REVISED

Agenda

ND Teachers' Fund for Retirement
Board Meeting

Thursday, January 24, 2013
1:00 pm
Workforce Safety & Insurance Board Room
1600 East Century Avenue
Bismarck, ND

1. Call to Order and Approval of Agenda - Pres. Gessner
2. Approval of Minutes of October 25, 2012, Meeting – Pres. Gessner
3. TFFR Funding Policy – Kim Nicholl and Matt Strom, Segal (teleconference)
4. Board Education: Retiree Re-employment Provisions – Shelly Schumacher
5. Legislative Update – Fay Kopp
6. Investment Policy Statement - Social Investments - Darren Schulz
7. SIB Update – Darren Schulz
8. Annual pension plan comparisons report – Fay Kopp
9. Annual retirement trends report – Shelly Schumacher
10. 2012 CAFR and PPCC Award – Fay Kopp
11. Member Annual Statements – Fay Kopp
12. SIB Search Committee Update – Treas. Schmidt, Bob Toso
13. Consent Agenda
14. Other Business
15. Adjournment

Next Board Meeting: February 21, 2013

Any person who requires an auxiliary aid or service should contact the Retirement and Investment Office at 701-328-9885 at least three (3) days before the scheduled meeting.

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NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
OCTOBER 25, 2012, BOARD MEETING

BOARD MEMBERS PRESENT:	Mike Gessner, President Clarence Corneil, Trustee Kim Franz, Trustee Lowell Latimer, Vice President(teleconference) Wayne Sanstead, State Superintendent Kelly Schmidt, State Treasurer Bob Toso, Trustee
STAFF PRESENT:	Connie Flanagan, Fiscal & Investment Officer Fay Kopp, Interim Executive Director Les Mason, Internal Audit Supervisor Darlene Roppel, Retirement Assistant Darren Schulz, Interim CIO Shelly Schumacher, Retirement Program Manager Denise Weeks, Retirement Programs Specialist
OTHERS PRESENT:	Greg Burns, NDEA Erica Cermak, NDRTA Gloria Lokken, NDEA Janilyn Murtha, Attorney General's Office Kim Nicholl, Segal Company

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, October 25, 2012, at the State Capitol, Peace Garden Room, Bismarck, ND.

THE FOLLOWING MEMBERS WERE PRESENT REPRESENTING A QUORUM: PRESIDENT GESSNER, MR. CORNEIL, MRS. FRANZ, DR. LATIMER, DR. SANSTEAD, TREASURER SCHMIDT, AND MR. TOSO.

APPROVAL OF AGENDA:

The Board considered the meeting agenda. President Gessner requested that Agenda item 10 be placed after item 5.

TREASURER SCHMIDT MOVED AND MR. CORNEIL SECONDED TO APPROVE THE AGENDA WITH THE REQUESTED CHANGE IN ORDER OF BUSINESS.

AYES: MR. CORNEIL, TREASURER SCHMIDT, DR. SANSTEAD, MR. TOSO, MRS. FRANZ, DR. LATIMER, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

MINUTES:

The Board considered the minutes of the regular board meeting held September 27, 2012.

MRS. FRANZ MOVED AND MR. CORNEIL SECONDED TO APPROVE THE MINUTES OF THE REGULAR TFFR BOARD MEETING HELD SEPTEMBER 27, 2012, AS PRESENTED.

AYES: MR. TOSO, DR. LATIMER, TREASURER SCHMIDT, MR. CORNEIL, DR. SANSTEAD, MRS. FRANZ, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

2012 VALUATION REPORT:

Ms. Kim Nicholl, Senior Vice President and Actuary with Segal Company, presented TFFR's Actuarial Valuation as of July 1, 2012. Copies of the report and presentation are on file at the Retirement and Investment Office (RIO).

The primary purposes of the valuation report are to report the fund's assets, estimate the fund's liabilities, determine the Annual Required Contribution (ARC) for fiscal year 2013, provide information for annual financial statements, and identify emerging trends. Ms. Nicholl provided an overview of the valuation process; reviewed the plan's actuarial assumptions, methods, and funding process; and presented 2012 valuation highlights.

The valuation report reflects increases in contribution rates (4% for both members and employers) contained in HB 1134. Member rates increased to 9.75% for fiscal year (FY) 2013 and 2014 and increases to 11.75% for FY 2015 and thereafter. Employer rates increased to 10.75% for FY 2013 and 2014 and will increase to 12.75% for FY 2015 and thereafter. Increases will revert to 7.75% for both members and employers once the plan's funded ratio reaches 90%.

The actuarially calculated return on market value of assets (MVA) was -1.4% for year ending 6/30/2012. The gradual recognition of deferred losses also resulted in -1.4% return on actuarial assets. Unrecognized investment losses represent about 6% of market assets.

TFFR's Actuarial Accrued Liability (AAL) increased from $2.75 billion in 2011 to $2.872 billion in 2012. The Unfunded Actuarial Accrued Liability (UAAL) increased from $927 million to $1.124 billion. The funded ratio decreased from 66.3% to 60.9% based on the AVA.

The ARC decreased from 13.16% of payroll to 13.02%. Based on the employer contribution rate for FY 2013 of 10.75%, there is a contribution deficiency of -2.27% of payroll. Additional contribution rate increases from HB 1134 (effective 7/1/14) will address this deficiency.

Ms. Nicholl also presented estimated funding ratios assuming variable investment returns in the future.

After board questions and discussion,

MR. CORNEIL MOVED AND DR. SANSTEAD SECONDED TO ACCEPT THE 2012 VALUATION REPORT.

AYES: TREASURER SCHMIDT, DR. SANSTEAD, MR. CORNEIL, MRS. FRANZ, DR. LATIMER, MR. TOSO, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

TFFR FUNDING POLICY:

Ms. Nicholl reviewed the need for a funding policy, funding policy objectives, and funding policy components which were discussed in detail at the Board's July 18, 2012, meeting. She reminded the board that the current funding policy is the ARC which is defined by the current Governmental Accounting Standards Board (GASB) standards. Statutory contributions are then compared to the ARC. Due to governance issues and new GASB requirements, there is a renewed focus on a plan's funding policy.

General funding policy objectives include: 1) actuarially determined contribution (ADC); 2) intergenerational equity; 3) contributions as a stable percentage of payroll; and 4) support public policy goals of accountability and transparency.

Ms. Nicholl explained the three funding policy components: 1) Actuarial cost method which allocates present value of member's future benefits to years of service; 2) Asset smoothing method which manages short term market volatility while tracking MVA; and 3) Amortization method which sets contributions to systematically pay off the UAAL.

She also compared the current funding policy with other possible alternatives:

- Actuarial cost method – recommend continued use of entry age normal, but consider "traditional" rather than "ultimate" normal cost
- Amortization period – consider 15 to 20 year rolling for entire UAAL, or 20 to 30 year closed for entire UAAL
- Asset smoothing method – recommend continued use of 5 year smoothing period, but consider adding use of 20% MVA corridor

Board discussion followed. The board asked Mrs. Kopp, Interim Executive Director and Chief Retirement Officer, and Ms. Nicholl to bring additional information on the different funding policy components to the January 2013 board meeting.

GASB, MOODY'S, AND OTHER NATIONAL PENSION ISSUES:

Ms. Nicholl provided an update on recently approved GASB Statements 67 and 68 which will change the accounting and financial reporting of public employee pensions by state and local governments. GASB 67 provides for accounting with respect to TFFR and replaces GASB 25 effective fiscal year July 1, 2013, to June 30, 2014. GASB 68 replaces GASB 27 and provides for financial reporting by employers with respect to TFFR. It is effective for fiscal year July 1, 2014, to June 30, 2015.

Under the new GASB requirements, the Net Pension Liability (NPL) will be required to be reported in TFFR's footnotes to the financial statements and the employers' balance sheets using the entry age cost method, market value of assets, and a blended discount rate. As part of the new requirements, accounting and financial reporting will be divorced from contribution requirements.

Ms. Nicholl also explained that Moody's has issued a Request for Comment on its proposal to implement four adjustments to pension liabilities and cost information. Moody's will use this information to prepare bond ratings.

The Segal presentations are on file at RIO.

RIO ORGANIZATIONAL STRUCTURE:

Mrs. Kopp reviewed four organizational charts prepared by the staff. The four structures include: 1) Base RIO structure as it was before the Chief Investment Officer (CIO) left; 2) Interim RIO structure as it is now in the absence of the CIO; 3) Modified RIO structure with more separation of the SIB and TFFR programs; and 4) Dissolve RIO and divide the administration of the SIB and TFFR programs into two separate agencies.

Board discussion followed.

Treasurer Schmidt left the meeting at 3:30 p.m.

BOARD RESOLUTION:

President Gessner recognized Dr. Sanstead for his 28 years of distinguished service on the TFFR board, and read the following resolution:

TFFR Board Resolution
in Appreciation of
Dr. Wayne G. Sanstead

WHEREAS, Dr. Wayne G. Sanstead, State Superintendent of Schools, served as trustee of the ND Teachers' Fund for Retirement Board with honor for 28 years, from 1985 to his retirement in 2012; and

WHEREAS, Dr. Sanstead has an extensive background of legislative, executive, and educational leadership having dedicated his professional career to the ND education community as the nation's longest serving chief state school officer. He proudly served as State Superintendent for 28 years, state representative for eight years, state senator for two years, and lieutenant governor of North Dakota for eight years; and

WHEREAS, Dr. Sanstead was a vocal and energetic supporter of defined benefit plans, a zealous defender of retirement security for all educators, and an active National Council on Teacher Retirement participant; and

WHEREAS, Dr. Sanstead was dedicated to the mission of the TFFR fund which is to advocate, develop, and administer a comprehensive retirement program for all trust fund members within the resources available; and

WHEREAS, Dr. Sanstead was a tireless champion for active and retired educators and supported efforts to improve member benefits, strengthen TFFR's funding structure, prudently invest trust fund assets, and safeguard the financial integrity of the fund; and

WHEREAS, Dr. Sanstead distinguished himself as an outstanding trustee whose invaluable knowledge, experience, leadership, and genuine compassion served trust fund members with respect; now therefore, be it

RESOLVED, that the TFFR Board express its sincere appreciation to Dr. Sanstead for his dedicated service to the Board, and for his contributions, dedication, and unwavering support of the teachers, students, and citizens of North Dakota; and be it further

RESOLVED, that the Board extends its best wishes to Dr. Sanstead, and his wife, Mary Jane, for a long and happy retirement; and be it further

RESOLVED, that a copy of this Resolution be presented to Dr. Wayne Sanstead, printed in the official TFFR Board minutes, and submitted to the National Council on Teacher Retirement, on behalf of the many lives he has so positively touched.

MR. TOSO MOVED AND MR. CORNEIL SECONDED TO APPROVE THE RESOLUTION HONORING DR. SANSTEAD, TO INCLUDE IT IN THE OFFICIAL TFFR BOARD MINUTES, AND SUBMIT IT TO THE NATIONAL COUNCIL ON TEACHER RETIREMENT.

AYES: MRS. FRANZ, MR. CORNEIL, MR. TOSO, DR. LATIMER, PRESIDENT GESSNER.
NAYS: NONE
DR. SANSTEAD ABSTAINED.
ABSENT: TREASURER SCHMIDT
MOTION CARRIED.

On behalf of the board and staff, President Gessner presented Dr. Sanstead with a retirement gift. Dr. Sanstead commented on his tenure with TFFR and invited everyone to his office for cake and coffee.

The board recessed at 3:40 p.m. and reconvened at 4:15 p.m.

Mr. Toso left the meeting at 3:40 p.m.

LEGISLATIVE UPDATE:

Mrs. Kopp commented on the agenda of the Legislative Employee Benefits Program Committee (LEBPC) meeting which will be held October 30, 2012. The 2012 Valuation report will be presented by Ms. Nicholl. The final letters from Segal with technical comments on Bill 99 and Bill 43 will be reviewed by the committee.

Bill No. 13.0099.03000 now includes the amendment to incorporate Internal Revenue Code language to clarify that increases in maximum benefit limits under section 415 would apply to former employees as well as current employees.

MR. CORNEIL MOVED AND MRS. FRANZ SECONDED TO PRE-FILE BILL NO. 13.0099.03000 WITH THE LEGISLATIVE COUNCIL FOR CONSIDERATION DURING THE 2013 LEGISLATIVE ASSEMBLY.

AYES: DR. LATIMER, MR. CORNEIL, DR. SANSTEAD, MRS. FRANZ, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

Mrs. Kopp reviewed the final actuarial report from Segal on bill 43, which was introduced by Representative Louser. The bill would modify the expiration of the increase in required contributions for both employers and members of TFFR until the fund reaches 100% funded ratio, not 90% as provided in current law. It would defer the contribution reversion to 7.75% from 2040 until 2046.

ANNUAL TFFR ENDS AND STATISTICS REPORT:

Mrs. Shelly Schumacher, Retirement Program Manager, presented the annual TFFR ends and statistics report for the year ended June 30, 2012. She provided information relating to employer information, employer and member outreach program participation, service purchases, tier membership, service retirement, disability retirement, option usage, retiree statistics, re-employed retirees, and employer payment plan models. A copy of the report is on file at RIO. After discussion,

MRS. FRANZ MOVED AND DR. SANSTEAD SECONDED TO APPROVE THE ANNUAL TFFR ENDS AND STATISTICS REPORT.

AYES: DR. SANSTEAD, MR. CORNEIL, DR. LATIMER, MRS. FRANZ, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

ANNUAL TFFR PROGRAM AUDIT REPORT:

Mr. Les Mason, Internal Audit Supervisor, presented the annual TFFR program audit review for the year ended June 30, 2012. Mr. Mason reported 31 school district audits were completed of which three districts were not in compliance, two districts were generally in compliance, and 26 districts were in compliance. A review of deaths, purchase of service, refunds, long outstanding checks, and long term annuitants was completed to determine that established policy and procedures are being followed by the retirement services division. No exceptions were noted. The annual financial audit of RIO for the year ended June 30, 2012, was conducted by independent external auditors from the accounting firm CliftonLarsonAllen. A copy of Mr. Mason's report is on file at RIO. After discussion,

DR. LATIMER MOVED AND MRS. FRANZ SECONDED TO APPROVE THE ANNUAL TFFR PROGRAM AUDIT REPORT.

AYES: MRS. FRANZ, DR. LATIMER, DR. SANSTEAD, MR. CORNEIL, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

CONSENT AGENDA:

DR. SANSTEAD MOVED AND MR. CORNEIL SECONDED TO APPROVE THE CONSENT AGENDA WHICH INCLUDES ONE QUALIFIED DOMESTIC RELATIONS ORDER #2012-3Q.

AYES: DR. LATIMER, MRS. FRANZ, MR. CORNEIL, DR. SANSTEAD, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.

ADJOURNMENT:

The next regular TFFR board meeting is scheduled for January 24, 2013.

With no further business to come before the Board, President Gessner adjourned the meeting at 5:02 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: January 17, 2013

SUBJ: TFFR Funding Policy

In July 2012, Kim Nicholl and Matt Strom from Segal Company presented TFFR board education on Elements of an Actuarial Funding Policy. The presentation described the need, objectives, and components of a funding policy. In general, the funding policy determines how much should be contributed each year by the employer and the members to provide for the secure funding of benefits in a systematic fashion. A funding policy specifically describes the actuarial cost method, asset smoothing method, and amortization method to be used by the plan.

To follow up on the July presentation, in October 2012, Segal presented various options and recommendations for changes to be made to some of TFFR's actuarial methods. Based on that presentation, we have asked Segal to provide additional details and long term projections to illustrate the impact of recommended changes on TFFR's funded ratio, unfunded actuarial accrued liability, and actuarially recommended contribution rates.

Segal has developed the attached presentation which Kim and Matt will deliver at the January board meeting (via teleconference). While a decision does not have to be made at this board meeting, it is important that decisions related to the actuarial methods be made in the next few months so a funding policy can be drafted, reviewed and approved by the Board, and implemented by Segal with the July 1, 2013, valuation.

Enclosure

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

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT

Elements of an Actuarial Funding Policy – Updated to Reflect Discussion at October Board Meeting

January 24, 2013

Kim Nicholl, FSA, MAAA, FCA, EA
Matthew Strom, FSA, MAAA, EA

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SEGAL

Agenda

- Review of need for a funding policy
- General policy objectives
- Funding policy components
  - Actuarial cost method
  - Asset smoothing method
  - Amortization method
- Projections
- Summary
- Questions

Renewed Focus on Funding Policy

- Governance issues
  - Independent determination of actuarially based contribution requirements
    - Includes actuarial assumptions and funding policy
  - Contribution rates are set by legislature
    - Actuarially based rates would ensure sound funding
- New GASB Standards
  - Current standards requires disclosure of contributions made to the ARC
  - New standards effective in 2014 will eliminate the ARC
    - If a plan has an "actuarially determined contribution" (ADC), then disclose actual contribution and the ADC
    - If plan does not have an ADC, no disclosure of actual contributions
  - Current TFFR ARC is based on a 30-year open amortization of unfunded liabilities and should be revisited
    - Demographic changes (aging population)
    - Mature plan
    - Investment and economic environment
    - Heightened scrutiny of public pension plan funding

GASB and Funding Policy

- GASB is eliminating the ARC
  - They are in the “accounting business”, not the “funding business”
  - But if plan has a funding policy, the resulting contribution amount is called the “Actuarially Determined Contribution” (ADC)
- Actuarially Determined Contribution
  - If determined, GASB required that method and amount be disclosed and compared to the TFFR statutory contributions
  - GASB provides no basis for the ADC except “actuarial standards of practice”
  - ADC is the new ARC
  - For TFFR, no ADC currently exists

Board agreed that the old ARC should NOT be TFFR’s ADC

General Funding Policy Objectives

1. Actuarially determined contribution (ADC)
   - Future contributions plus current assets sufficient to fund all benefits for current members
   - Contributions = Normal Cost + **full** Unfunded Actuarial Accrued Liability payment
   - Statutory contributions should be compared to the ADC as a measure of adequacy

2. Intergenerational equity
   - Reasonable allocation of funding to years of service

3. Contributions as a stable percentage of payroll
   - Reasonable management and control of future employer contribution volatility

4. Support public policy goals of accountability and transparency
   - Clear in intent and effect
   - Allow assessment of whether, how and when sponsor will meet funding requirements

Three Funding Policy Components

- **<u>Actuarial cost method</u>** allocates present value of member's future benefits to years of service
  - Defines Normal Cost and Actuarial Accrued Liability (AAL)
  - TFFR actuarial cost method is the "entry age normal" method
- **<u>Asset smoothing method</u>** manages short term market volatility while tracking MVA
  - Determines the Unfunded Actuarial Accrued Liability (UAAL)
  - TFFR asset smoothing method is based on five year smoothing of annual investment returns that exceed 8% (gains) and fall short of 8% (losses)
    - No market value corridor
    - A corridor would restrict the difference between actuarial value of assets and market value of assets (e.g., 80% to 120%)

Three Funding Policy Components (continued)

- **Amortization method** sets contributions to systematically pay off the UAAL
  - Length of time and structure of payments
  - TFFR contribution rates are fixed
  - GASB ARC amortization policy is open 30-year level percentage of pay
    - Open (or, "rolling") means the UAAL is re-amortized over a new 30-year period every year
    - Level percentage of pay means UAAL amortized with payments that increase each year by payroll growth assumption of 3.25%
    - Combination of open 30-year period and level percentage of payroll means:
      - Amortization payment does not even cover the interest on the UAAL let alone the principal (more on this later)

Three Funding Policy Components (continued)

➢ Current funding policy – as of July 1, 2012

Current ARC/ADC		Current ARC/ADC with Contribution Increases	
UAAL	$1.124B	UAAL	$1.124B
Funded Ratio	60.9%	Funded Ratio	60.9%
Employer Normal Cost	0.08%	Employer Normal Cost	(1.92%)
30-year Amortization of UAAL	12.94%	30-year Amortization of UAAL	12.94%
ARC/ADC	13.02%	ARC/ADC	11.02%
Statutory Contribution	10.75%	Statutory Contribution	12.75%
Margin/(Deficit)	(2.27%)	Margin/(Deficit)	1.73%

Once all the contribution increases are phased in, the current funding policy based on the ARC generates a margin.

Actuarial Cost Method

- Entry Age Normal (EAN) cost method is a model practice and used by TFFR
  - Will be required for accounting purposes under new GASB statements
  - Normal cost
    - Traditional Normal Cost is based on each member's Tier of benefits and required by GASB
    - TFFR uses Ultimate Normal Cost, which means all members' Normal Cost is based on the Tier 2 benefit structure

Ultimate Normal Cost		Traditional Normal Cost (est.)	
Actuarial Accrued Liability	$ 2,871.9 M	Actuarial Accrued Liability	$ 2,836.1 M
Funded Ratio	60.87%	Funded Ratio	61.64%
Normal Cost ($)	$ 52.7 M	Normal Cost ($)	$ 56.2 M
Normal Cost (% of pay)	9.83%	Normal Cost (% of pay)	10.49%

Segal recommends use of the Traditional Normal Cost method.

Asset Smoothing Methods

- Model practice
  - 5 year smoothing with no corridor
  - Consider adding an 80%/120% corridor in the event of extreme market volatility
- History of AVA/MVA ratio for TFFR

Valuation Date	Ratio of AVA to MVA
July 1, 2012	105.7%
July 1, 2011	105.6%
July 1, 2010	128.1%
July 1, 2009	145.1%

Segal recommends keeping the 5 year smoothing method and adding an 80%/120% corridor.

