement system, said won't go away.

"The plan of the board at this point is to move away from a fixed-benefit improvement to one that will have some variability with the marketplace," Wylie said. "My personal belief, and that of the board of trustees, has really been moving to a combination of the two is maybe the best solution that's out there. But it's going to take some time to evolve."

The hope of retirement system leaders is that the new plan will provide insulation from market shocks. In 2008, when the state's investments plunged in value, its costs stayed the same. In an effort to recover the fund's assets, the retirement system went to the Legislature and cut retirees' cost of living increases.

A defined contribution plan wouldn't obligate the retirement system to pay a fixed benefit.

So far, advocates for employees and retirees are open to the proposed change.

"So much just depends on the overall health of the system," said Eric Ollila, executive director of the South Dakota State Employees Organization. "There's benefits and drawbacks to both a defined benefit and a hybrid benefit. It's really just a matter of making sure that those changes ... will indeed help the state and the people within the retirement system."

Gov. Dennis Daugaard, too, is supportive.

"I think it's a good idea," Daugaard said. "I think you still retain a defined benefit program that keeps the more seasoned employees who are approaching the latter decades of their career. ... It (also) creates a sort of automatic self-discipline against benefit advancement."

Many details of the idea haven't been finalized. But Wylie said the idea is that whenever extra benefits are allocated, they would be put into the defined contribution plan instead of increasing retirees' pensions.

Money put into the defined contribution accounts still would be invested by the South Dakota Investment Council, just as the retirement system's current trust funds are.

"We're going to allocate this amount, and it's going to be in a situation where it's there for each member, and they can either take it in a lump sum at the time where they retire, or they can take that money and amortize it on top of their regular defined benefit."

Wylie said workers would probably be able to choose when they cash out their retirement system account, so they wouldn't suffer if they happened to retire during a bear market.

But the addition of a defined contribution plan, if it happens, is still a long way off. After a huge recent quarter, the South Dakota Retirement System's investments rose in value to 104 percent of the system's obligations. That's up from a low of 76 percent at the depth of the recession several years ago.

An increase in benefits, such as the defined-contribution plan being planned now, wouldn't happen until the fund reaches 120 percent funding.

"We (need) significant reserves before we would ever make that action," Wylie said.

Driving the plan is the memory of what happened in 2010, when the retirement system cut benefits after the fund's value plunged below the 80 percent threshold seen as dangerous.

Those cuts were controversial, drawing a lawsuit from four retirees alleging it was unconstitutional to reduce a promised benefit. But courts ruled that the retirement system was justified in reducing retirees' annual cost of living adjustment, or COLA, from 3.1 percent to 2.1 percent.

The average participant in the state retirement system receives about $17,000 in benefits per year. Under a 3.1 percent increase, that person would get $527 more per year. With a 2.1 percent bump, they’d get a $357 increase, or $170 less per year.

But outside of the lawsuit, many of the biggest groups of retirement system stakeholders were fine with the decision to trim benefits as the fund’s value dropped — even though markets promptly turned around and erased the losses that caused the cuts in the first place.

“I think it protects us,” said Nancy May, president of the South Dakota Retired Teachers Association. “Nobody seemed to complain about (the cuts). We’d rather have 3.1 percent, of course, but we thought there were reasons for that.”

Now that the retirement system is back over 100 percent, the COLA automatically will go back up to 3.1 percent next year.

The effect of such a cut is big. Each successive year starts from a smaller base, leading to compounding savings. Reducing the COLA saved the retirement system around $4 million per year to start, but Wylie said the lifetime savings from the cut will be around $400 million — about 4 percent of the fund’s $9 billion value.

“Changing a cost of living adjustment for existing retired members, which is what South Dakota did, (has a big effect),” said Keith Brainard, research director for the National Association of State Retirement Administrators. “It immediately reduces the amount, in most cases, that the plan is paying out each month. It provides immediate fiscal and actuarial relief to the plan.”