Amortization of Unfunded Actuarial Accrued Liability

- Amortization method
  - Level dollar amount
    - UAAL is amortized like a mortgage
      - Payment is the same each year (level)
      - $1.5 million, $1.5 million, $1.5 million, etc.
  - Level percentage of payroll
    - UAAL is amortized with payments that increase each year
    - Annual increase in payment is based on payroll growth assumption (i.e., 3.25%)
    - $1 million, $1.0325 million, $1.066 million, etc.
    - UAAL continues to grow as payments are less than interest on the UAAL

Segal recommends keeping the level percentage of payroll amortization because contributions are collected as a percentage of payroll.

Amortization of Unfunded Actuarial Accrued Liability (continued)

Open ("Rolling") versus Closed Amortization Period

- Open means the UAAL is re-amortized over a new period every year
  - Like refinancing your home with a new 30-year mortgage every year
  - Allowed by current GASB standards and viewed as an appropriate funding policy based on idea that governments are perpetual
    - Became widely accepted practice
- Closed means the UAAL will be fully amortized over the period
  - Like a 30-year mortgage – your home will be paid off after 30 years
- TFFR periodically changes the amortization method based on existing environment

Segal recommends either a 30-year closed or a 20-year open amortization period.

Illustration of Amortization Methods

8.00% interest 3.25% salary incr.	Current 30-year Open % of pay	30-year Closed % of pay	20-year Open % of pay
Increase in AAL	1,000,000	1,000,000	1,000,000
Amortization factor	16.8386	16.8386	13.4887
Amortization amount			
Year 1	$ 59,387	$ 59,387	$ 74,136
Year 15	$ 74,025	$ 92,930	$ 74,067
Year 20	$ 80,085	$ 109,045	$ 74,042
Year 25	$ 86,641	$ 127,954	$ 74,017
Year 30	$ 93,734	$ 150,143	$ 73,992
Year 50	$ 128,407	$ -	$ 73,892
Total amount paid			
Principal	$ (1,196,504)	$ 1,000,000	$ 3,356
Interest	5,676,255	1,942,624	3,697,360
Total	$ 4,479,751 ★	$ 2,942,624	$ 3,700,717 ★

★ Total amount for first 50 years shown here; payments will continue on indefinitely

Illustration of Amortization Periods – Annual Payment ($ in 000s)

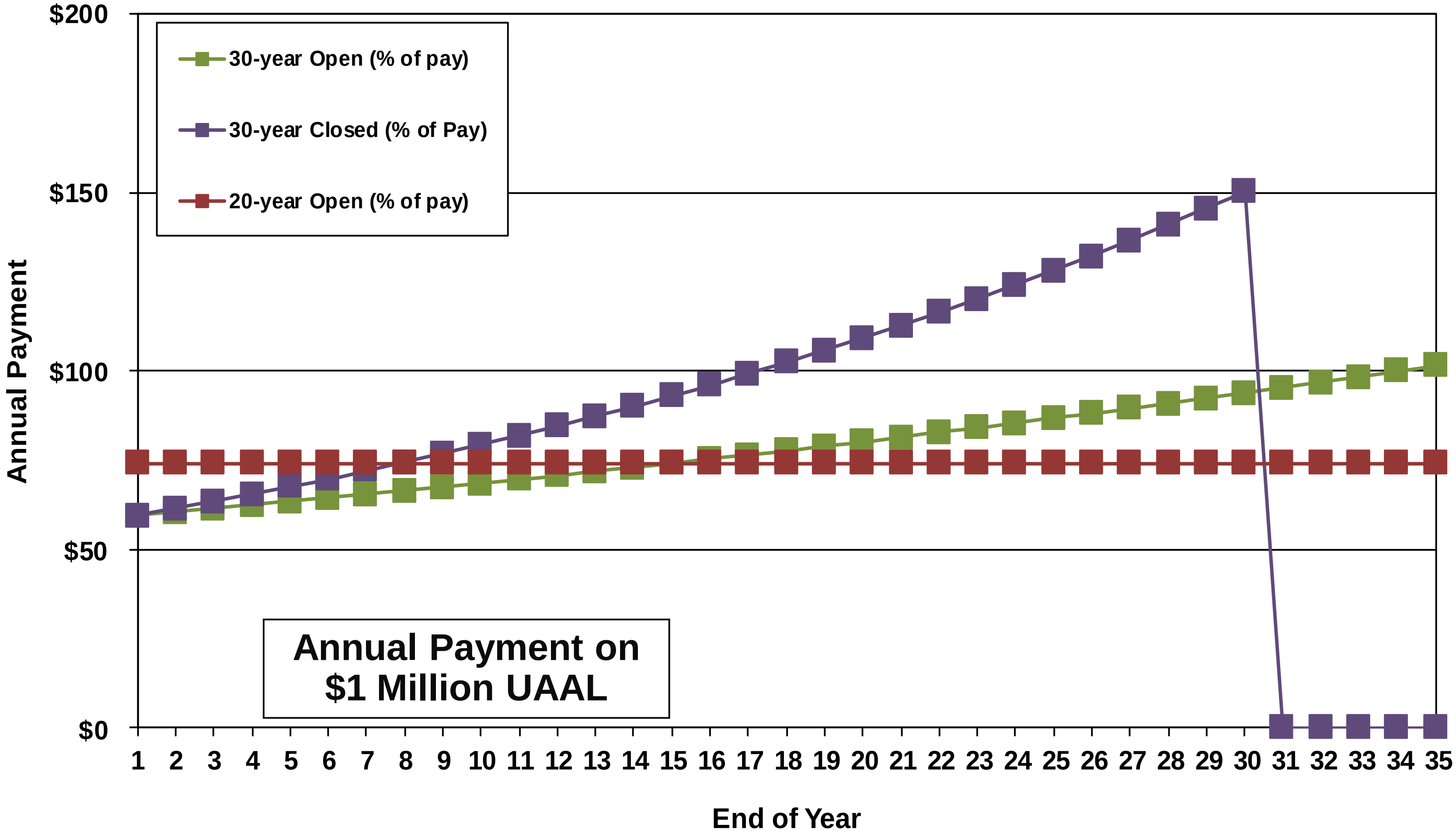
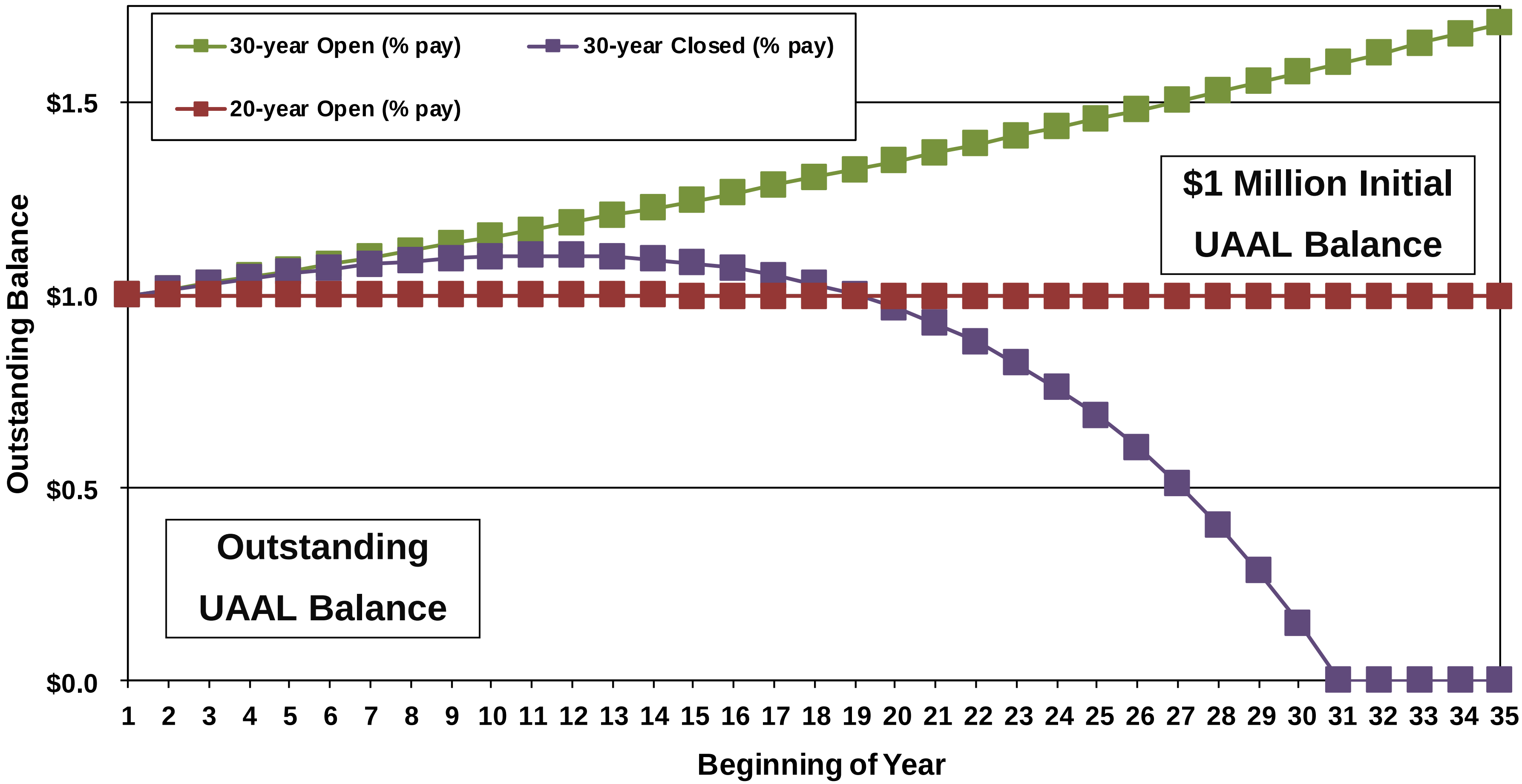


Illustration of Amortization Periods – Outstanding UAAL Balance ($ in millions)



Summary of Funding Policy Elements

Actuarial cost method

- Recommend continued use of entry age normal
- Recommend Traditional versus Ultimate Normal Cost

Amortization period

- Options to consider
  - 20 year rolling for entire UAAL
  - 30 year closed for entire UAAL

Asset smoothing method

- Recommend continued use of 5 year smoothing period
- Recommend use of 20% MVA corridor

Three Funding Policy Components (continued)

Funding policy – as of July 1, 2012

	30-year Open (Current)*	30-year Closed**	20-year Open**
UAAL	$1.124B	$1.088B	$1.088B
Funded Ratio	60.9%	61.6%	61.6%
Employer Normal Cost	0.08%	0.77%	0.77%
Amortization of UAAL	12.94%	12.53%	15.64%
ARC/ADC	13.02%	13.30%	16.41%
Statutory Contribution	10.75%	10.75%	10.75%
Margin/(Deficit)	(2.27%)	(2.55%)	(5.66%)

* *Actuarial Accrued Liability and Normal Cost developed under Ultimate EAN.*
***Actuarial Accrued Liability and Normal Cost developed under Traditional EAN.*

Three Funding Policy Components (continued)

➢Funding policy – as of July 1, 2017

	30-year Open (Current)*	30-year Closed**	20-year Open**
UAAL	$1.357B	$1.325B	$1.325B
Funded Ratio	62.3%	62.9%	62.9%
Employer Normal Cost	(1.74%)	(1.32%)	(1.32%)
Amortization of UAAL	13.40%	14.34%	16.33%
ARC/ADC	11.66%	13.02%	15.01%
Statutory Contribution	12.75%	12.75%	12.75%
Margin/(Deficit)	1.09%	(0.27%)	(2.26%)

** Actuarial Accrued Liability and Normal Cost developed under Ultimate EAN.*
***Actuarial Accrued Liability and Normal Cost developed under Traditional EAN.*

Three Funding Policy Components (continued)

➢Funding policy – as of July 1, 2022

	30-year Open (Current)*	30-year Closed**	20-year Open**
UAAL	$1.429B	$1.395B	$1.395B
Funded Ratio	68.2%	68.7%	68.7%
Employer Normal Cost	(1.54%)	(1.33%)	(1.33%)
Amortization of UAAL	12.01%	14.63%	14.63%
ARC/ADC	10.47%	13.30%	13.30%
Statutory Contribution	12.75%	12.75%	12.75%
Margin/(Deficit)	2.28%	(0.55%)	(0.55%)

** Actuarial Accrued Liability and Normal Cost developed under Ultimate EAN.*
***Actuarial Accrued Liability and Normal Cost developed under Traditional EAN.*

Projected UAAL (Based on Actuarial Assets) $Billions

Valuation Year	30-year Open* (Current)	30-year Closed**	20-year Open**
2012	$1.124	$1.088	$1.088
2013	$1.265	$1.230	$1.230
2014	$1.280	$1.246	$1.246
2015	$1.288	$1.255	$1.255
2016	$1.339	$1.306	$1.306
2017	$1.357	$1.325	$1.325
2022	$1.429	$1.395	$1.395
2027	$1.442	$1.398	$1.398
2032	$1.337	$1.276	$1.276
2037	$1.043	$0.957	$0.957
2042	$0.725	$0.745	$0.745

* *Actuarial Accrued Liability and Normal Cost developed under Ultimate EAN.*

***Actuarial Accrued Liability and Normal Cost developed under Traditional EAN.*

Projected Funded Ratios (Based on Actuarial Assets)

Valuation Year	30-year Open* (Current)	30-year Closed**	20-year Open**
2012	61%	62%	62%
2013	58%	59%	59%
2014	59%	60%	60%
2015	61%	61%	61%
2016	61%	62%	62%
2017	62%	63%	63%
2022	68%	69%	69%
2027	74%	75%	75%
2032	81%	82%	82%
2037	88%	89%	89%
2042	93%	93%	93%

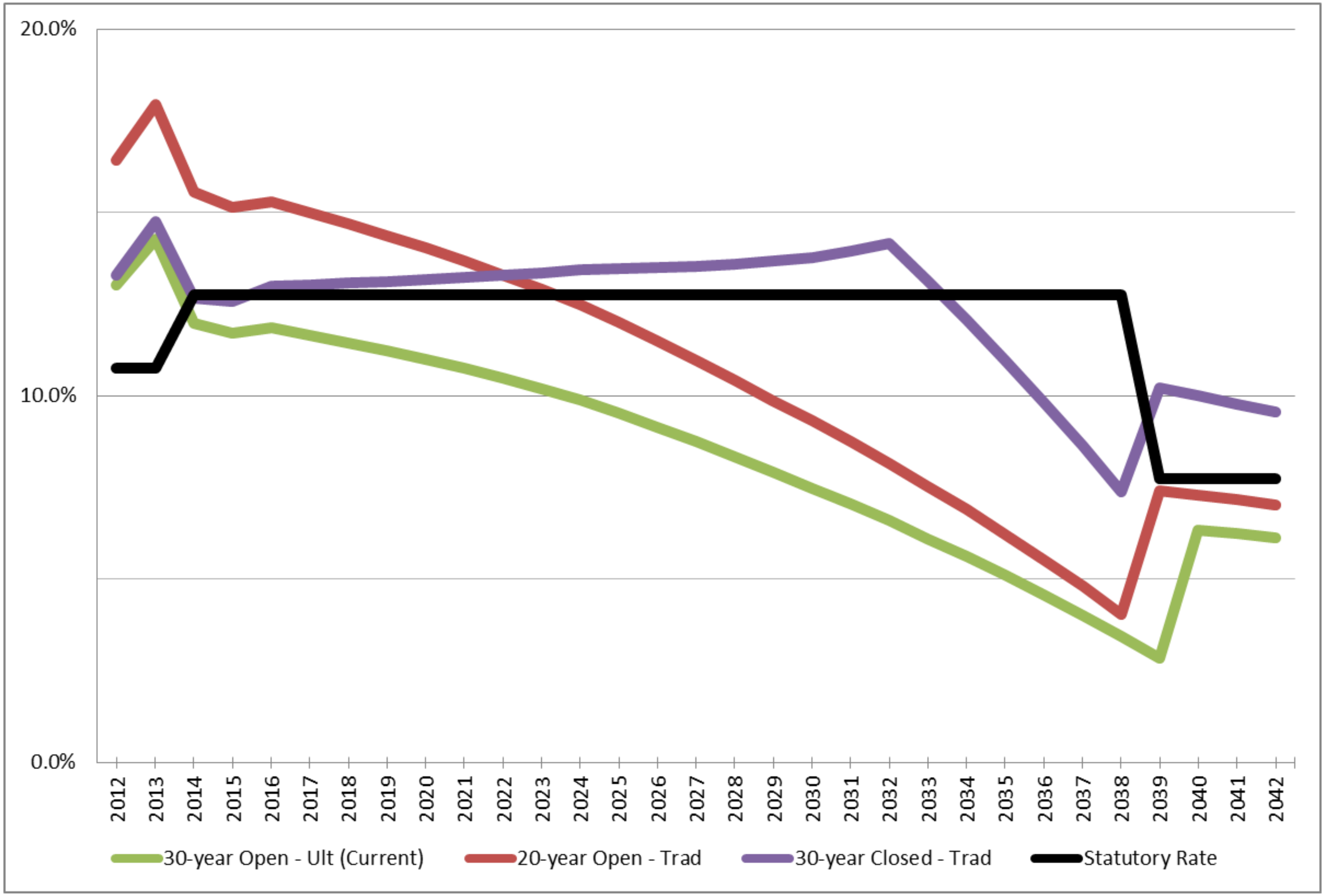
* *Actuarial Accrued Liability and Normal Cost developed under Ultimate EAN.*
****Actuarial Accrued Liability and Normal Cost developed under Traditional EAN.**

Projected Margin/(Deficit) (Based on Actuarial Assets)

Valuation Year	30-year Open* (Current)	30-year Closed**	20-year Open**
2012	-2.27%	-2.55%	-5.66%
2013	-3.53%	-4.00%	-7.19%
2014	0.76%	0.09%	-2.81%
2015	1.05%	0.18%	-2.40%
2016	0.90%	-0.23%	-2.54%
2017	1.09%	-0.27%	-2.26%
2022	2.28%	-0.55%	-0.55%
2027	4.00%	-0.79%	1.78%
2032	6.16%	-1.40%	4.60%
2037	8.73%	4.12%	7.94%
2042	1.62%	-1.80%	0.73%

** Actuarial Accrued Liability and Normal Cost developed under Ultimate EAN.*
***Actuarial Accrued Liability and Normal Cost developed under Traditional EAN.*

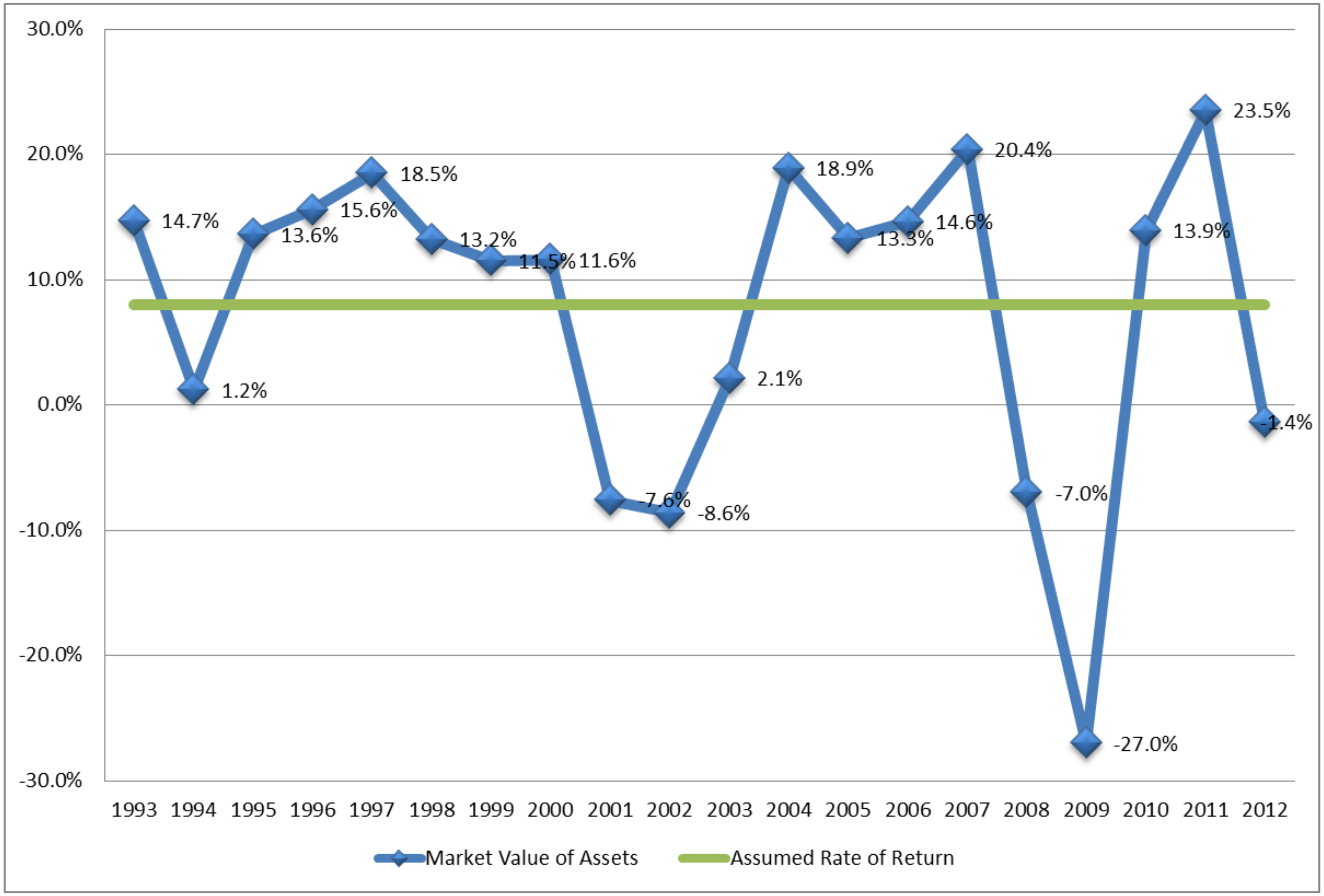
ARC/ADC Options Using Open and Closed Period Amortization



Closed period declines to 10 years, where it is assumed to operate as 10-year rolling thereafter.

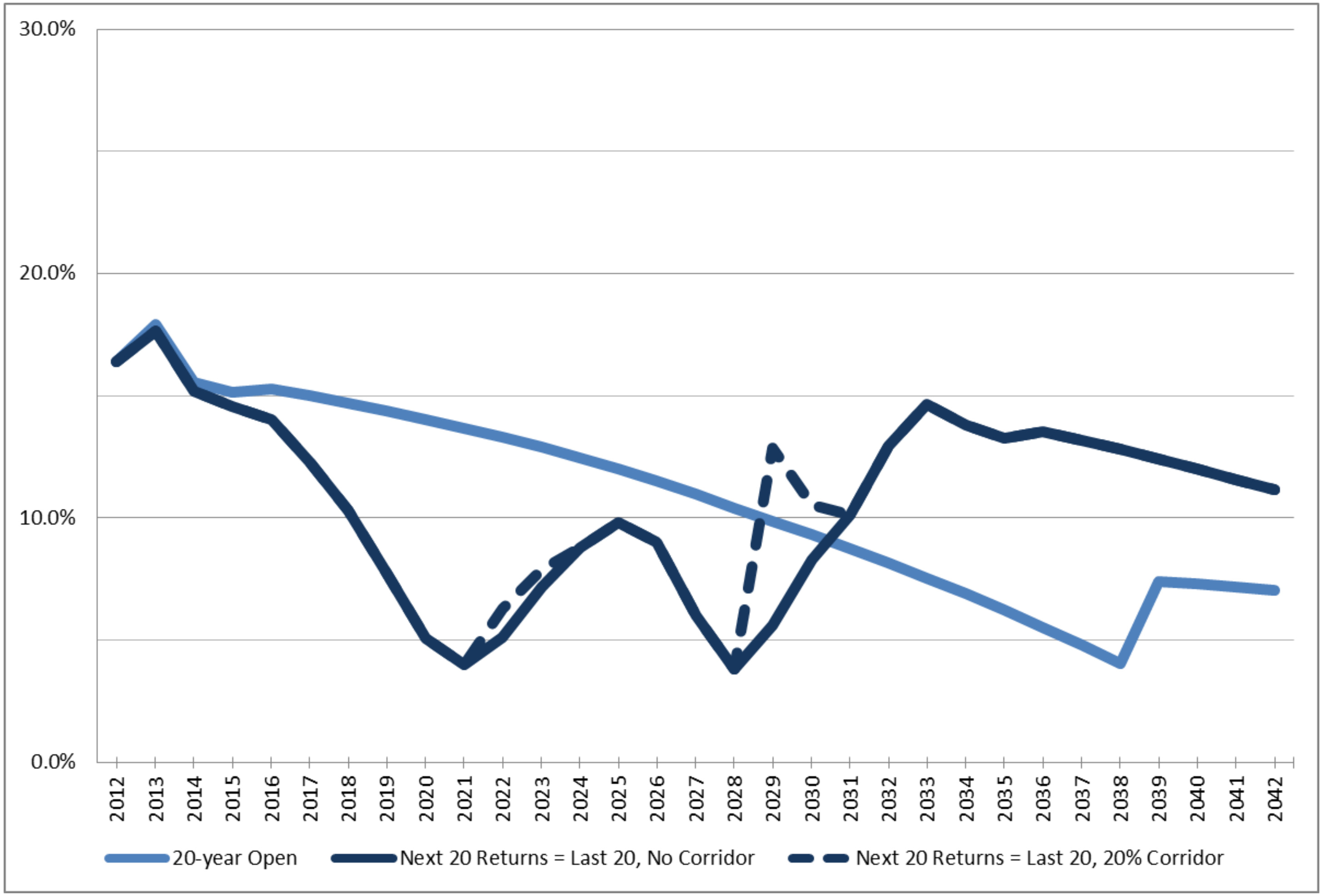
20-Year History of Market Value Investment Returns

➢ Average return over past 20 years is 7.0% with significant volatility recently



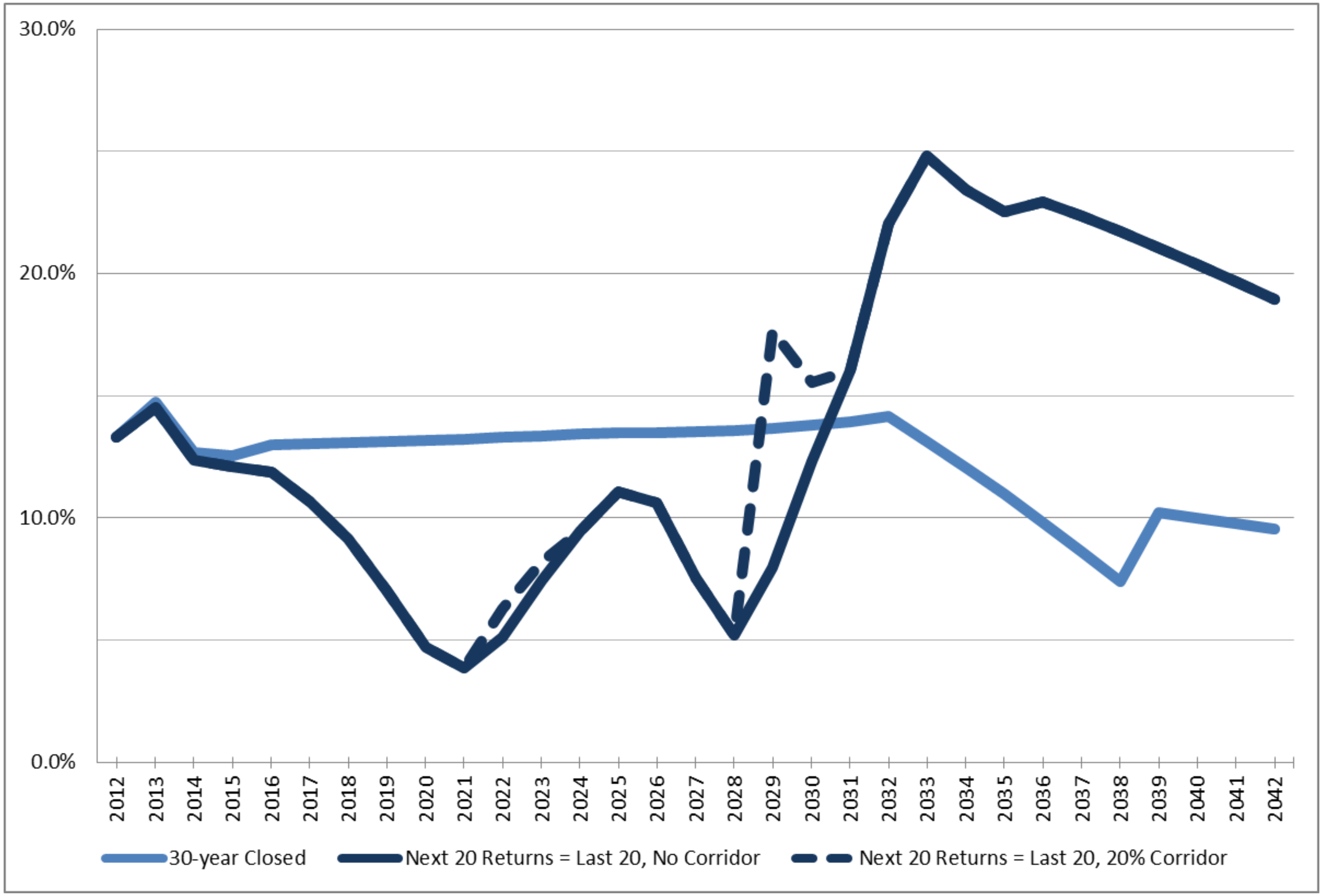
ARC/ADC Volatility – 20-year Open Amortization

- Next 20 investment returns equal to prior 20 years (7/1/92 – 6/30/12), 8% thereafter
  - With and without 20% corridor on MVA



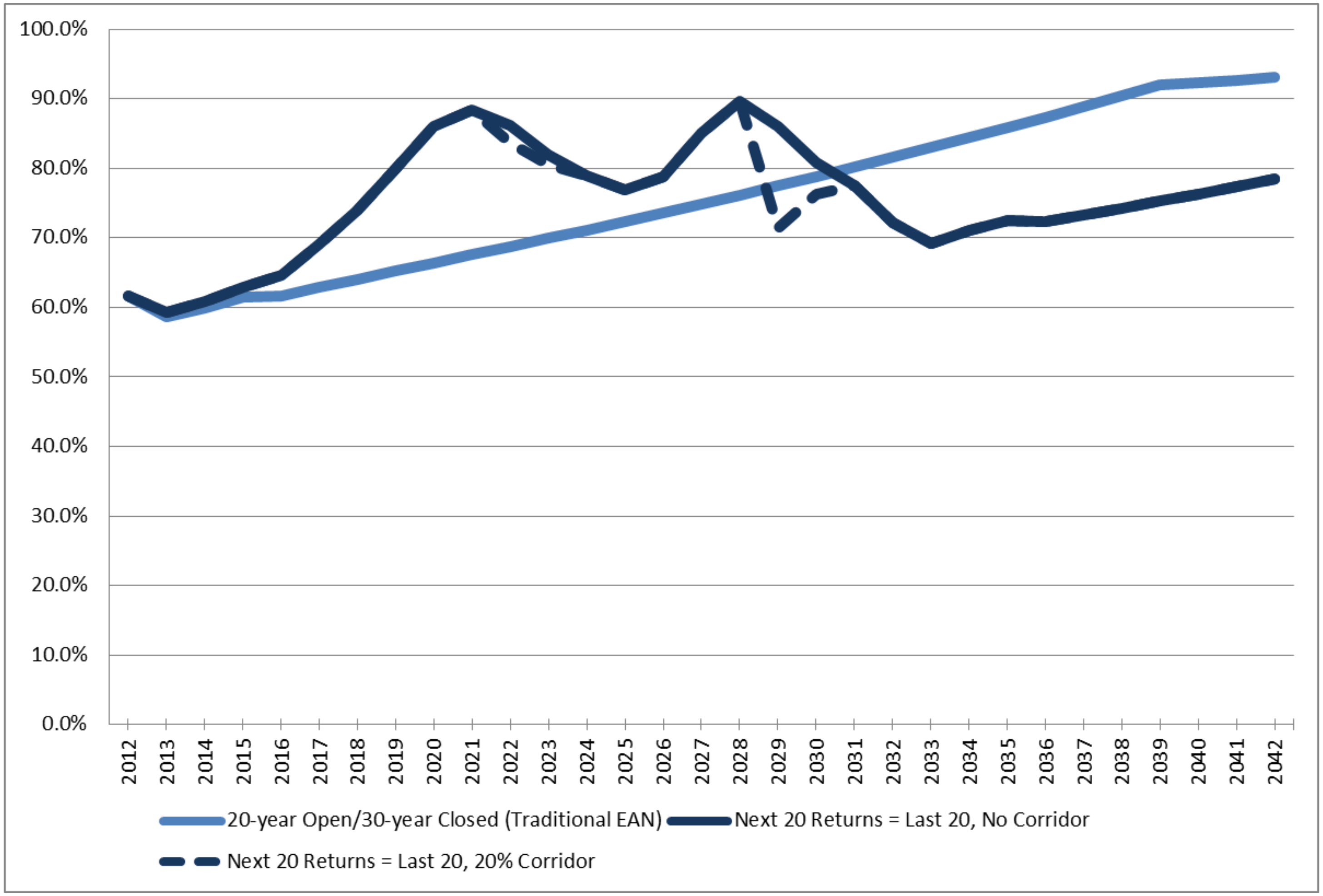
ARC/ADC Volatility – 30-year Closed Amortization

- Next 20 investment returns equal to prior 20 years (7/1/92 – 6/30/12), 8% thereafter
  - With and without 20% corridor on MVA



Funded Percentage Volatility – 20-year Open and 30-year Closed Amortization (Traditional EAN)

- Next 20 investment returns equal to prior 20 years (7/1/92 – 6/30/12), 8% thereafter
  - With and without 20% corridor on MVA



Summary

- Segal recommends the TFFR adopt a funding policy since new GASB standards eliminate the ARC
- Recommended Funding Policy Components
  - Entry Age Normal Cost Method
  - Normal Cost based on Traditional Method
  - Actuarial assets based on 5-year smoothing with an 80%/120% corridor
  - Amortization period of either 30-year closed or 20-year open

Questions?

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

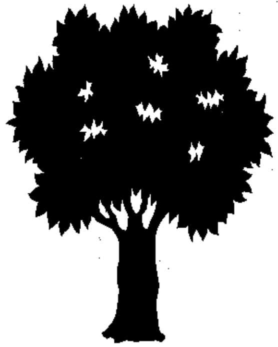
DATE: **January 17, 2013**

SUBJ: **BOARD EDUCATION: TFFR Retiree Re-employment Provisions**

The statutory provisions on returning to TFFR covered employment after retirement has undergone a number of changes over the years. In fact, a bill (HB 1203) has been submitted to the 2013 legislature that would undo some of the changes that were proposed by the TFFR Board and approved by the 2011 Legislature relating to retiree re-employment.

Before the Board discusses how potential legislative changes (Agenda # 5) could impact the plan, we thought it would be helpful to review the current TFFR retiree re-employment provisions. Shelly Schumacher has been working with this program for many years, and will provide board education on this subject.

Enclosure



WORKING AFTER RETIREMENT

After you retire, you may return to TFFR covered employment under employment limitations. The limits apply to TFFR covered employment which includes teaching, supervisory, and administrative services except for extra-curricular duties and professional development. The limits **do not** apply to:

- Teaching in public colleges and universities
- Teaching in private schools
- Employment outside of education
- Employment outside of ND

Non contracted substitute teaching does not apply to the annual hour limit. However, in-staff substitute teaching performed during an existing contracted period will apply to the annual hour limit.

To help you determine which return to work option best suits your needs, you should consider the following questions:

- How long have I been retired?
- How long do I plan to work?
- Do I plan to work full or part time?

Please also keep in mind that under both federal and state law, a teacher must terminate employment in order to be eligible to retire and receive retirement benefits. Therefore, at the time of retirement, there can be no written pre-existing agreement indicating re-employment after retirement. After the applicable waiting period (if any), should you decide to return to work, both you and your employer must complete a "TFFR Retired Member Employment Notification" form within 30 days of your employment. This form must be completed each year you return to teach.

Failure to notify TFFR that you have returned to TFFR covered employment will result in the loss of annuity benefits.

Because of the impact returning to work could have on your TFFR retirement benefits, we strongly encourage you to contact our office to discuss all of your options.

GENERAL RULE – ANNUAL HOUR LIMIT

After 30 days from your retirement date, you may return to TFFR covered employment for a maximum number of hours in a fiscal year (July 1 - June 30). You will continue to receive retirement benefits; employer contributions will be paid on all retirement salary paid to the retiree including in-staff subbing, extra curricular and professional development pay; and your TFFR benefit amount will not be affected. **Effective 7/1/12**, employee contributions will also be required based on the employer payment model. The additional contributions will be included in the retiree's account value but the monthly benefit will not be affected. The annual hour limit is based on the length of employment.

9-month contract = 700 hours
10-month contract = 800 hours
11-month contract = 900 hours
12-month contract = 1,000 hours

Example: Jane retires July 1, 2011, and begins TFFR retirement benefits. On August 1, she signs a 9-month contract with a ND school district to work 600 hours which allows her 100 hours for in-staff subbing. With the exception of extra-curricular duty and professional development, all compensated hours count toward the 700-hour limit. Jane and her employer submit a TFFR Retired Member Employment Notification form. Jane receives salary and employer contributions are paid

RETIREE RETURN TO WORK OPTIONS AT A GLANCE

Retiree Return to Work Limitation	Waiting Period Required (Break in Service)	Length of Employment	TFFR Benefit Continued	TFFR Employee & Employer Contributions Paid	TFFR Benefit Amount Recalculated
General Rule – Annual hour limit	30 days from TFFR retirement date	Unlimited	Yes	Employer contributions only Effective 7-1-12, employer and employee contributions	No
Exception A: Critical shortage areas determined by ESPB Over annual hour limit	One Year- if your retirement date is after 1/1/2001 None- if your retirement date is on or before 1/1/2001	Dependent upon annual approval and verification of critical shortage area	Yes	Employer contributions only Effective 7-1-12, employer and employee contributions	No
Exception B: Benefit suspension and recalculation Over annual hour limit	30 days from TFFR retirement date	Unlimited	No Benefit suspended after annual hour limit is reached	Employer contributions on all salary and employee contributions after annual hour limit Effective 7-1-12, employer and employee contributions on all salary	Yes Recalculation based on the number of additional years of service

to TFFR on the teaching salary as well as any in-staff subbing, extra curricular or professional development pay. Jane continues to receive her retirement benefit while teaching part time.

Exception A – Critical Shortage Area

You may return to TFFR covered employment in an approved critical shortage area and exceed the annual hour limitation without losing your retirement benefits. If you retired on or prior to January 1, 2001, no waiting period is required. However, if your retirement date is after January 1, 2001, a one-year waiting period is required. You may perform non-contracted substitute teaching during the one-year waiting period. Critical shortage areas will be determined each year by the Education Standards and Practices Board (ESPB). Each year, you must re-apply for this exception. Like the General Rule, you will continue to receive retirement benefits, employer contributions will be paid on all retirement salary, and your TFFR benefit will not be affected. **Effective 7-1-12**, employee contributions will also be required based on the employer payment model. The additional contributions will be included in the retiree's account value but the monthly benefit will not be affected.

Example: John retires July 1, 2010 and begins TFFR retirement benefits. He does substitute teaching in 2010-11, then returns as a full time teacher on July 1, 2011, in an approved critical shortage area. John and his employer submit a TFFR Retired Member Employment Notification form. John receives salary and employer contributions are paid to TFFR on all retirement salary. John continues to receive his retirement benefit while working full time in a critical shortage area.

EXCEPTION B – BENEFIT SUSPENSION AND RECALCULATION

After 30 days from your retirement date, you may return to TFFR covered employment and exceed the annual hour limitation. Under this option, employer contributions will be paid on all retirement salary before and after the benefit suspension. **Effective 7-1-12**, employer and employee contributions will be paid before and after the suspension based on the employer's payment model. Your TFFR benefits will be suspended the first of the month following the month you reach the annual hour limit. For 2011-12, once the benefit is suspended, employee contributions must be paid on any retirement salary earned after the annual hour limit based on your employer's TFFR payment model. Upon re-retirement, your benefits may be recalculated. If you re-retire with:

- Less than 2 years of additional earned service credit – you will receive the discontinued benefit plus benefit increases granted during the benefit suspension and a refund of employee contributions paid after the benefit suspension plus interest.
- 2-5 years – you will receive the greater of the discontinued annuity, plus additional years at the current multiplier, plus benefit increases granted during the suspension, OR all the years recalculated at the current multiplier, less an actuarial offset for the amount of benefits already paid.
- 5 or more years – you will receive the greater of the calculation above or the retirement benefit recalculated using all the years at the current multiplier with no actuarial offset.