Rep. Glen Grell unveils his three-point pension reform plan

By Jan Murphy | jmurphy@pennlive.com
updated September 30, 2013 at 7:46 PM

Rep. Glen Grell, R-Hampden Twp., unveiled his three-point plan to reform the two statewide pension plans that includes borrowing $9 billion to make up for a decade of under-funding by the state and establishing a shared risk, cash balance plan for future employees.

The plan also would encourage elective changes to current employees’ pension benefits. They include an opt-in incentive of a lower employee contribution rate (currently 6.25 percent for State Employees’ Retirement System members and 7.5 percent for Public School Employees’ Retirement System members).

In return, they would agree to have their five highest salary years used to determined their final average salary instead of the current three highest years.

New employees' pension plan would rely on a guaranteed 4 percent interest rate over the course of their employment combined with fixed employee contribution rate of 7 percent and employer contributions of 4 percent.

After 15 years of service, the employer contribution would increase to 5 percent. If investment returns are greater than the fund's assumed rate of return, the excess earning would be split between the employer and employee.

The plan does nothing to impact current retirees' benefits.

At a Capitol news conference on Monday, Grell credited Gov. Tom Corbett for raising public awareness of the need to address this issue but said he has not yet secured the governor's support for his plan.

Legislation detailing his plan has not yet been introduced.

Public Pension Saves $7.2M on Investment and Admin Costs

The Teachers' Retirement System of Louisiana has flexed its muscles to drastically bring down investment fees.

(September 30, 2013) -- The Teachers' Retirement System of Louisiana (TRSL) has revealed its peer-beating cost reduction exercises have saved more than $7 million in fees.

Following analysis by the Toronto-based CEM Benchmarking—which compared TRSL against similarly sized US pension systems in the areas of investment performance and pension administration—TRSL was found to have saved $7.2 million, primarily because it has been able to negotiate lower investment management costs.

In addition, TRSL's administration cost per member was $88 compared to its peer average of $96 during fiscal year 2012.

It also outscored most of its peers on customer service, driven in part by years of investment in its online self-service platform for members and employers.

TRSL Director Maureen Westgard said the she thought hers was the only retirement system in the state which operated with such a rigorous third-party assessment, but that the results were paying dividends.

"It's truly a 360-degree view of everything we do in our investment of assets and our processing of retirement benefits. We use the results as a tool to ensure we manage our resources efficiently and effectively," she said.

The challenge of negotiating fee levels has gathered pace in recent months: a study by MSCI in July found corporate defined benefit pension plans were putting more pressure on providers to lower fees than their public sector counterparts.

Fee dispersion—the spread between fees paid at the 90th and 10th percentiles for mandates between $50 million and $100 million—showed the most variance, with large cap core managers seeing their prices move by as much as 50 basis points.

Small cap core came next with 45 basis points, while large cap value fees were one of the most consistent, with a dispersion of 23 points.

October 2, 2013

State pension fund grows, unfunded liability inches upward

By Travis Pillow
Democrat staff writer

Florida's pension fund grew in value last year, but its funding levels took a hit, according to a preliminary study presented today to state economists.

The preliminary 2013 valuation shows the pension fund is 86.2 percent funded, inching downward from 86.9 percent in 2012.

The slight decline reflects the lingering effects of losses on the state's investments during the 2008 recession and lower-than-recommended funding levels approved by the Legislature in the three years leading up to 2012.

Legislative economist Amy Baker said the numbers are tricky this year because they don't reflect the decision during this year's legislative session to increase contributions to the retirement fund. In the coming years, the funding is projected to improve as a result.

The final numbers on the health of the retirement system for the 2013 fiscal year are expected to come out in December. They will be used to determine how much money lawmakers and local governments will be asked to contribute to the Florida Retirement System.

High stakes legal fight looms over cuts to Oregon public-employee pensions

By JONATHAN J. COOPER Associated Press
October 03, 2013 - 7:44 pm EDT

SALEM, Oregon — Now that Oregon lawmakers have voted to cut retirement benefits for government workers, the battle moves from the Capitol to the courthouse.