This brochure is a summary of NDCC 15-39.1-19.1 and is not intended to provide total information concerning employment after retirement. More detailed information may be obtained by contacting:

ND RETIREMENT AND INVESTMENT OFFICE
1930 Burnt Boat Drive
P.O. Box 7100
Bismarck, ND 58507-7100

Phone: 1-701-328-9885
Toll free: 1-800-952-2970
www.nd.gov/rio

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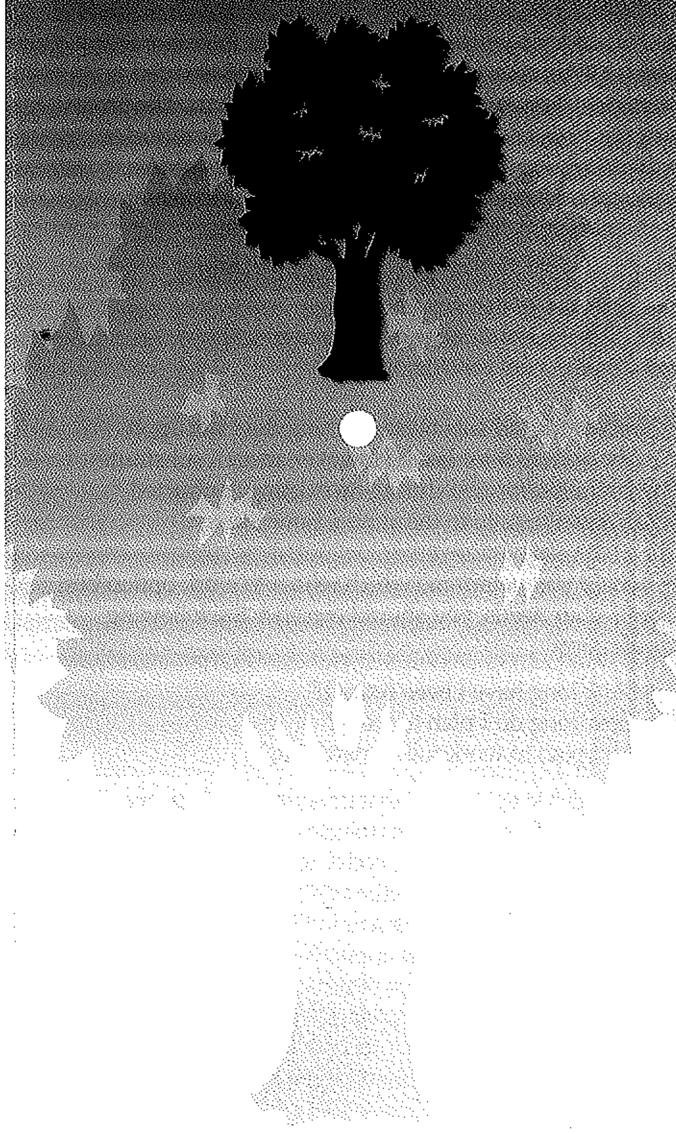
Effective 8/2011

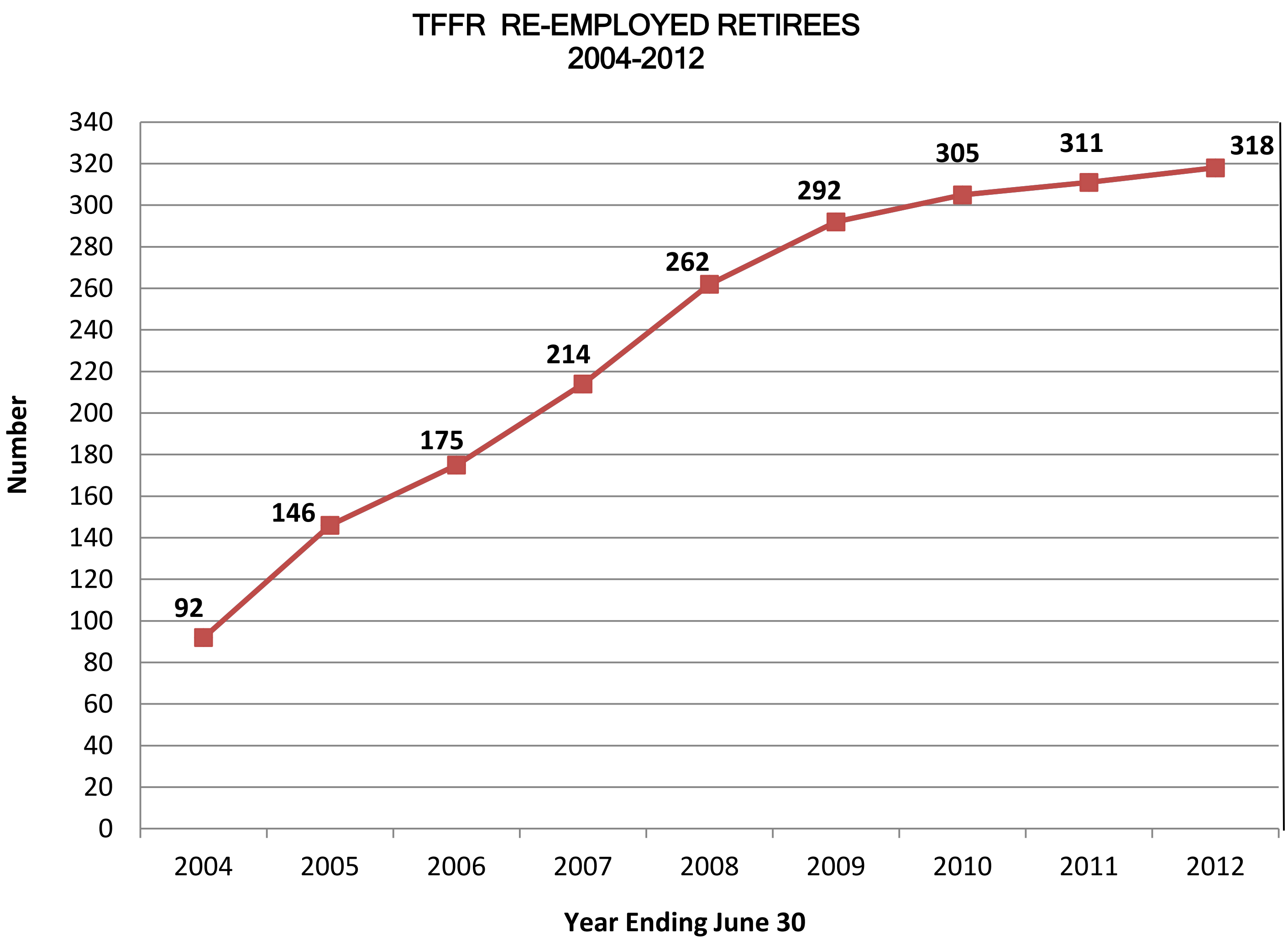
North Dakota Teachers' Fund For Retirement

WORKING AFTER RETIREMENT



2011-12 RETIREE RE-EMPLOYMENT SUMMARY STATISTICS

Total number of Re-employed Retirees		**318**
Superintendents	26	
Administrators	44	
Teachers	248	
General Rule	298	
Critical Shortage Area	13	
Suspend and Recalculate	7	
Average Age	62	
Average Salary	$24,500	

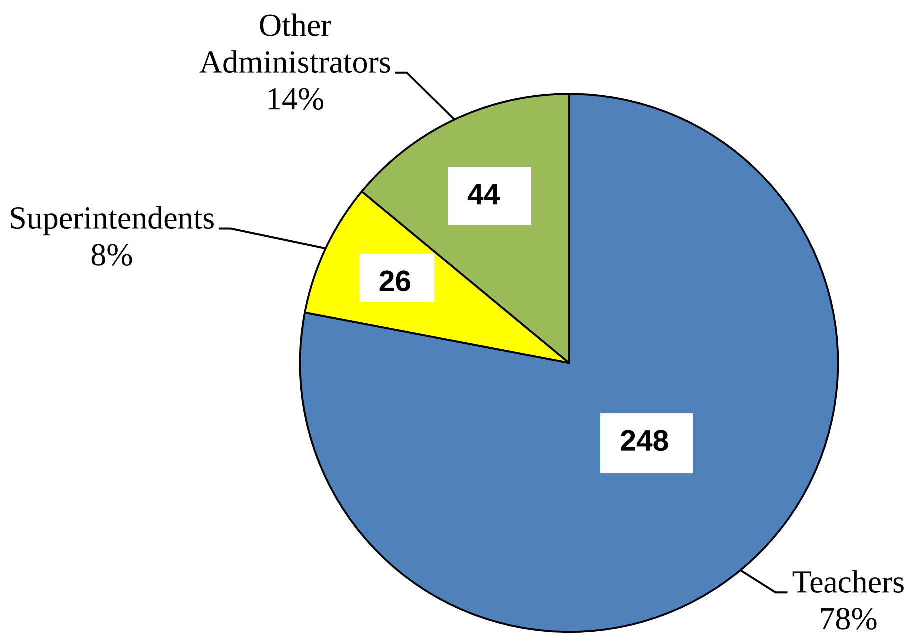


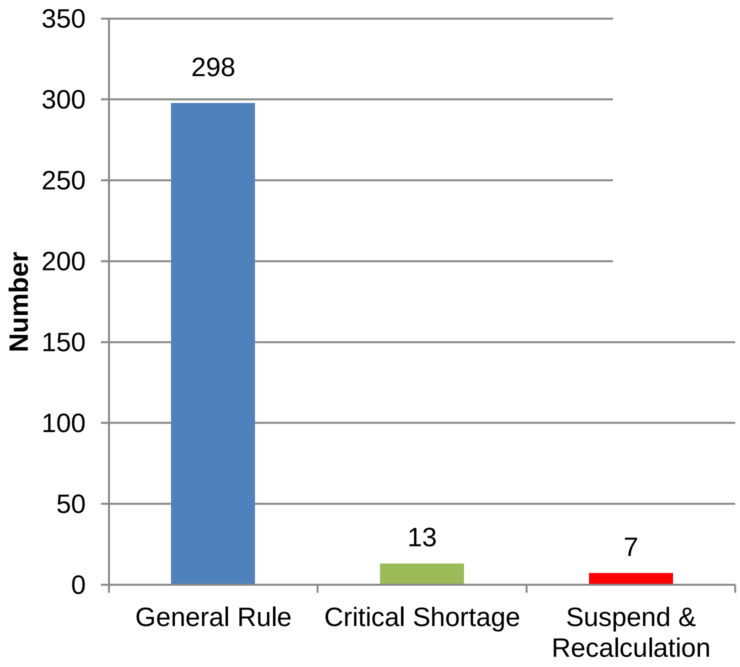
General Rule	298
Critical Shortage	13
Suspend & Recalculation	7

Total Retirees: 318
Average Age: 62

Teachers	78%
Superintendents	8%
Other Administrators	14%

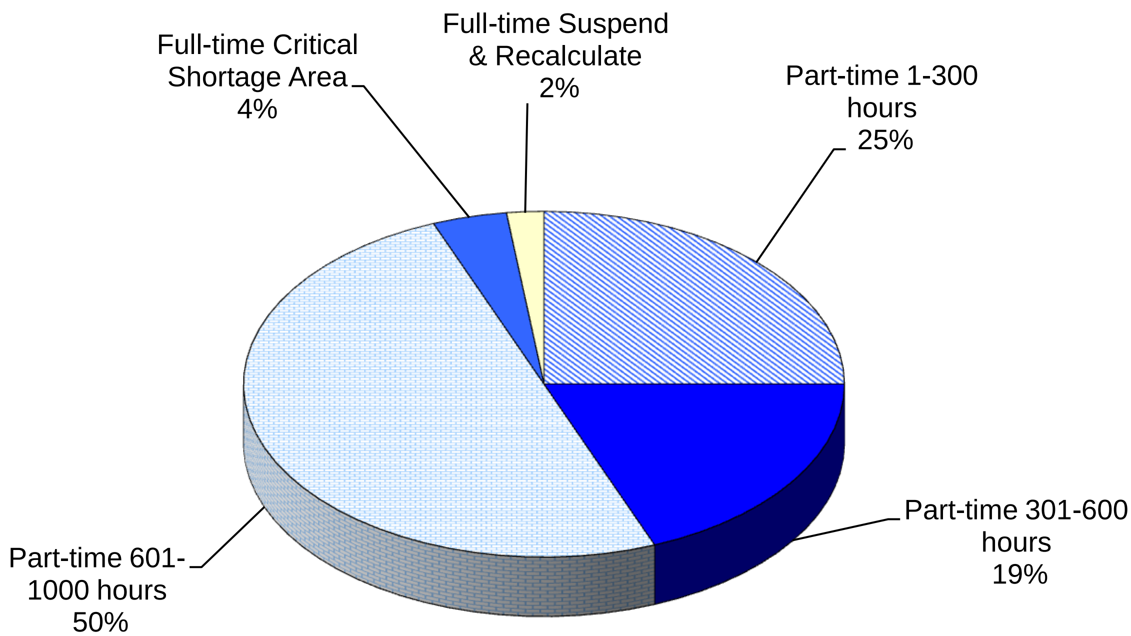
Re-employed Retirees: 318
Employers of Retirees: 132
Average Salary: $24,500





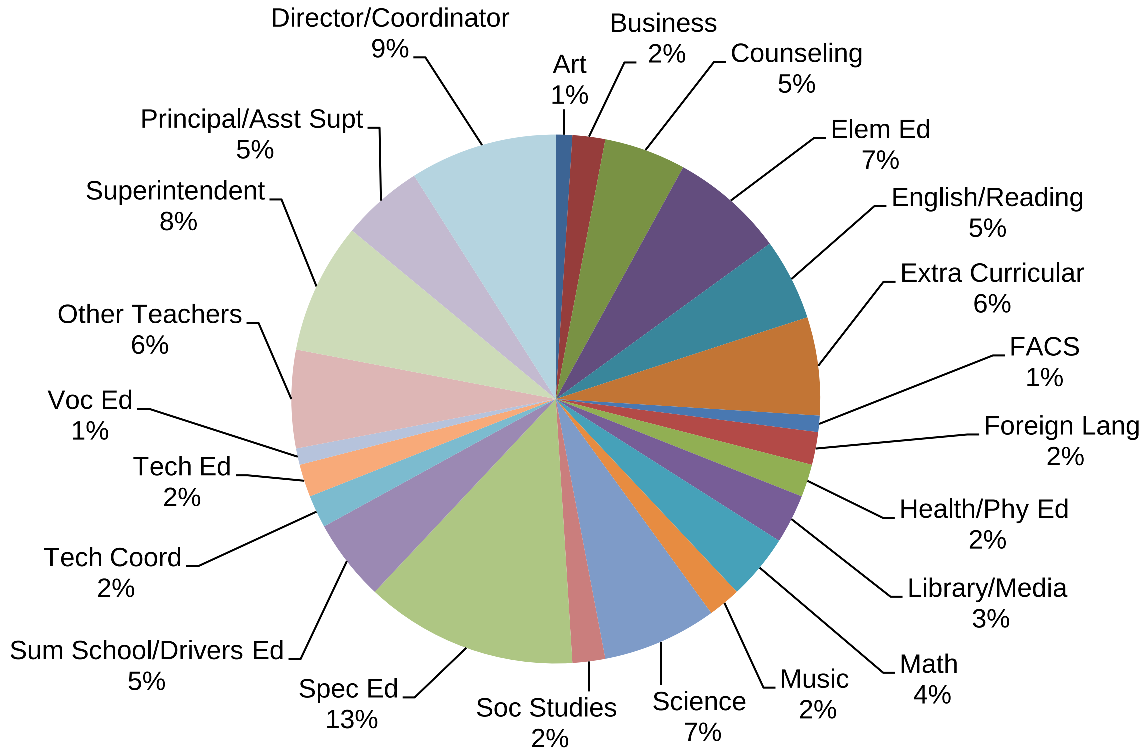
TFFR RE-EMPLOYED RETIREES

By Hours Contracted



Hours Contracted	**Re-employed Retirees**	
Part Time – General Rule	**Number**	**Percent**
1 – 300 hours	78	25
301 – 600 hours	61	19
601 – 1000 hours	159	50
Full Time		
Critical Shortage Area	13	4
Suspend & Recalculate	7	2
Total Re-employed Retirees	**318**	**100%**
(4 teaching in 2 districts)		

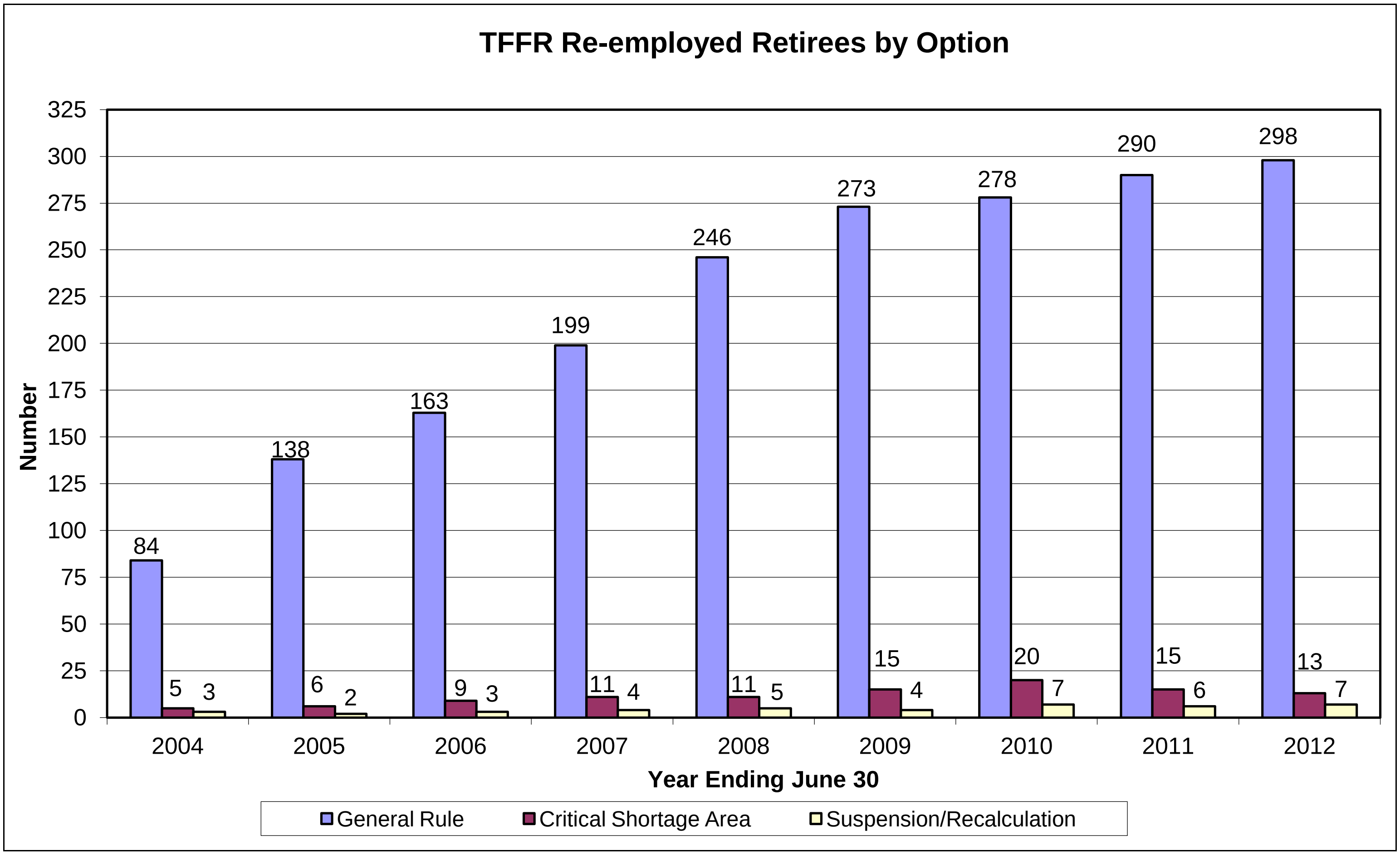
TFFR RE-EMPLOYED RETIREES
BY SUBJECT/POSITION

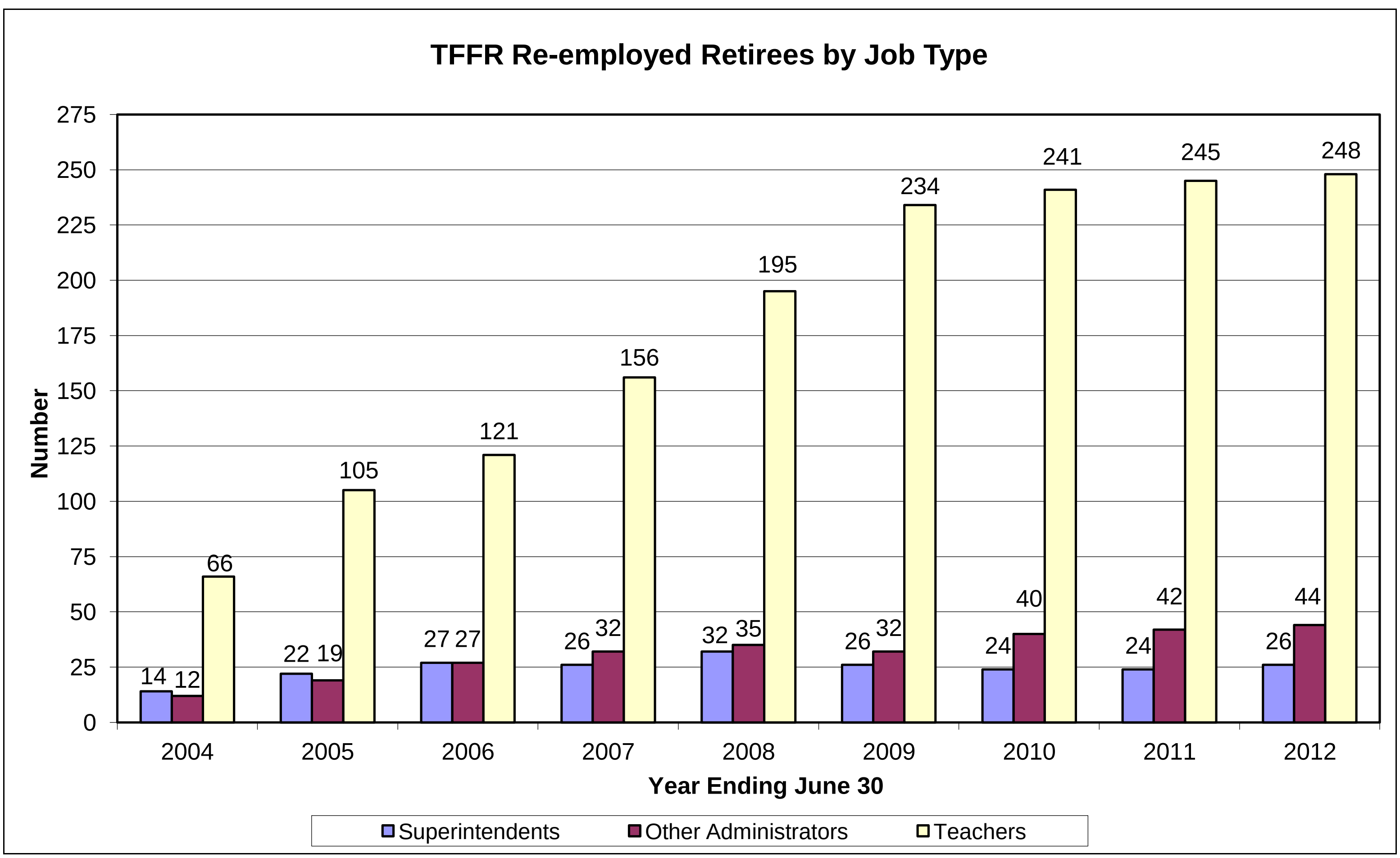


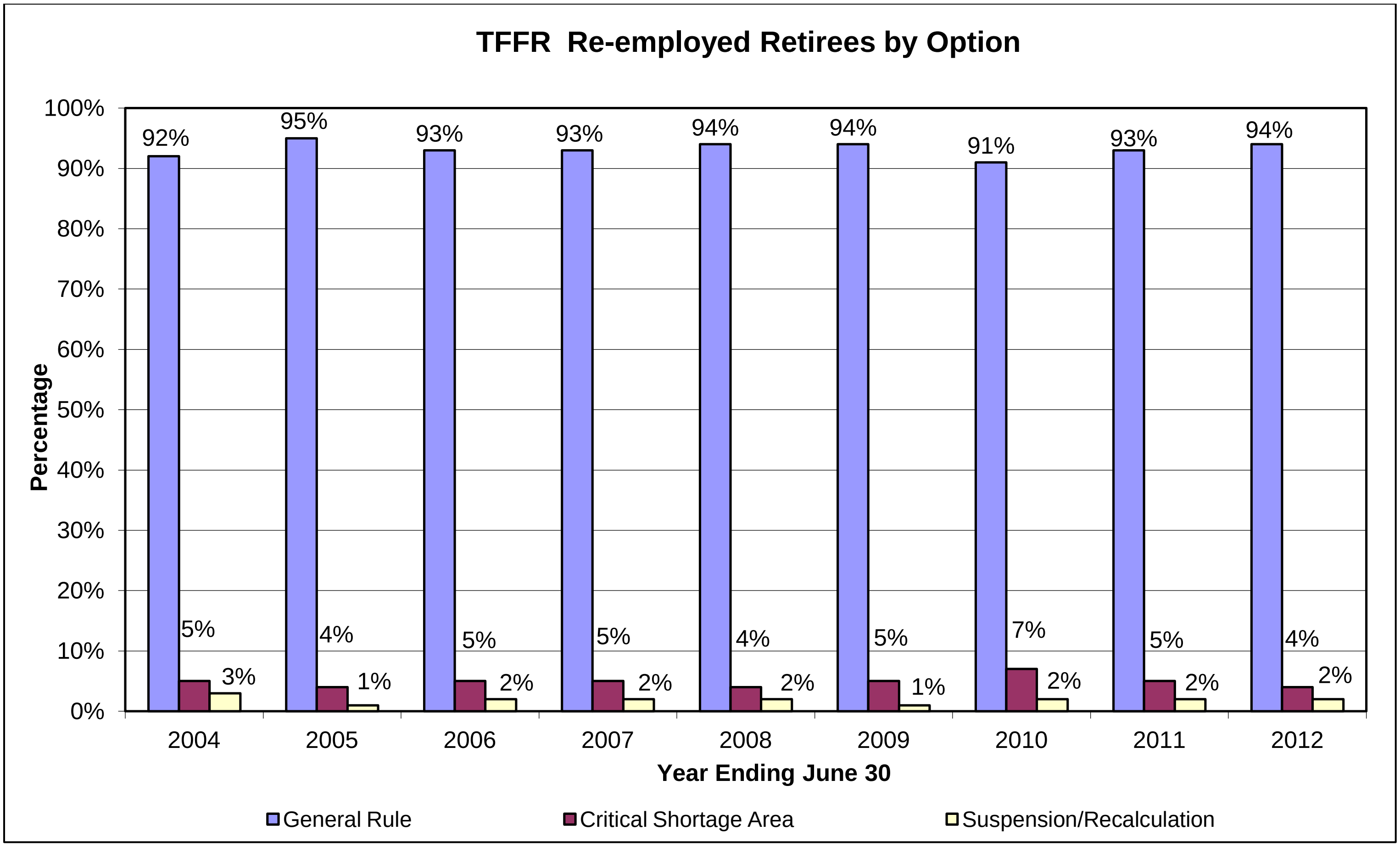
Subject or Position	Re-employed Retirees Number	Percent
Art	4	1
Business	7	2
Counseling	16	5
Elementary Ed	21	7
English/Reading	16	5
Extra Curricular	20	6
FACS	4	1
Foreign Language	7	2
Health/Phy Ed	5	2
Library/Media	10	3
Math	13	4
Music	6	2
Science	21	7
Social Studies/History	6	2
*Special Ed/Title/LD/Speech	41	13
Summer School/Driver's Ed	17	5
Tech Coordination	5	2
Tech Ed	8	2
Voc Ed	2	1
Other Teachers	19	6
Total Retired Teachers	248	78
Superintendent	26	8
Principal/Asst Supt	15	5
Director/Coordinator	29	9
Total Retired Admin	70	22
Total Re-Employed Retirees	**318**	**100%**

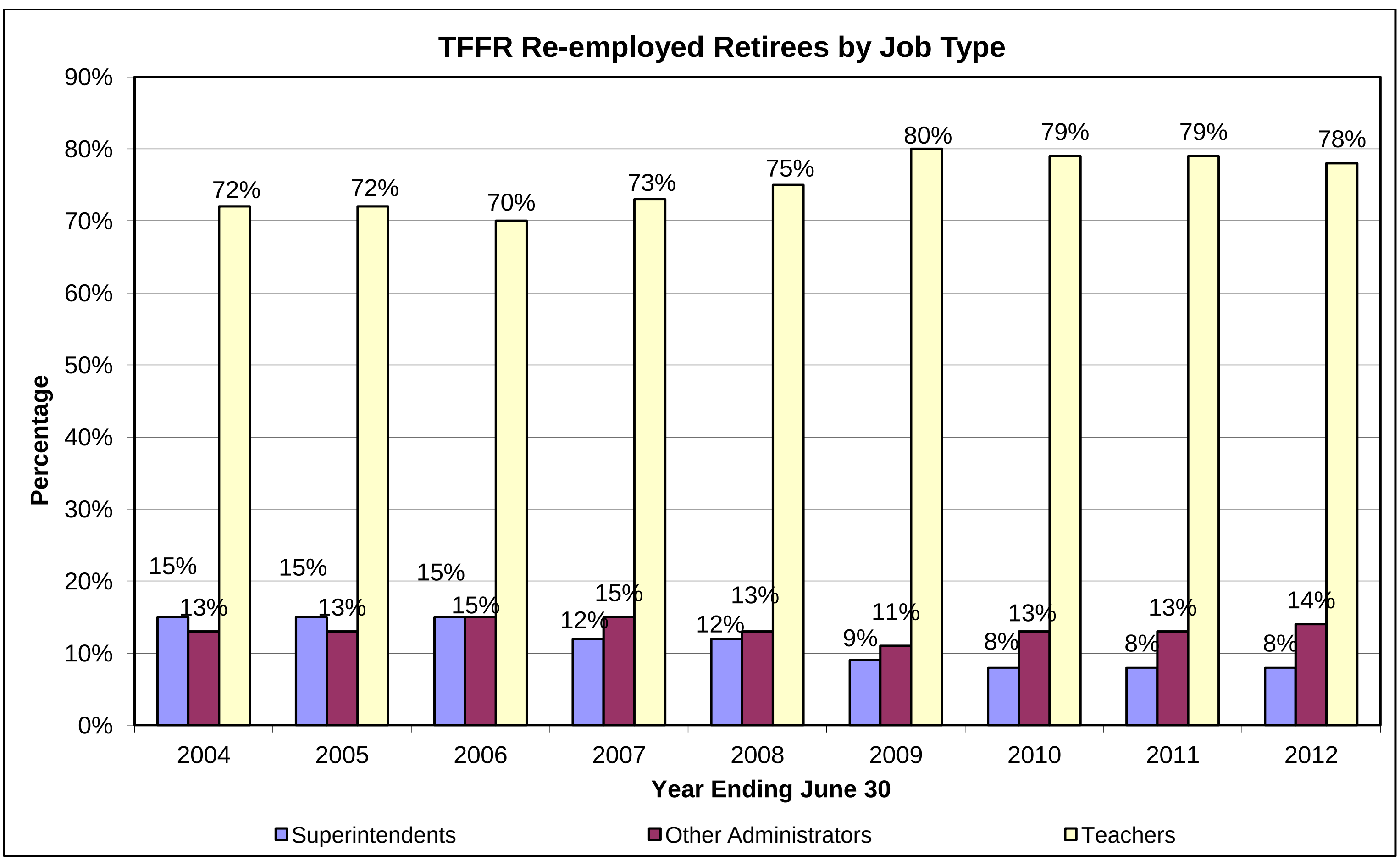
(4 teaching in 2 school districts)

*Special Ed:	
ESL	1
LD	3
Speech Path/Ther	7
Spec Ed	13
Title	15
Hearing Impair	1
Vision Impair	1


TFFR Re-employed Retirees by Option
Number
Year Ending June 30
2004 2005 2006 2007 2008 2009 2010 2011 2012
84 5 3
138 6 2
163 9 3
199 11 4
246 11 5
273 15 4
278 20 7
290 15 6
298 13 7
General Rule
Critical Shortage Area
Suspension/Recalculation


TFFR Re-employed Retirees by Job Type
Number
Year Ending June 30
2004 2005 2006 2007 2008 2009 2010 2011 2012
14 12 66
22 19 105
27 27 121
26 32 156
32 35 195
26 32 234
24 40 241
24 42 245
26 44 248
Superintendents
Other Administrators
Teachers


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


TFFR Re-employed Retirees by Job Type
Percentage
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%
2004
2005
2006
2007
2008
2009
2010
2011
2012
Year Ending June 30
Superintendents
Other Administrators
Teachers

TFFR Retirees Employed by Participating Employers

2011-2012

School Districts	#
Adams	
Alexander	4
Anamoose	
Apple Creek Elementary	
Ashley	
Bakker Elementary	
Barnes County North	1
Beach	
Belcourt	2
Belfield	4
Beulah	
Billings County School	3
Bismarck	12
Bottineau	4
Bowbells	1
Bowman	3
Burke Central	4
Carrington	1
Cavalier	6
Center-Stanton	
Central Cass	
Central Elementary	1
Central Valley	3
Dakota Prairie	1
Devils Lake	2
Dickinson	5
Divide County	1
Drake	2
Drayton	7
Dunseith	
Earl Elementary	
Edgeley	
Edmore	
Eight Mile	1
Elgin/New Leipzig	1
Ellendale	
Emerado Elementary	
Enderlin Area School	2
Fairmount	1
Fargo	18
Fessenden-Bowdon	1
Finley-Sharon	2
Flasher	
Fordville Lankin	
Fort Ransom Elementary	
Fort Totten	6
Fort Yates	1
Gackle-Streeter	
Garrison	

School Districts	#
Glen Ullin	1
Glenburn	
Goodrich	3
Grafton	2
Grand Forks	17
Grenora	1
Griggs County Central	4
Halliday	3
Hankinson	
Harvey	3
Hatton Eielson	2
Hazelton-Moffit	
Hazen	2
Hebron	
Hettinger	1
Hillsboro	1
Hope	
Horse Creek Elementary	
Jamestown	2
Kenmare	
Kensal	1
Kidder County School Dist.	2
Killdeer	2
Kindred	
Kulm	1
Lakota	
LaMoure	
Langdon	3
Larimore	2
Leeds	1
Lewis and Clark	1
Lidgerwood	
Linton	
Lisbon	2
Litchville-Marion	
Little Heart Elementary	
Lone Tree Elementary	
Maddock	1
Mandan	5
Mandaree	
Manning Elementary	
Manvel Elementary	2
Maple Valley	5
Mapleton Elementary	
Marmarth Elementary	1
Max	1
Mayville-Portland CG	1
McClusky	3
McKenzie County School Dist	2
Medina	1

School Districts	#
Menoken Elementary	
Midkota	2
Midway	1
Milnor	
Minnewauken	2
Minot	
Minto	5
Mohall-Lansford-Sherwood	1
Montefiore	
Montpelier	
Mott-Regent	1
Mt. Pleasant	3
Munich	4
Napoleon	3
Naughton Rural	1
Nedrose	
Nesson	1
New Elementary	1
New England	3
New Rockford-Sheyenne	1
New Salem-Almont	1
New Town	1
Newburg United	
North Border School	4
North Central of Towner-RL	1
North Sargent	
North Star-Cando	3
Northern Cass	
Northwood	5
Oakes	1
Oberon Elementary	1
Page	
Park River	6
Parshall	2
Pingree-Buchanan	
Pleasant Valley Elementary	1
Powers Lake	1
Richardton-Taylor	
Richland	
Robinson	
Rolette	4
Roosevelt-Carson	
Rugby	2
Sargent Central	
Sawyer	
Scranton	
Selfridge	2
Solen-Canonball	1
South Heart	
South Prairie Elementary	

School Districts (cont)	#
St. John's School	5
St. Thomas	6
Stanley	3
Starkweather	2
Sterling Elementary	3
Strasburg	2
Surrey	1
Sweet Briar Elementary	1
TGU	1
Thompson	2
Tioga	1
Turtle Lake-Mercer	1
Twin Buttes Elementary	1
Underwood	1
United	
Valley-Edinburg	5
Valley City	
Velva	2
Wahpeton	2
Warwick	2
Washburn	1
West Fargo	1
Westhope	2
White Shield	2
Williston	1
Wing	
Wishek	1
Wolford	2
Wyndmere	1
Yellowstone	
Zeeland	

County Superintendents	
Logan County	
McHenry County	1
McKenzie County	
Morton County	
Nelson County	
Rolette County	1
Slope County	
Ward County	

Special Education Units	
Burleigh County Special Ed	1
East Central Special Ed	
GST Educational	3
James River Special Ed	
Lake Region Special Ed	1
Lonetree Special Ed	
Northern Plains Special Ed	3
Oliver-Mercer Special Ed	
Peace Garden Special Ed	1
Pembina Special Ed	
Rural Cass County Special Ed	1
Sheyenne Valley Special Ed	
Souris Valley Special Ed	
South Central Prairie Sp Ed	1
South Valley Special Ed	
Southwest Special Ed	
Upper Valley Special Ed	2
West River Student Services	
Wil-Mac Special Ed	3

Vocational Centers	
N Central Area Career & Tech	
N Valley Career & Tech Ctr	1
Roughrider Area Career/Tech	
SE Region Career & Tech Ctr	
Sheyenne Valley Area Voc Ctr	

State Agencies & Institutions	
ND Center for Distance Ed	2
ND School for the Blind	3
ND School for the Deaf	
ND Youth Correctional Center	

Colleges/Universities	
Bismarck State College	

Other	
Fargo Catholic Schools	
Great NW Education Co-op	2
ND High School Act. Assn.	
ND Education Assn.	
Rough Rider Ed Services	

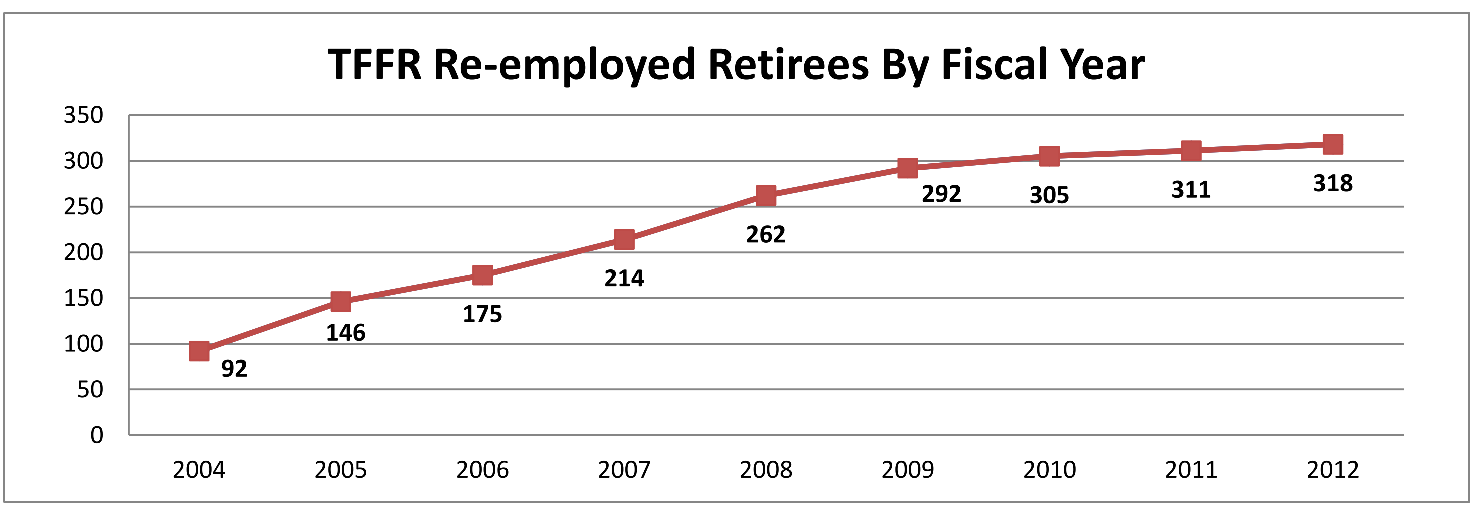
Total TFFR Participating Employers **222**

132 Employers Employing TFFR Retirees

318 TFFR Retirees Employed (4 retirees working in 2 school districts)

TFFR RE-EMPLOYED RETIREE STATISTICS

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Number of Re-employed Retirees	92	146	175	214	262	292	305	311	318
Average Age	60	60	60	59	60	60	61	61	62
Average Salary	$22,00	$20,00	$21,000	$22,00	$22,151	$21,00	$23,400	$24,700	$24,500
General Rule	84	138	163	199	246	273	278	290	298
Critical Shortage	5	6	9	11	11	15	20	15	13
Suspend & Recalc	3	2	3	4	5	4	7	6	7
Foundation Donation	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Superintendents	14	22	27	26	32	26	24	24	26
Other Administrators	12	19	27	32	35	32	40	42	44
Teachers	66	105	121	156	195	234	241	245	248
Number of Employers			101	117	135	132	132	127	132
Critical Shortage Areas:									
Science	3	3	4	1	4	3	5	4	3
Math	1	0	0	2	2	5	5	3	1
Music	0	0	2	1	1	1	1	1	0
LD	0	0	0	0	0	1	2	1	2
Speech Therapist	0	0	0	0	0	0	0	0	0
Speech	1	1	0	0	0	0	0	0	0
Voc Ed (School/Work)	0	0	0	0	0	0	0	0	0
English	0	1	1	2	3	3	3	1	2
Language Arts	0	0	0	0	0	0	0	0	0
Industrial Arts	0	1	0	1	0	0	0	0	0
Foreign Language	0	0	1	0	0	1	2	2	2
Superintendent	0	0	1	1	1	0	0	0	1
Counselor	0	0	0	1	0	1	1	1	0
Social Studies	0	0	0	1	0	0	0	0	0
Consumer Science	0	0	0	1	0	0	0	0	0
Psychologist	0	0	0	0	0	0	1	1	1
Tech Ed	0	0	0	0	0	0	0	1	1



TFFR Legislative Update
January 18, 2013

BILL NO.	DESCRIPTION	SPONSOR	POSITION
SB 2061	TFFR Administrative Changes	TFFR Board	Support

SB 2061 includes technical and administrative changes to the TFFR program. The bill updates definitions, incorporates federal tax law changes, and adds a savings clause. The proposed changes have no financial impact on the Fund. The bill was assigned to the Senate Government and Veteran Affairs (GVA) Committee.

Committee hearing was held on January 17. Fay provided testimony (enclosed). There were few questions about the bill.

HB 1022	RIO Budget	Governor's Office	Support

HB 1022 includes the budget authority and continuing appropriations for the Retirement and Investment Office (RIO) administrative expenses for operating the retirement program for the TFFR Board and the investment program for the SIB. HB 1022 also contains budget for PERS. The bill was assigned to the House Appropriations Committee – Government Operations Division.

Committee hearing was held on January 16. Fay, Connie, and Darren were present to provide testimony and respond to questions on TFFR, SIB, and RIO budget issues. There will be another budget review meeting on Wednesday, January 23 at 2:30 pm in the Medora Room.

HB 1203	Discontinue member contributions on re-employed retirees	Rep. Drovdal	??????

HB 1203 would remove the requirement for TFFR member contributions to be paid on salary earned by re-employed retirees effective 7/1/13. Employer contributions would continue to be paid.