A coalition of pensioners and public-employee unions already filed a lawsuit against pension cuts enacted earlier this year and plans to challenge the steeper cuts approved in a special session Wednesday.

The stakes are high for the state and local governments that fought for pension cuts to avoid steep increases in their contributions to the Public Employees Retirement System. If the cuts are struck down, they'll likely face pension costs that are even higher than they would have been had no cuts been enacted.

"They're gonna go to the courts , and a lot of us are sweating rocks over that, because if we lose those, we're in a difficult situation," said Senate President Peter Courtney, D-Salem. "So we hope we've done a good job."

Retired government workers will see their pensions grow at a slower rate. For decades, pension checks have increased at a rate of 2 percent annually. Now, the first $60,000 will increase by 1.25 percent per year and the rest will grow by 0.15 percent.

The changes reduce the pension system's unfunded liability by about a third, lowering the amount that state and local governments must contribute to make up the deficit.

If the state loses in court, however, those public employers will be back where they were before the cuts were enacted. They also likely would have to pay even more into the pension system to make up for the contributions they don't have to make while the court sorts out the legality of the cuts.

Retirees would be repaid money that they didn't receive, probably from the PERS reserve fund, which now stands at $600 million. The state also likely would be on the hook for legal fees.

The Oregon Supreme Court has ruled that pension benefits promised to public employees constitute a binding contract that cannot be breached by the Legislature. It's not always clear, however, which aspects of the pension system are considered part of the contract and which are subject to modification by the Legislature or the PERS board.

The court threw out a 2003 attempt to suspend the cost-of-living adjustment for certain retirees, ruling that annual benefit increases are part of the contract. Critics of COLA cuts say that ruling, known as the Strunk case, would render this year's COLA cuts unconstitutional.

The cuts "breach that promise by saying, 'We're going to pay you less than we promised you,'" said Greg Hartman, a lawyer for the PERS Coalition, the organization challenging them. "The promise has been in the contract for 40 years without interruption."

Proponents of changes, however, say the Strunk case isn't necessarily applicable to the current circumstances. In a letter to Gov. John Kitzhaber's chief of staff earlier this year, a lawyer for the Oregon Department of Justice said the state might be able to successfully argue that the existence of a cost-of-living adjustment is part of the contract but the amount of the adjustment can be modified.

Other legal arguments also are possible. The Justice Department memo also argued that Supreme Court justices might be convinced that the court made the wrong call in the Strunk case.

One of the justices who helped decide Strunk now says it may be "intellectually justifiable" to argue that the case was wrongly decided. W. Michael Gillette, now a partner at the Portland law firm Schwabe, Williamson and Wyatt, made the conclusion in a Feb. 26 letter to the League of Oregon Cities, which supports pension cuts.

October 7, 2013

Changes to public pension benefits prompt pushback

Attendance quadrupled at meeting because of concerns

By MAUREEN HAYDENnewsroom@newsandtribune.com

INDIANAPOLIS — The pre-retirement workshops offered to public school teachers and public employees around the state are rapidly increasing in attendance, as word gets out about potential reductions to their retirement benefits and some legislative pushback in response.

An official with the Indiana Public Retirement System, known as INPRS, said attendance at the September pre-retirement workshops — designed to help people budget for retirement — quadrupled over the normal month's attendance, to more than 2,000 soon-to-be retirees concerned about the coming changes.

At issue is a July decision made by the Indiana Public Retirement System Board of Trustees to use a private vendor to administer the annuities savings plan that retiring public employees can use to turn lump sum payouts into monthly benefit checks.

In making that change, the board also voted to eliminate the current 7.5-percent interest rate the state has long guaranteed on those annuity payouts and switch over to market rates, which currently are at about 4 to 4.5 percent.

The change is expected to reduce annuity payouts to future retirees by $900 to $2,100 annually.

The change doesn't go into effect until Oct. 1, 2014, but it's already generating political heat. At the September meeting of the legislative Pension Management Oversight Commission, some lawmakers on the panel said they'll push for state pension officials to back off privatizing the annuity savings plan, and continue to administer it with the lower return rate.