This bill was assigned to the House Government and Veterans Affairs Committee (GVA). Hearing is scheduled for Friday, January 25 at 8 am in the Ft. Union Room.

HB 1230	Reduce contributions at 100% Funding	Rep. Louser	Support

HB 1230 would maintain the TFFR member and employer contribution rates approved by the 2011 Legislature until the Fund reaches 100% funded ratio (not 90%) at which time contribution rates would be reduced to 7.75% for members and 7.75% for employers.

This bill was assigned to the House GVA Committee. Hearing is also scheduled for Friday, January 25 at 8 am in the Ft. Union Room.

OTHER BILLS OF INTEREST:

HB 1249 Increase SIB membership

HB 1249 would add two legislators to the SIB.

This bill was assigned to the House GVA Committee. A hearing is scheduled for Thursday, January 24 at 8 am in the Ft. Union Room.

HB 1304 Divestiture of state investment funds

HB 1304 would require certain restrictions, monitoring and reporting of "scrutinized companies" relating to the Iran Sanctions Act of 1996, within state investment board portfolios.

This bill was also assigned to the House GVA Committee. A hearing has not yet been scheduled.

SB 2150 Board member compensation

SB 2150 would restrict the per diem compensation for board members to that of legislative pay, and disallow a governmental employee from receiving both compensation for the governmental employment and per diem compensation as a board member, for the same day of service.

The bill was assigned to the Senate Political Subdivisions Committee. A hearing has been scheduled for Thursday, January 24, at 10:45 am in the Red River Room.

HCR 3003 Public Employees Retirement Stabilization Fund

HCR 3003 would add two new sections to the Constitution. The resolution would limit the growth of the foundation aid stabilization fund and transfer the excess revenues to a public employees retirement stabilization fund. If approved, HCR 3003 would be voted on in the 2014 general election.

This bill was assigned to the Judiciary Committee. A hearing has not yet been scheduled.

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TFFR website: http://www.nd.gov/rio/TFFR/Legislation/default_2013.htm

ND Legislative website: http://www.legis.nd.gov/assembly/63-2013/regular

NDTFFR Funding Update

The Issue

Like other investors around the country, NDTFFR experienced significant investment losses as a result of the 2008-09 global recession. A major loss of assets coupled with increasing liabilities (longer life expectancy, salary increases, and benefit changes) had a substantial impact on TFFR's long term funding outlook. Prior to the market meltdown, TFFR's funded level was about 80%. As of the July 1, 2012 actuarial valuation report, TFFR's funded level was 61%. The unprecedented decline in the global markets and the accompanying recession, along with the projected gradual economic recovery, accelerated the need for TFFR to make changes.

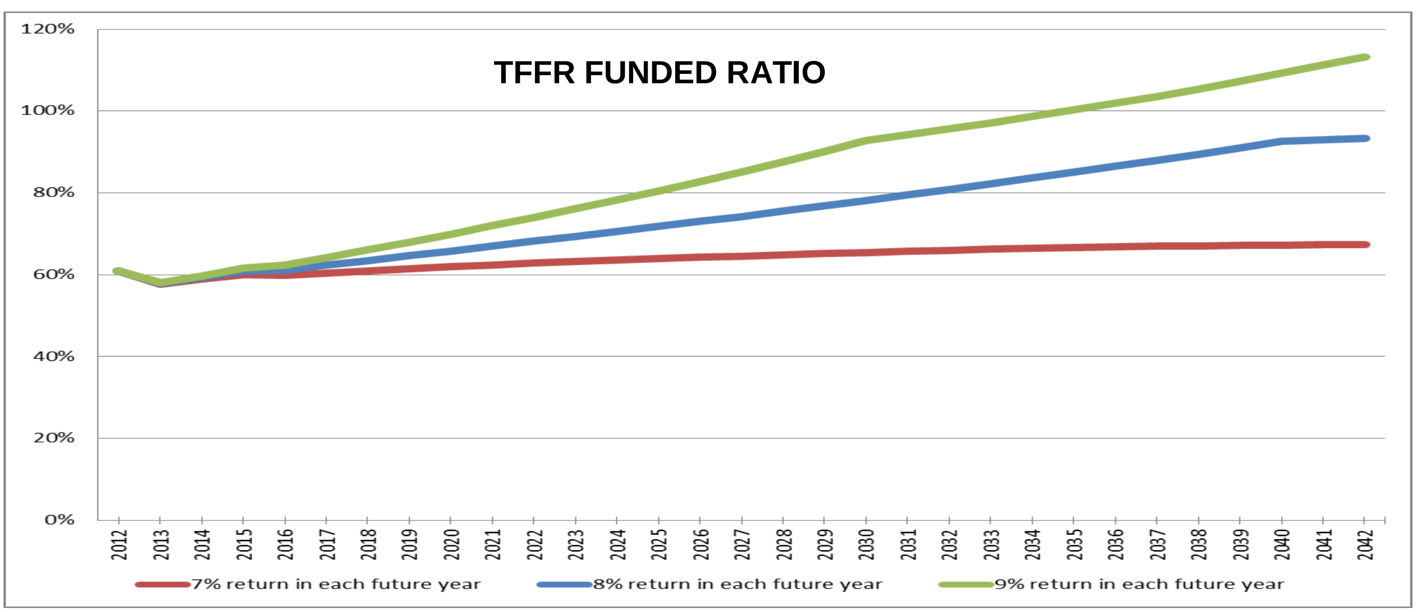
TFFR has the funds needed to pay current pension benefits when they are due. However, looking long term, there was a projected shortfall in the funding of TFFR benefits. TFFR's challenge was to stop the downward trend, stabilize funding, and improve funding levels.

The Plan

During 2009-10, the TFFR Board of Trustees, with input from member and employer interest group representatives, developed a legislative proposal to improve TFFR's funded status. The plan included member and employer contribution increases, and benefit changes for certain non grandfathered and new members of the plan. (See TFFR benefit summary on reverse page.) The plan was studied by the interim Legislative Employee Benefits Programs Committee during the 2010 interim, and given a favorable recommendation. The plan (HB 1134) was then carefully considered and approved by the 2011 Legislature, and signed by the Governor.

The Result

TFFR funding levels are expected to improve in the future. However, until all of the 2008-09 investment losses are recognized in actuarial valuations over the 5-year smoothing period, and until the increased member and employer contributions flow into the plan beginning 7/1/12, funding progress will not be reflected in the valuation reports. As you can see from the exhibit below, with 2011 legislative changes, plus 8% investment returns (middle line) in the future, TFFR's funded level is projected to reach over 90% in about 30 years. If returns are greater (top line) or less (bottom line) than 8%, funding progress will take more or less time. Due to legislative action taken in 2011, TFFR's long term funding outlook is positive, and benefits are secure for past, present, and future ND educators.



TFFR Plan Summary

	Tier 1 Grandfathered	Tier 1 Non-Grandfathered	Tier 2 All
Employee Contribution Rates (active and re-employed retirees)			
7/1/10 - 6/30/12	7.75%	7.75%	7.75%
7/1/12 - 6/30/14	9.75%	9.75%	9.75%
*7/1/14 ongoing	11.75%	11.75%	11.75%
Employer Contribution Rates			
7/1/10 - 6/30/12	8.75%	8.75%	8.75%
7/1/12 - 6/30/14	10.75%	10.75%	10.75%
*7/1/14 ongoing	12.75%	12.75%	12.75%
Vesting Period	3 yrs	3 yrs	5 yrs
Unreduced Retirement Eligibility			
Minimum Age	No	60	60
AND Rule	Rule 85	Rule 90	Rule 90
OR Normal Retirement Age	65	65	65
Reduced Retirement Eligibility			
Minimum Age	55	55	55
Reduction Factor	6%	8%	8%
Retirement Formula Multiplier	2%	2%	2%
X Final Average Salary	3 yr FAS	3 yr FAS	5 yr FAS
X Service Credit	Total years	Total years	Total years
Disability Retirement	Yes	Yes	Yes
Retirement Formula Multiplier (2%) X Final Average Salary (FAS) X Total Service Credit			
Death/Survivor Benefits	Yes	Yes	Yes
Refund of account value or Life Annuity to survivor based on member's vesting status.			

Tier 1 *is a member who has service credit in the TFFR plan prior to 7/1/08.*

- ***Tier 1 Grandfathered*** *is a member, who as of 6/30/13, is less than 10 years away from retirement eligibility. Grandfathered member must be vested, and either age 55 or have a combined total of service credit and age which equals or exceeds 65 on 6/30/13.*
- ***Tier 1 Non Grandfathered*** *is a member, who as of 6/30/13, is more than 10 years away from retirement eligibility. Nongrandfathered member is less than age 55 and has a combined total of service credit and age which is less than 65 on 6/30/13.*

Tier 2 *is a member who began participation in the TFFR plan on 7/1/08 or after.*

**Contribution rates are in effect until TFFR reaches 90% funded level, then rates reduce to 7.75% each.*

ND Teachers' Fund for Retirement, P.O. Box 7100, Bismarck, ND 58507-7100
Email: rio@nd.gov   www.nd.gov/rio   701.328.9895 or toll free 800.952.2970 ***12/2012***

SB 2061

SENATE GOVERNMENT AND VETERANS AFFAIRS COMMITTEE
January 17, 2013

Fay Kopp, Interim Executive Director - Chief Retirement Officer
ND Retirement and Investment Office - ND Teachers' Fund for Retirement

SB 2061 was submitted by the TFFR Board. The bill makes a number of technical and administrative changes to the TFFR program. These changes are not expected to have an actuarial effect on the plan, and are not being submitted for funding improvement purposes.

In general, the bill updates certain definitions, and incorporates federal tax law changes to stay current with federal Internal Revenue Code (IRC) changes as they relate to qualified governmental plans. The proposed amendments are intended to prevent a change in the federal IRC from automatically triggering a change in ND law. The bill also adds a savings clause for plan modifications to ensure compliance with federal statutes or rules. (Note: On May 30, 2012, the IRS made a favorable determination on the NDTFFR, subject to adoption of certain proposed amendments which are included in this bill draft.)

Section 1. NDCC 15-39.1-04 (1) Definitions: Actuarial equivalent.

Updates the definition of "actuarial equivalent" to more clearly describe its use in TFFR pension calculations. Actuarial equivalent is an amount calculated by the actuary (or based on actuarial calculations provided by the actuary) which is expected to be of equal actuarial value to the benefit otherwise payable when computed based on actuarial assumptions and methods approved by the Board.

Actuarial equivalence calculations are used to determine early retirement factors; optional payment factors for joint and survivor, term certain, level income, and partial lump sum options; maximum benefits payable under Internal Revenue Code; service purchase cost factors; qualified domestic relations order calculations; and other pension calculations as needed. Actuarial factors are described in ND Administrative Code, Section 82-05-04. Actuarial assumptions and methods are described in TFFR's annual actuarial valuation report which is available on the TFFR website.

Section 1. NDCC 15-39.1-04 (7) Definitions: Normal Retirement Age.

Adds the definition of "normal retirement age" recommended by outside tax counsel for IRS determination letter approval. As provided in subsection 1 of section 15-39.1-10, normal retirement age is the age at which a member becomes eligible for monthly lifetime normal unreduced retirement benefits, summarized as follows:

EFFECTIVE 7/1/13	Tier 1 Grandfathered	Tier 1 Nongrandfathered	Tier 2 All
Unreduced Retirement Eligibility			
Minimum Age	No	60	60
AND Rule	Rule 85	Rule 90	Rule 90
OR Normal Retirement Age	65	65	65

Section 1. NDCC 15-39.1-04 (10) Definitions: Eligible Retirement Salary

Updates reference to federal tax law changes in effect on August 1, 2013, to comply with IRS qualification requirements. Increases the maximum annual compensation limit that can be used in benefit calculations ($255,000 in 2013). No active TFFR member currently has a salary large enough to be affected by this limit.

Section 2. NDCC 15-39.1-10(4) Eligibility for benefits

Updates reference to federal tax law changes in effect on August 1, 2013, to comply with IRS qualification requirements. Provision relates to minimum distribution requirements requiring payment of retirement benefits at age 70.5 or termination of employment, whichever is later.

Section 3. NDCC 15-39.1-10.6 Benefit limitations

Updates reference to federal tax law changes in effect on August 1, 2013, to comply with IRS qualification requirements. Increases the Section 415 maximum annual benefit limit ($205,000 in 2013). To date, no retiree's benefit has exceeded the annual benefit limit.

Section 4. NDCC 15-39.1-11 Vesting of Rights

Changes to this section were recommended by outside tax counsel for IRS determination letter approval.

- Removes the requirement that member assessments be paid in order to be vested. There are other statutory provisions in place which require member contributions to be paid (NDCC 15-39.1-09). If member contributions are not withheld by the employer and paid to TFFR, the employer could incur a penalty, and DPI foundation payments could be withheld (NDCC 15-39.1-23).

- Current language provides that a Tier 1 member must earn 3 years of service credit and a Tier 2 member must earn 5 years of service credit in order to be vested. The new language clarifies that in addition to the service credit requirement, when a member reaches normal retirement age (as described in NDCC 15-39.1-04(7) and NDCC 15-39.1-10), the member has a vested right to a retirement annuity.

Section 5. NEW SECTION - Savings clause – Plan modifications.

Adds new section to NDCC which would allow the TFFR Board to adopt appropriate terminology to comply with federal statutes or rules, subject to approval of the interim legislative employee benefits programs committee, IF it is determined that TFFR plan provisions do not comply with applicable federal statutes or rules. Such plan modifications would be effective until the effective date of any measure enacted by the legislative assembly which would provide the necessary amendments to ensure compliance with the federal statutes or rules.

SUMMARY

SB 2061 includes various technical and administrative changes to the TFFR program. Based on actuarial analysis from TFFR's actuarial consultant in a letter dated October 15, 2012, these changes are not expected to impact the financial position of the fund.

The interim Legislative Employee Benefits Programs Committee (LEBPC) voted unanimously to give this bill a favorable recommendation. The TFFR Board respectfully requests that your Committee give a "do pass" recommendation to this bill.

I would be happy to respond to your questions. Thank you.

Sixty-third
Legislative Assembly
of North Dakota

SENATE BILL NO. 2061

Introduced by

Government and Veterans Affairs Committee

(At the request of the Teachers' Fund for Retirement)

A BILL for an Act to create and enact a new section to chapter 15-39.1 of the North Dakota Century Code, relating to plan modifications to the teachers' fund for retirement required to maintain compliance with federal statutes or rules; and to amend and reenact section 15-39.1-04, subsection 4 of section 15-39.1-10, and sections 15-39.1-10.6 and 15-39.1-11 of the North Dakota Century Code, relating to the definition of normal retirement age and revising the definitions of actuarial equivalent and salary, incorporation of federal law changes, and modification of vesting of rights provisions under the teachers' fund for retirement.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 15-39.1-04 of the North Dakota Century Code is amended and reenacted as follows:

15-39.1-04. Definitions.

For purposes of this chapter, unless the context or subject matter otherwise requires:

1. "Actuarial equivalent" means the ~~annual~~ amount ~~determined by calculations based on mortality tables, purchasable with a given amount at a stated age~~calculated to be of equal actuarial value to the benefit otherwise payable when computed on the basis of actuarial assumptions and methods adopted by the board.
2. "Beneficiary" means a person, estate, trust, or organization designated in writing by a participating member to receive benefits provided by this plan, in receipt of benefits, or otherwise provided under section 15-39.1-17.
3. "Board" means the board of trustees of the teachers' fund for retirement.
4. "Contract" means a written agreement with a school board or other governing body of a school district or special education unit of this state or a letter of appointment by a state institution, state agency, or other employer participating in the fund.
5. "Fund" means the teachers' fund for retirement.

6. "Interest" as applied to member assessments is an annual rate of six percent compounded monthly and as applied to the repurchase of credit for withdrawn years is six percent compounded annually.

7. "Normal retirement age" means the age at which a member becomes eligible for monthly lifetime normal unreduced retirement benefits as provided in subsection 1 of section 15-39.1-10.

8. "Retirement" means cessation of covered employment and acceptance of a benefit under former chapter 15-39, or chapter 15-39.1 or 15-39.2.

~~8.~~9. "Retirement annuity" means the payments made by the fund to a member after retirement, these payments beginning on the first or fifteenth day of the month following eligibility for a benefit.

~~9.~~10. "Salary" means a member's earnings in eligible employment under this chapter for teaching, supervisory, administrative, and extracurricular services during a ~~school~~plan year reported as salary on the member's federal income tax withholding statements plus any salary reduction or salary deferral amounts under 26 U.S.C. 125, 132(f), 401(k), 403(b), 414(h), or 457 in effect on August 1, ~~2011~~2013. "Salary" includes amounts paid to members for performance of duties, unless amounts are conditioned on or made in anticipation of an individual member's retirement or termination. The annual salary of each member taken into account in determining benefit accruals and contributions may not exceed the annual compensation limits established under 26 U.S.C. 401(a)(17)(B) in effect on August 1, ~~2011~~2013, as adjusted for increases in the cost of living in accordance with 26 U.S.C. 401(a)(17)(B) in effect on August 1, ~~2011~~2013. A salary maximum is not applicable to members whose participation began before July 1, 1996. "Salary" does not include:

a. Fringe benefits or side, nonwage, benefits that accompany or are in addition to a member's employment, including insurance programs, annuities, transportation allowances, housing allowances, meals, lodging, or expense allowances, or other benefits provided by a member's employer.

b. Insurance programs, including medical, dental, vision, disability, life, long-term care, workforce safety and insurance, or other insurance premiums or benefits.

c. Payments for unused sick leave, personal leave, vacation leave, or other unused leave.

d. Early retirement incentive pay, severance pay, or other payments conditioned on or made in anticipation of retirement or termination.

e. Teacher's aide pay, referee pay, busdriver pay, or janitorial pay.

f. Amounts received by a member in lieu of previously employer-provided benefits or payments that are made on an individual selection basis.

g. Signing bonuses as defined under section 15.1-09-33.1.

h. Other benefits or payments not defined in this section which the board determines to be ineligible teachers' fund for retirement salary.

~~10.~~11. "State institution" includes North Dakota vision services - school for the blind, the school for the deaf, and the North Dakota youth correctional center.

~~11.~~12. "Teacher" means:

a. All persons licensed by the education standards and practices board who are contractually employed in teaching, supervisory, administrative, or extracurricular services by a state institution, multidistrict special education unit, area career and technology center, regional education association, school board, or other governing body of a school district of this state, including superintendents, assistant superintendents, business managers, principals, assistant principals, and special teachers. For purposes of this subdivision, "teacher" includes persons contractually employed by one of the above employers to provide teaching, supervisory, administrative, or extracurricular services to a separate state institution, state agency, multidistrict special education unit, area career and technology center, regional education association, school board, or other governing body of a school district of this state under a third-party contract.

b. The superintendent of public instruction, assistant superintendents of public instruction, county superintendents, assistant superintendents, supervisors of instruction, the professional staff of the department of career and technical education, the professional staff of the center for distance education, the executive director and professional staff of the North Dakota education association who are members of the fund on July 1, 1995, the professional staff of an interim school district, and the professional staff of the North Dakota high school activities association who are members of the fund on July 1, 1995.

c. The executive director and professional staff of the North Dakota council of school administrators who are members of the fund on July 1, 1995, and licensed staff of teachers centers, but only if the person was previously a member of and has credits in the fund.

d. Employees of institutions under the control and administration of the state board of higher education who are members of the fund on July 16, 1989.

~~12.~~13. "Tier one grandfathered member" for purposes of sections 15-39.1-10 and 15-39.1-12 means a tier one member who, as of June 30, 2013, is vested as a tier one member in accordance with section 15-39.1-11; and

a. Is at least fifty-five years of age; or

b. Has a combined total of years of service credit in the plan and years of age which equals or exceeds sixty-five.

~~13.~~14. "Tier one member" means a teacher who has credit in the system on July 1, 2008, and has not taken a refund pursuant to section 15-39.1-20 after June 30, 2008.

~~14.~~15. "Tier one nongrandfathered member" for purposes of sections 15-39.1-10 and 15-39.1-12 means a tier one member who does not qualify as a tier one grandfathered member.

~~15.~~16. "Tier two member" means a teacher who is not a tier one member.

SECTION 2. AMENDMENT. Subsection 4 of section 15-39.1-10 of the North Dakota Century Code is amended and reenacted as follows:

4. Retirement benefits must begin no later than April first of the calendar year following the year the member attains age seventy and one-half or April first of the calendar year following the year the member terminates covered employment, whichever is later. Payments must be made over a period of time which does not exceed the life expectancy of the member or the joint life expectancy of the member and the beneficiary. Payment of minimum distributions must be made in accordance with section 401(a)(9) of the Internal Revenue Code in effect on August 1, ~~2011~~2013, and the regulations issued under that section, as applicable to governmental plans.

SECTION 3. AMENDMENT. Section 15-39.1-10.6 of the North Dakota Century Code is amended and reenacted as follows:

15-39.1-10.6. Benefit limitations.

Benefits with respect to a member participating under former chapter 15-39 or chapter 15-39.1 or 15-39.2 may not exceed the maximum benefits specified under section 415 of the Internal Revenue Code [26 U.S.C. 415] in effect on August 1, ~~2011~~2013, for governmental plans. The maximum dollar benefit applicable under section 415(b)(1)(A) of the Internal Revenue Code must reflect any increases in this amount provided under section 415(d) of the Internal Revenue Code subsequent to August 1, ~~2011~~2013. If a member's benefit is limited by these provisions at the time of retirement or termination of employment, or in any subsequent year, the benefit paid in any following calendar year may be increased to reflect all cumulative increases in the maximum dollar limit provided under section 415(d) of the Internal Revenue Code for years after the year employment terminated or payments commenced, but not to more than would have been payable in the absence of the limits under section 415 of the Internal Revenue Code. If an annuitant's benefit is increased by a plan amendment, after the commencement of payments, the member's benefit may not exceed the maximum dollar benefit under section 415(b)(1)(A) of the Internal Revenue Code, adjusted for the commencement age and form of payment, increased as provided by section 415(d) of the Internal Revenue Code. If this plan must be aggregated with another plan to determine the effect of section 415 of the Internal Revenue Code on a member's benefit, and if the benefit must be reduced to comply with section 415 of the Internal Revenue Code, then the reduction must be made pro rata between the two plans, in proportion to the member's service in each plan.

SECTION 4. AMENDMENT. Section 15-39.1-11 of the North Dakota Century Code is amended and reenacted as follows:

15-39.1-11. Vesting of rights.

When a tier one member has ~~paid assessments and~~ earned three years of service credit in this state, that member has a vested right to a retirement annuity but is not entitled to payments under this chapter until the member meets the requirements set forth in section 15-39.1-10 or 15-39.1-12. When a tier two member has ~~paid assessments and~~ earned five years of service credit in this state, that member has a vested right to a retirement annuity but is not entitled to payments under this chapter until the member meets the requirements set forth in section

15-39.1-10 or 15-39.1-12. When a tier one or tier two member has attained normal retirement age that member has a vested right to a retirement annuity under this chapter.

SECTION 5. A new section to chapter 15-39.1 of the North Dakota Century Code is created and enacted as follows:

Savings clause - Plan modifications.

If the board determines that any section of this chapter does not comply with applicable federal statutes or rules, the board shall adopt appropriate terminology with respect to that section as will comply with those federal statutes or rules, subject to the approval of the employee benefits programs committee. Any plan modifications made by the board pursuant to this section are effective until the effective date of any measure enacted by the legislative assembly providing the necessary amendments to this chapter to ensure compliance with the federal statutes or rules.

Sixty-third
Legislative Assembly
of North Dakota

HOUSE BILL NO. 1022

Introduced by

Appropriations Committee

(At the request of the Governor)

A BILL for an Act to provide an appropriation for defraying the expenses of various state retirement and investment agencies; and to provide various transfers.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys from special funds derived from income, to the retirement and investment agencies listed in this section for the purpose of defraying their expenses, for the biennium beginning July 1, 2013, and ending June 30, 2015, as follows:

Subdivision 1.

RETIREMENT AND INVESTMENT OFFICE

	Base Level	Adjustments or Enhancements	Appropriation
Salaries and wages	$3,203,114	$408,449	$3,611,563
Operating expenses	947,840	7,327	955,167
Contingencies	82,000	0	82,000
Total special funds	$4,232,954	$415,776	$4,648,730
Full-time equivalent positions	18.00	0.00	18.00

Subdivision 2.

PUBLIC EMPLOYEES RETIREMENT SYSTEM

	Base Level	Adjustments or Enhancements	Appropriation
Salaries and wages	$4,563,507	$643,102	$5,206,609
Operating expenses	2,054,383	204,511	2,258,894
Contingencies	250,000	0	250,000

	Base Level	Adjustments or Enhancements	Appropriation
Total special funds	$6,867,890	$847,613	$7,715,503
Full-time equivalent positions	33.00	0.00	33.00

Subdivision 3.

BILL TOTAL

	Base Level	Adjustments or Enhancements	Appropriation
Grand total special funds	$11,100,844	$1,263,389	$12,364,233
Full-time equivalent positions	51.00	0.00	51.00

SECTION 2. APPROPRIATION LINE ITEM TRANSFERS. Upon approval of the respective boards, the retirement and investment office and the public employees retirement system may transfer from their respective contingencies line items in subdivisions 1 and 2 of section 1 of this Act to all other line items. The agencies shall notify the office of management and budget of each transfer made pursuant to this section.

THE SEGAL COMPANY
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January 21, 2013

Via E-mail

Ms. Fay Kopp
Interim Executive Director
ND Retirement & Investment Office
P.O. Box 7100
Bismarck, ND 58507-7100

Re: Full Actuarial Analysis and Technical Comments on House Bill 1203

Dear Fay:

The following presents our analysis of the proposed changes found in House Bill 1203 (Bill 13.0312.01000) that would eliminate member contributions for re-employed retirees under the Teachers' Fund for Retirement (TFFR).

Summary

The contribution rates (percentage per annum of the teacher's salary) required for TFFR members are shown below:

Period	Member Rate
July 1, 2012 through June 30, 2014	9.75%
Beginning July 1, 2014	11.75%

Prior to July 1, 2012, re-employed retirees were not required to pay TFFR member contributions (or have member contributions paid on their behalf) as a condition of their re-employment. However, with the enactment of legislation approved in 2011 (HB 1134), effective July 1, 2012, member contributions are required on salary earned by re-employed retirees as shown in the table above, and re-employed retirees continue to receive their retirement benefits while employed. The proposed legislation would revert to prior law and eliminate the requirement that TFFR member contributions be paid on behalf of re-employed retirees who stay under the General Rule (GR) annual hour limit, or return full time in Critical Shortage Areas (CSA). However, participating employers would still be required to pay employer contributions for these re-employed retirees.

Actuarial Analysis

Using an estimated salary of $8,000,000 for the 2012-2013 fiscal year for approximately 310 re-employed retirees that fall under the GR and CSA, the impact of eliminating member contributions would be a reduction of approximately $780,000 in contributions to the system (based on the current 9.75% member rate), or 0.15% of total estimated fiscal 2013 payroll of $535,900,000. Beginning in fiscal 2015 and each year thereafter, the impact would be a reduction of approximately 0.18% of total pay in contributions to the system (based on the 11.75% member rate that will be effective July 1, 2014). For fiscal 2015, this equates to $1,002,000 based on estimated re-employed retiree salary of $8,528,000. The impact for each year will depend on the number of re-employed retirees that fall under the GR and CSA and their payroll. In addition, the impact on TFFR's unfunded liability would be the amount of contributions that would no longer be collected and there woud be a small negative impact on the funding ratio of the plan going forward.

Technical Comments

In 2011, HB 1134 was enacted with the intention of improving the funded position of the system. Eliminating the provision associated with collection of member contributions for re-employed retirees will mean that it will take longer for TFFR to achieve its funding goals.

Administrative Costs

This bill will require the Retirement and Investment Office to revise member and employer communications materials. In addition, there will be programming costs for TFFR and employers associated with modifying software to revert to pre- July 1, 2012 provisions.

General Comments

Calculations presented in this analysis were made using generally accepted actuarial practices and are based on demographic data as of July 1, 2012, asset returns through July 1, 2012, and use assumptions and methods in place for the July 1, 2012 valuation.

Please do not hesitate to contact us with any questions or comments.

Sincerely,

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

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

kn/ms/bmi

5316099v3/13475.003

Sixty-third
Legislative Assembly
of North Dakota

HOUSE BILL NO. 1203

Introduced by

Representatives Drovdal, Kempenich

Senator Bowman

A BILL for an Act to amend and reenact section 15-39.1-19.1 and subsection 2 of section 15-39.1-19.2 of the North Dakota Century Code, relating to discontinuance of member contributions for retired teachers returning to active service under the teachers' fund for retirement; to provide an effective date; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 15-39.1-19.1 of the North Dakota Century Code is amended and reenacted as follows:

15-39.1-19.1. Retired teachers return to active service - Annuities discontinued on resumption of teaching over annual hour limit.

1. a. Except as otherwise provided in section 15-39.1-19.2, a retired teacher who is receiving a retirement annuity under chapter 15-39, 15-39.1, or 15-39.2 may not return to covered employment until thirty calendar days have elapsed from the member's retirement date. A retired member may then return to covered employment under an annual hour limit and continue receiving a monthly retirement benefit. The annual hour limit is based on the length of the reemployed retiree's contract as follows:
   (1) Retiree reemployment of nine months or less, annual limit is seven hundred hours;
   (2) Retiree reemployment of ten months, annual limit is eight hundred hours;
   (3) Retiree reemployment of eleven months, annual limit is nine hundred hours; or
   (4) Retiree reemployment of twelve months, annual limit is one thousand hours.

b. Employment as a noncontracted substitute teacher does not apply to the annual hour limit. Professional development and extracurricular duties do not apply to the annual hour limit.

c. The retired member and the retired member's employer must notify the fund office in writing within thirty days of the retired member's return to covered employment.

d. A retired member who returns to teaching ~~shall~~is not required to pay the member contributions required by section 15-39.1-09 on the salary received by the retired member before reaching the annual hour limit. ~~The member contributions must be included in the retired member's account value and may not be refunded except as provided under subdivision a of subsection 2 of section 15-39.1-19.1 and section 15-39.1-17.~~

e. A participating employer who employs a retired member under this section shall pay the employer contributions required by section 15-39.1-09 on the salary of the retired member.

f. A retired teacher who returns to teaching and does not exceed the annual hour limit must be treated as retired for all other purposes under this chapter. A retired teacher may not earn any additional service during the period of reemployment. The retired teacher's benefits may not be adjusted to reflect changes in the retired teacher's age or final average monthly salary at the end of the period of reemployment, any optional form of payment elected under section 15-39.1-16 remains effective during and after the period of reemployment, and additional benefits normally available to an active member, such as disability benefits, are not available to a retired teacher reemployed under this section.

~~g.~~2. A retired teacher who returns to teaching and exceeds the annual hour limit must immediately notify the fund office in writing. Failure to notify the fund office results in the loss of one month's annuity benefit for the member. Member and employer contributions must be paid as required by section 15-39.1-09 on the salary received by the retired member after reaching the annual hour limit. The retired member's monthly benefit must be discontinued the first of the month following the date the member reaches the annual hour limit.

~~2.~~ Upon the retired teacher's subsequent retirement, the member's benefit must be resumed as follows:

a. If the teacher subsequently retires with less than two years of additional earned credited service, the teacher's contributions paid to the fund after the member's benefit was suspended must be refunded in accordance with section 15-39.1-20 and the teacher is entitled to receive the discontinued annuity, plus any postretirement benefit adjustments granted during the period of reemployment, the first day of the month following the teacher's re-retirement.

b. If the teacher subsequently retires with two or more but less than five years of additional earned credited service, the retired person's annuity is the greater of the sum of the discontinued annuity, plus an additional annuity computed according to this chapter based upon years of service and average salaries earned during the period of reemployment plus any postretirement benefit adjustments granted during the period of reemployment, or a recalculated annuity computed according to this chapter based on total years of service credit earned during both employment periods offset by the actuarial value of payments already received. The new annuity is payable the first day of the month following the member's re-retirement.

c. If the teacher subsequently retires with five or more years of additional earned credited service, the retired person's annuity is the greater of the sum of the discontinued annuity plus an additional annuity based upon years of service and average salaries earned during the period of reemployment plus any postretirement benefit adjustments granted during the period of reemployment, or a recalculated annuity based on all years of service computed under subsection 2 of section 15-39.1-10. The new annuity is payable the first day of the month following the member's re-retirement.

SECTION 2. AMENDMENT. Subsection 2 of section 15-39.1-19.2 of the North Dakota Century Code is amended and reenacted as follows:

2. A retired teacher who returns to teaching under this section ~~shall~~is not required to pay the member contributions required by section 15-39.1-09 on the salary of the retired member. ~~The member contributions must be included in the retired member's account~~

~~value and may not be refunded except as provided under section 15-39.1-17.~~ A retired teacher who returns to teaching under the provisions of this section must be treated as retired for all other purposes under this chapter. A retired teacher may not earn any additional service during the period of reemployment. The retired teacher's benefits may not be adjusted to reflect changes in the retired teacher's age or final average monthly salary at the end of the period of reemployment, any optional form of payment elected under section 15-39.1-16 remains effective during and after the period of reemployment, and additional benefits normally available to an active member, such as disability benefits, are not available to a retired teacher reemployed under this section.

SECTION 3. EFFECTIVE DATE. This Act becomes effective July 1, 2013.

SECTION 4. EMERGENCY. This Act is declared to be an emergency measure.

13.0043.02000

Sixty-third
Legislative Assembly
of North Dakota

HOUSE BILL NO. 1230

Introduced by

Representatives Louser, Boehning, Brabandt, Steiner

Senator Dever

A BILL for an Act to amend and reenact subsection 1 of section 15-39.1-09 of the North Dakota Century Code, relating to expiration of the increase in teachers' fund for retirement member and employer contributions.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Subsection 1 of section 15-39.1-09 of the North Dakota Century Code is amended and reenacted as follows:

1. Except as otherwise provided by law, every teacher is a member of the fund and must be assessed upon the teacher's salary seven and seventy-five hundredths percent per annum, which must be deducted, certified, and paid monthly to the fund by the disbursing official of the governmental body by which the teacher is employed. Member contributions increase to nine and seventy-five hundredths percent per annum beginning July 1, 2012, and increase thereafter to eleven and seventy-five hundredths percent per annum beginning July 1, 2014. Except as otherwise provided by law, every governmental body employing a teacher shall pay to the fund eight and seventy-five hundredths percent per annum of the salary of each teacher employed by it. Contributions to be paid by a governmental body employing a teacher increase to ten and seventy-five hundredths percent per annum beginning July 1, 2012, and increase thereafter to twelve and seventy-five hundredths percent per annum beginning July 1, 2014. The required amount of member and employer contributions must be reduced to seven and seventy-five hundredths percent per annum effective on the July first that follows the first valuation showing a ratio of the actuarial value of assets to the actuarial accrued liability of the teachers' fund for retirement that is equal to or greater than ~~ninety~~<u>one hundred</u> percent. The disbursing official of the

governmental body shall certify the governmental body payments and remit the payments monthly to the fund.

Sixty-third
Legislative Assembly
of North Dakota

HOUSE BILL NO. 1249

Introduced by

Representatives Kempenich, Belter, Delzer, Onstad, J. Kelsh

Senators Armstrong, Klein, Dotzenrod, O'Connell

A BILL for an Act to amend and reenact section 21-10-01 of the North Dakota Century Code, relating to the membership of the state investment board.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 21-10-01 of the North Dakota Century Code is amended and reenacted as follows:

21-10-01. State investment board - Membership - Term - Compensation - Advisory council.

1. The North Dakota state investment board consists of the governor, the state treasurer, <u>one member appointed by the majority leader of the senate, one member appointed by the majority leader of the house of representatives,</u> the commissioner of university and school lands, the director of workforce safety and insurance, the insurance commissioner, three members of the teachers' fund for retirement board or the board's designees who need not be members of the fund as selected by that board, two of the elected members of the public employees retirement system board as selected by that board, and one member of the public employees retirement system board as selected by that board. The director of workforce safety and insurance may appoint a designee, subject to approval by the workforce safety and insurance board of directors, to attend the meetings, participate, and vote when the director is unable to attend. The teachers' fund for retirement board may appoint an alternate designee with full voting privileges to attend meetings of the state investment board when a selected member is unable to attend. The public employees retirement system board may appoint an alternate designee with full voting privileges from the public employees retirement system board to attend meetings of the state investment board when a selected member is unable to attend. The members of the state investment board, except elected and appointed

officials and the director of workforce safety and insurance or the director's designee, are entitled to receive as compensation one hundred forty-eight dollars per day and necessary mileage and travel expenses as provided in sections 44-08-04 and 54-06-09 for attending meetings of the state investment board.

2. The state investment board may establish an advisory council composed of individuals who are experienced and knowledgeable in the field of investments. The state investment board shall determine the responsibilities of the advisory council. Members of the advisory council are entitled to receive the same compensation as provided the members of the advisory board of the Bank of North Dakota and necessary mileage and travel expenses as provided in sections 44-08-04 and 54-06-09.

Sixty-third
Legislative Assembly
of North Dakota

HOUSE BILL NO. 1304

Introduced by

Representatives Grande, Headland, Heller, Kasper, Nathe, Thoreson

Senators Burckhard, Dever, Kilzer, Laffen, O'Connell

A BILL for an Act to create and enact chapter 21-13 of the North Dakota Century Code, relating to the divestiture of state investment funds in certain companies liable to sanctions under the Iran Sanctions Act of 1996; and to provide an expiration date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Chapter 21-13 of the North Dakota Century Code is created and enacted as follows:

21-13-01. Definitions.

In this chapter unless the context otherwise requires:

1. "Active business operation" means any business operation that is not an inactive business operation.
2. "Company" means any organization that exists for a profit-making purpose.
3. "Direct holdings" means any publicly traded debt and equity security of a company which is held directly by the state investment board or held in an account or fund in which the state investment board owns all shares or interests.
4. "Inactive business operation" means the continued holding or renewal of rights to property previously operated for the purpose of generating revenues but not presently deployed for such a purpose.
5. "Indirect holdings" means any investment held in an account or fund, including a mutual fund, a real estate fund, a private equity fund, or a commingled fund, managed by any person not employed by the state investment board in which the public funds own shares or interests together with other investors not subject to this chapter.
6. "Scrutinized company" means any company engaging in a scrutinized business operation.

7. "Scrutinized business operation" means any active business operation subject or liable to sanctions under the Iran Sanctions Act of 1996, as amended, [Pub. L. 104-172], and which involve the maintenance of a company's existing assets or investments in Iran, or the deployment of new investments to Iran which meet or exceed the twenty million dollar threshold under the Iran Sanctions Act of 1996, as amended, [Pub. L. 104-172]. The term does not include the retail sale of gasoline and related products.

21-13-02. Identification and engagement of scrutinized company.

1. By November 1, 2013, the state investment board shall identify any scrutinized company in which it has any direct holdings. At the first meeting of the board after it has completed the scrutinized company identification, the board shall assemble a list that includes the name of each scrutinized company in which the board has direct holdings. The board shall update the list each quarter based on continuing information.
2. Within ninety days after adding a company to the list provided for under subsection 1, the state investment board shall send a written notice informing the company of its scrutinized company status and that it may become subject to divestment by the board. The notice must offer the company the opportunity to clarify any scrutinized business operation and must encourage the company to cease, within ninety days of the date of the notice, the scrutinized business operation or to convert the scrutinized operation to an inactive business operation to avoid divestment by the board.
3. The board shall remove a company from the scrutinized company list if, within ninety days following the first engagement by the state investment board with the company under subsection 2, the company publicly announces its commitment to adopting, publicizing, and implementing a formal plan to cease any scrutinized business operation within one year and to refrain from any such new business operation.

21-13-03. Divestment.

1. If the company continues to have any scrutinized business operation after ninety days following the first engagement of the state investment board with the company under section 21-13-02, the board shall sell, redeem, divest, or withdraw all publicly traded securities of the company according to the following schedule:

a. The board shall remove at least fifty percent of the holdings in the company from the board's assets under management within nine months after the initial appearance of the company on the scrutinized company list; and

b. The board shall remove one hundred percent of the holdings in the company from the board's assets under management within fifteen months after the initial appearance of the company on the scrutinized company list.

2. If a company that ceases a scrutinized business operation following engagement under section 21-13-02 but resumes any scrutinized business operation, subsection 1 immediately applies to the company and the state investment board shall send a written notice to the company indicating the company will be immediately included on the scrutinized company list.

21-13-04. Prohibition on new acquisitions.

Unless otherwise allowed under this chapter, the state investment board may not acquire securities of any company on the scrutinized company list which has any scrutinized business operation.

21-13-05. Relation to federal action.

If the federal government excludes a company from its sanctions relating to Iran, the state investment board may exempt the company from the divestment requirements and the investment prohibitions in this chapter.

21-13-06. Exemptions.

Sections 21-13-03 and 21-13-04 do not apply to:

1. An investment in a company that is primarily engaged in supplying goods or services intended to relieve human suffering in Iran.
2. An investment in a company that is primarily engaged in promoting health, education, or journalistic, religious, or welfare activities in Iran.
3. An investment in a United States company that is authorized by the federal government to have active business operations in Iran.

21-13-07. Excluded securities.

Sections 21-13-03 and 21-13-04 do not apply to indirect holdings in an actively managed investment fund. The state investment board shall forward the scrutinized company list to the manager of any investment fund that includes any company with a scrutinized business operation and request the manager to consider removing any such company from the fund or to create a similar actively managed fund with indirect holdings that does not include the company. If a manager creates a similar fund, the board shall replace any applicable investment with an investment in the similar fund consistent with prudent investing standards. For the purposes of this section, private equity funds are deemed to be actively managed investment funds.

21-13-08. Reporting.

By January fifteenth of each calendar year, the state investment board shall submit a report to the legislative management which includes:

1. A copy of the most recent scrutinized company list.
2. A summary of correspondence with each company engaged under section 21-13-02 by the board.
3. A list of any investment divested under section 21-13-03.
4. A list of any prohibited investment under section 21-13-04.
5. A description of any action with respect to excluded securities under section 21-13-07.

21-13-09. Exemption from other legal obligations.

The state investment board is exempt from any statutory or common-law obligation that conflicts with any action required under this chapter, including any good-faith determination regarding a company and any obligation regarding the choice of an asset manager or investment fund or other investment.

SECTION 2. EXPIRATION DATE. This Act is effective until the attorney general certifies to the legislative council that Iran has been removed from the United States department of state's list of countries that have been determined to repeatedly provide support for acts of international terrorism or that the president of the United States has determined and certified that state legislation similar to this section interferes with the conduct of United States foreign policy.