"I think there's agreement that we need to reset the interest rate so we won't have a drain on our (pension) funds," said Sen. Karen Tallian, D-Portage, who sits on the commission. Where there's strong disagreement, she said, the plan is to turn over the annuity savings plan to an outside vendor.

The pension board staff has argued that it doesn't have expertise to set what would be continually changing market rates and that's why the pension board wants to hire an outside agency to manage the annuities. In doing so, it would shift more risk away from the state and the pension funds it manages, which have about $27 billion in assets.

Jeff Hutson, a spokesman for INPRS, said the current 7.5-percent payout is unsustainable and it threatens the viability of the pension programs. He also said the pension board would conduct a rigorous selection process for the outside provider, and would still closely monitor how those annuities are being managed.

"This is about how we can best protect the pension funds, those who fund it, and the members who depend on it being well funded, from the risk of what the market might do to that money," Hutson said.

At the September meeting of the pension oversight commission, Nancy Guyott, president of the Indiana State AFL-CIO, said the changes being implemented by the state will cause unneeded reduction in returns on what she said were already modest retirement incomes.

The savings plan annuity is part of the two-part retirement system provided by the Public Employees' Retirement Fund and Teachers' Retirement Fund, which INPRS now administers for the funds' 215,000-plus members.

The second part is the traditional defined benefit plan, which remains unchanged. On retirement, the employee can take the savings account as a lump sum or convert it to an annuity to spread its benefits over the length of retirement. About half of the 6,000 to 7,000 pension funds' members opt for the annuity.

Tallian wants the Pension Management Oversight Commission to make a recommendation at its Oct. 21 meeting that the pension board keep the annuity management in-house. She wants the recommendation to be part of the commission's final report issued before the end of the year. The commission doesn't have the power to make INPRS roll back its decision to go with an outside vendor, but it could influence legislation that impacts the state pension board.

Both the American Federation of Teachers and the Indiana State Teachers Association have expressed their opposition to changes made by INPRS to the annuity management; they worry that reducing benefits makes it harder for public schools to attract good teachers. They've also pushed for INPRS to push back the date that the new annuity management plan takes effect.

There is more information about the changes in retirement benefits, and a list of upcoming pre-retirement workshops for public employees, on Indiana Public Retirement System website at www.in.gov/inprs.

Teachers' pension system retirees sue to block reduction of their benefits under new law

By MATT GOURAS Associated Press
AAA

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HELENA, Montana — Montana's largest union, and six retirees and current employees in the Teachers' Retirement System sued the state Friday over cost-saving cuts to their pension payments, a move retirees argue is unconstitutional.

The lawsuit involving the Montana Education Association - Montana Federation of Teachers has long been expected. Another is expected against the major pension plan that covers public employees.

The retirees warned lawmakers earlier this year that they would oppose any reduction in their guaranteed inflation increases of 1.5 percent, originally put in place by lawmakers in 1999. The lawsuit says that the inflationary adjustment took the average retirees annual benefit from $12,995 in 2000 to $15,537 this year.

The overhaul measure passed by lawmakers, and signed by the governor, reduces the inflationary increase to 0.5 percent starting in January.

The overhaul passed by lawmakers earlier this year asks both employers and employees to pay more, while reducing retiree benefits.

A recent report on the Teachers' Retirement System says the legislative changes balance that program in about 20 years. Without the changes, it won't balance for about 30 years.

Retirees argue the system can be fixed without cutting benefits for retirees who are counting on the money and expected they would be getting it as part of their employment deal.

"It didn't need to happen," said Eric Feaver, president of the teachers' union. "We told throughout the Legislature that this is an unnecessary step and it is unconstitutional."

The lawsuit filed with District Judge Mike Menahan of Helena, a former lawmaker, asks the court to declare the benefit-cut provision of House Bill 377 unconstitutional, and asks for a preliminary injunction to stop the reduction in cost-of-living payments.

"That annual benefit adjustment is part of their contract with the state and when the 2013 Legislature reduced that adjustment, it impaired that contract," the lawsuit says.