SB 2150

SENATE POLITICAL SUBDIVISIONS COMMITTEE
January 24, 2013

Fay Kopp, Interim Executive Director - Chief Retirement Officer
ND Retirement and Investment Office - ND Teachers' Fund for Retirement

On behalf of the TFFR Board, I appear today in a neutral position on SB 2150. The Board has not taken a position on the bill, but I would like to share some thoughts on the bill as it relates to TFFR.

TFFR BOARD BACKGROUND

The Teachers' Fund for Retirement (TFFR) Board of Trustees is responsible for administering the retirement plan for our state's public school educators. The seven-member TFFR Board is comprised of five members appointed by the Governor – including two active teachers, one active school administrator, and two retired members. The State Treasurer and the State Superintendent also serve on the TFFR Board by virtue of their office. The TFFR Board meets 6 – 10 times per year. The TFFR Board also selects three of its appointed members (one active teacher, one active administrator, and one retired member) to serve on the State Investment Board to represent TFFR.

Under current state statutes, the five appointed TFFR Board members (not including the State Treasurer and State Superintendent) are entitled to receive $148 per day as compensation for their board duties, plus necessary mileage and travel expenses for attending meetings of the board. This payment is in addition to their regular salary or pension benefit, and board members are not required to take vacation or other personal leave to attend meetings.

BILL IMPACT

To determine how the bill would impact the TFFR board, it may be helpful to clarify or define "governmental official or governmental employee." For example, does this bill pertain to active employees of school districts and other political subdivisions? In addition, what comprises "per diem compensation?" Does this mean the daily meeting payment only, or does it also include meals, hotel, and other travel expenses associated with attending meetings of the Board?

Based on our initial reading of the bill, it appears that SB 2150 could disallow the three active TFFR Board members from receiving both compensation from the school district for their regular job duties and per diem compensation from TFFR for their responsibilities as a TFFR trustee.

TFFR BOARD RESPONSIBILITIES

Under state law, retirement trustees are subject to an extensive and stringent set of fiduciary responsibilities. These responsibilities require fiduciaries to act solely in the best interests of the trust fund participants and beneficiaries as required by the exclusive benefit rule. Furthermore, fiduciaries must perform their duties in a prudent manner using independent judgment.

In addition, board members are held accountable by the participants in the trust fund which incentivizes board members, in their oversight role, to exercise good judgment and make sound decisions. This accountability factor is a valuable feature of the current board composition.

Managing a public pension plan in today's environment is complex business. State statutes outline the broad TFFR board responsibilities which include establishing plan goals and objectives, determining investment policy, hiring consultants, working with actuary to value plan liabilities and develop funding policy, submitting legislation, developing administrative rules, determining appropriate levels of service for members and employers, and generally overseeing the TFFR program. Competent and accountable board members are essential for the administration of an efficient and responsive retirement program.

Board members spend many hours outside of their regular employment (evenings, weekends, etc.) in board meeting preparation and education related activities in order to be well informed about pension and investment issues before making critical decisions on behalf of the Fund. These decisions have far reaching effects on active teachers and administrators, retirees, school districts, and the State.

Due to these important fiduciary and accountability requirements, it may be difficult to find highly qualified individuals willing to serve on the TFFR board, without some form of compensation for the additional responsibilities and the additional time spent in preparing for and attending Board meetings.

I would ask that the Committee recognize these key points, and consider allowing current TFFR statutory provisions relating to board member compensation to remain unchanged by the broad language of this bill.

Mr. Chairman and members of the Committee, this concludes my testimony. I would be happy to respond to the Committee's questions. Thank you.

Sixty-third
Legislative Assembly
of North Dakota

SENATE BILL NO. 2150

Introduced by

Senators Andrist, Sitte, Heckaman

Representatives K. Koppelman, Schatz, Thoreson

A BILL for an Act to create and enact a new section to chapter 54-06 of the North Dakota Century Code, relating to restriction of per diem compensation for members of boards and commissions established by statute; and to provide an effective date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new section to chapter 54-06 of the North Dakota Century Code is created and enacted as follows:

Board and commission member compensation limit.

Notwithstanding any other provision of law, administrative rule, or board or commission policy, per diem compensation for members of any board, commission, or other governing body established by statute may not exceed the compensation allowed for members of a committee of the legislative management for attendance at a day of session of a legislative management committee under section 54-35-10. An elected or appointed governmental official or governmental employee, while serving as a member of any board, commission, or other governing body established by statute, may not receive both compensation for the governmental office or employment and per diem compensation as a member of the board or commission, for the same day of service.

SECTION 2. EFFECTIVE DATE. This Act becomes effective January 1, 2014.

Sixty-third
Legislative Assembly
of North Dakota

HOUSE CONCURRENT RESOLUTION NO. 3003

Introduced by

Representatives Delzer, Monson, Streyle

Senators Lyson, Schaible

A concurrent resolution to create and enact two new sections to article X of the Constitution of North Dakota, relating to the foundation aid stabilization fund and the public employees retirement stabilization fund; and to amend and reenact section 24 of article X of the Constitution of North Dakota, relating to the foundation aid stabilization fund.

STATEMENT OF INTENT

This measure limits the growth of the foundation aid stabilization fund and directs that excess revenues be transferred to the public employees retirement stabilization fund.

BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF NORTH DAKOTA, THE SENATE CONCURRING THEREIN:

That the following proposed two new sections to article X and the amendment to section 24 of article X of the Constitution of North Dakota are agreed to and must be submitted to the qualified electors of North Dakota at the general election to be held in 2014, in accordance with section 16 of article IV of the Constitution of North Dakota.

SECTION 1. AMENDMENT. Section 24 of article X of the Constitution of North Dakota is amended and reenacted as follows:

Section 24. Twenty percent of the revenue from oil extraction taxes from taxable oil produced in this state must be allocated as follows:

1. Fifty percent must be deposited in the common schools trust fund.
2. Fifty percent must be deposited in the foundation aid stabilization fund ~~in the state treasury, the interest income of which must be transferred to the state general fund on July first of each year. The principal of the foundation aid stabilization fund may be expended only upon order of the governor, who may direct such a transfer only to offset foundation aid reductions that were made by executive action pursuant to law due to a revenue shortage~~.

SECTION 2. A new section to article X of the Constitution of North Dakota is created and enacted as follows:

1. The balance of moneys in the foundation aid stabilization fund may not exceed one hundred fifty million dollars.
2. Whenever the balance of moneys in the foundation aid stabilization fund reaches one hundred fifty million dollars, any excess moneys must be transferred to the public employees retirement stabilization fund and no additional moneys may be deposited in the foundation aid stabilization fund until the balance in the foundation aid stabilization fund falls below one hundred million dollars.
3. If the balance of moneys in the foundation aid stabilization fund falls below one hundred million dollars, the deposits required by section 24 of article X, together with any interest and income, must be retained in the foundation aid stabilization fund until the balance is again one hundred fifty million dollars.
4. Moneys in the foundation aid stabilization fund may be expended only by the governor and only for the purpose of offsetting reductions in state aid to elementary and secondary education which were made by executive action pursuant to law due to a revenue shortage.

SECTION 3. A new section to article X of the Constitution of North Dakota is created and enacted as follows:

1. The balance of moneys in the public employees retirement stabilization fund may not exceed four hundred fifty million dollars.
2. Whenever the balance of moneys in the public employees retirement stabilization fund reaches four hundred fifty million dollars, any excess moneys must be transferred to the state general fund and used first to provide state aid to elementary and secondary education.

2\. Moneys in the public employees retirement stabilization fund may be expended by the legislative assembly only for the purpose of addressing any unfunded retirement benefit obligations payable by the state to members of the public employees retirement system.

RECEIVED
NOV 27 2012
NDRIO

To: Fay Kopp
Deputy Executive Director
ND Retirement

From: [redacted]

I hope this letter finds you happy and content in your work. We are in hard times for pensions in the state and I'm sure this gives you some concern. We anticipate the time when we get back to normal.

By next June my wife and I will be eighty-four years old. I believe we are at 1.1% multiplier. We have been retired for twenty-seven years.

We have had, in this state, a two percent multiplier for the last eleven or twelve years, at least. I am wondering, as of July 2013, what percent of ND retired teachers are on a two percent multiplier. In the not to distant future most and then all retired teachers will be on the two percent multiplier. I am wondering how much pain there would be to place all retired teachers on a two percent multiplier.

The question is, if we can't afford to place all retired teachers on a two percent multiplier now, how can we afford the cost when it does take place in X number of years?

We have a lot of retired teachers hurting, especially those on a very low multiplier. The fact that Social Security has not given a cost of living for several years is compounding the problem.

I am requesting that the fund seriously consider placing all retired teachers on a two percent multiplier.

Let's all hope the investment climate will improve and get back to normal, but in the meantime there are things that must be done.

Thanks for your time. I appreciate it.

Sincerely,

[redacted]

November 30, 2012

[redacted]

SUBJECT: 2% Multiplier for All Retirees

Dear [redacted]

Thank you for your letter asking some questions relating to the TFFR plan, and possible retiree adjustments in the future. I have briefly summarized your questions, and provided responses as follows:

1) What percent of ND retired teachers are on a 2% multiplier?

   As of the 7/1/12 actuarial valuation, there were 7,151 retired members and beneficiaries receiving TFFR pension benefits. Of that total, 4,022 (or 56%) retired with the 2% multiplier, and 3,129 (or 44%) retired under a different formula. Ad hoc retiree benefit improvements were approved by the Legislature in 1983, 1985, 1987, 1989, 1991, 1993, 1997, 1999, and 2001, and a one- time payment in 2009.

2) How much would it cost to have all TFFR retirees under the 2% multiplier?

   An actuarial cost analysis has not been conducted recently, as TFFR is not in a financial position to be able to fund increased benefits. As you know, due to a decade of lower than expected investment performance, TFFR funding levels have declined from 100% in 2001 to about 60% in 2012. Therefore, the TFFR Board's main priority is to improve the funding of the plan, recognizing that all active and retired members will need to make sacrifices.

3) How can TFFR fund the 2% multiplier for future retirees, if it cannot afford to fund it for all current retirees?

   Active TFFR members and employers are paying increased costs to offset past investment losses and address the unfunded liability of the plan. Because of these increased contributions, it is expected that TFFR's funding level will begin to rise, and will return to an adequate level over the long term. This will ensure long term sustainability of the plan, and the ability to pay all promised benefits to both current retirees and future retirees. Please notice that since 1979, the contribution rates for active teachers and school districts/employers have increased, with significant increases scheduled in 2012 and 2014. Since the time you and your wife retired in 1986, contribution rates will have nearly doubled.

July 1	Member Rate	Employer Rate
1979	6.25%	6.25%
1989	6.75	6.75
1997	7.75	7.75
2008	7.75	8.25
2010	7.75	8.75
2012	9.75	10.75
2014	11.75	12.75

4) Will TFFR consider placing all retired teachers on a 2% multiplier?

The TFFR Board has finalized its 2013 legislative package which was studied by the Legislative Employee Benefits Programs Committee during the 2012 interim. TFFR's legislative proposal includes administrative and technical changes only, and does not include a provision to place all retired teachers on a 2% multiplier. I do not believe the Board will amend their 2013 legislative proposal at this time, however, I will share your request with the Board.

[redacted] please be assured the TFFR Board recognizes the plight of teachers who retired many years ago with lower salaries and a lower benefit formula. Retiree increases granted by the Legislature in the 1980s and 1990s took this into consideration. Unfortunately, the TFFR trust fund cannot afford to increase retiree benefit payments as it would negatively impact the fund. The Board's highest priority at this time is to ensure that adequate funds will be available to pay all promised benefits to current and future retirees.

Please feel free to give me a call if you would like to discuss. Thanks for your understanding.

Sincerely,

Fay Kopp
NDRIO Interim Executive Director
NDTFFR Chief Retirement Officer

/399
Enclosure

MEMORANDUM

TO: TFFR Board

FROM: Fay Kopp

DATE: January 17, 2013

SUBJ: Annual Pension Plan Comparisons
2011 Public Fund Survey

Enclosed is the Public Fund Survey (PFS) for FY 2011 (published November 2012) conducted by NASRA and NCTR. This survey provides information on key characteristics of most of the nation's largest public retirement systems. Keep in mind the survey does not include recent legislative changes made to benefit and contributions as many of the changes are being phased in over a number of years. It also does not include 2012 investment performance which will begin being reflected in next year's survey.

As I do each year, I will make a brief presentation at the meeting comparing NDTFFR to the 2011 survey.

Enclosure

Summary of Findings

Summary of Findings for FY 2011 *November 2012*

About the Public Fund Survey

The Public Fund Survey is an online compendium of key characteristics of most of the nation's largest public retirement systems. The Survey is sponsored by the National Association of State Retirement Administrators and the National Council on Teacher Retirement. Keith Brainard, NASRA research director, maintains the Survey.

A key objective of the Survey is to increase the transparency of the public pension community and understanding of public pension funding concepts by providing a factual and objective basis on which to discuss many issues related to retirement benefits for public employees.

Beginning with fiscal year 2001, the Survey contains data on public retirement systems that provide pension and other benefits for 13.1 million active (working) members and 7.5 million annuitants (those receiving a regular benefit, including retirees, disabilitants and beneficiaries). At the end of FY 11, systems in the Survey held assets of $2.64 trillion. The membership and assets of systems included in the Survey comprise approximately 85 percent of the entire state and local government retirement system community.

The primary source of Survey data is public retirement system annual financial reports. Data also is culled from actuarial valuations, benefits guides, system websites, and input from system representatives. The Survey is updated continuously as new information, particularly annual financial reports, becomes available. This report focuses on fiscal year 2011.

This summary describes changes in selected elements of the survey, including funding levels, membership, contribution rates, investment returns, and investment return assumptions.

Summary of Findings

Figure A plots the aggregate actuarial funding level among plans in the Survey since its inception in FY 2001. The funding level in FY 11 declined to 75.8 percent, down from 77.0 percent the prior year. The aggregate actuarial value of assets grew slightly, by 2.7 percent, from $2.59 trillion to $2.65 trillion. Most plans are nearing completion of recognizing investment losses of 2008-09. Those recognized losses are partially offset by asset gains since the market decline. The aggregate value of actuarial liabilities grew modestly, at 3.6 percent, to $3.49 trillion from $3.37 trillion. Liabilities grow primarily as active plan participants accrue retirement benefit service credits.

Figure A

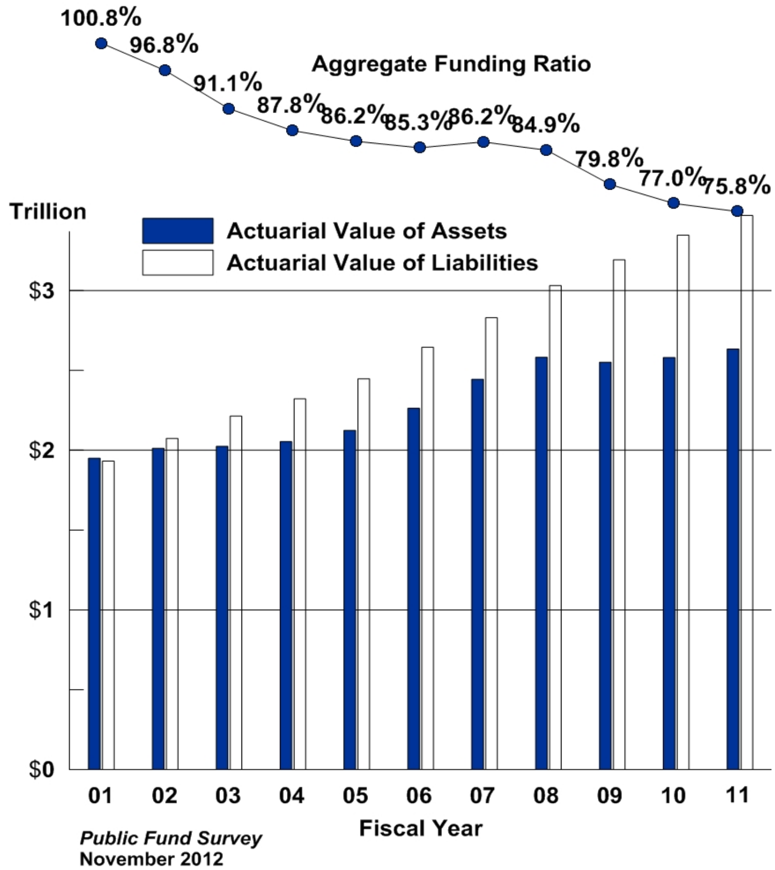
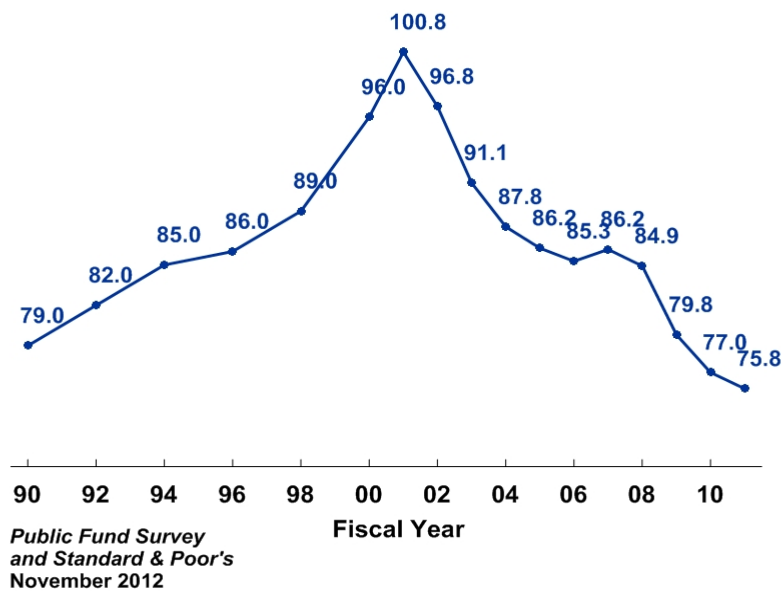


Figure B presents the aggregate actuarial funding level since 1990, measured by Standard & Poor's from 1990 to 2000 and by the Survey since 2001. This figure illustrates the substantial effect of investment returns on a pension plan's funding level: investment market performance was relatively strong during the 1990s and has been relatively weak since 2000. Other factors, however, also have an effect on a plan's funding level, including contributions made relative to required contributions, changes in benefit levels, and rates of employee salary growth.

Figure B



The individual funding levels of the 126 plans in the Survey are depicted in Figure C. The size of each circle is roughly proportionate to the size of each plan's actuarial liabilities. The median funding level is 75.2 percent.

Figure C

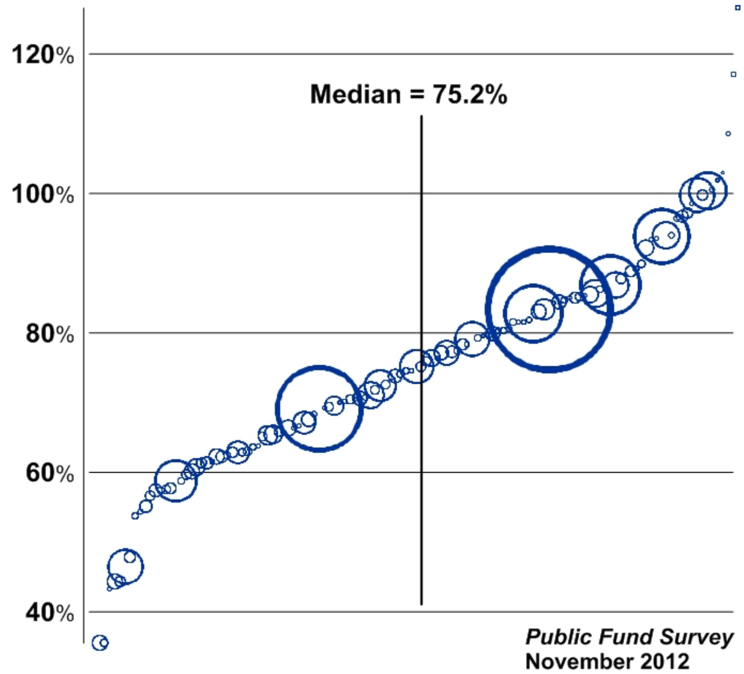


Figure D illustrates the distribution of changes in funding level among the 123 plans for which new actuarial valuation data was provided in FY 11. As the chart shows, 38, or nearly one-third, of the plans in the Survey had funding levels that were higher than in the prior fiscal year. In most cases, these higher funding levels are due to reductions in benefit levels effected by the plans' sponsoring government.

For example, in 2011, the Oklahoma Legislature approved legislation effectively preventing, for the foreseeable future, payment by the state PERS and TRS of cost-of-living adjustments. The resulting removal of the actuarial assumption that the plans would pay a cost-of-living adjustment (COLA) each year reduced the plans' unfunded liabilities and increased their funding level. Nearly every state has approved pension reforms in recent years; some of these reforms have affected benefit levels of existing plan participants, resulting in lower unfunded liabilities, higher funding levels, or both.

Two plans in the survey—Idaho PERS and Oregon PERS—do not phase in, or smooth, investment gains and losses, but rather, use the market value of their plan assets to calculate their funding level. The strong investment returns experienced in FY 11 by the funds supporting these plans resulted in an increase to the plans' funding level.

Figure D

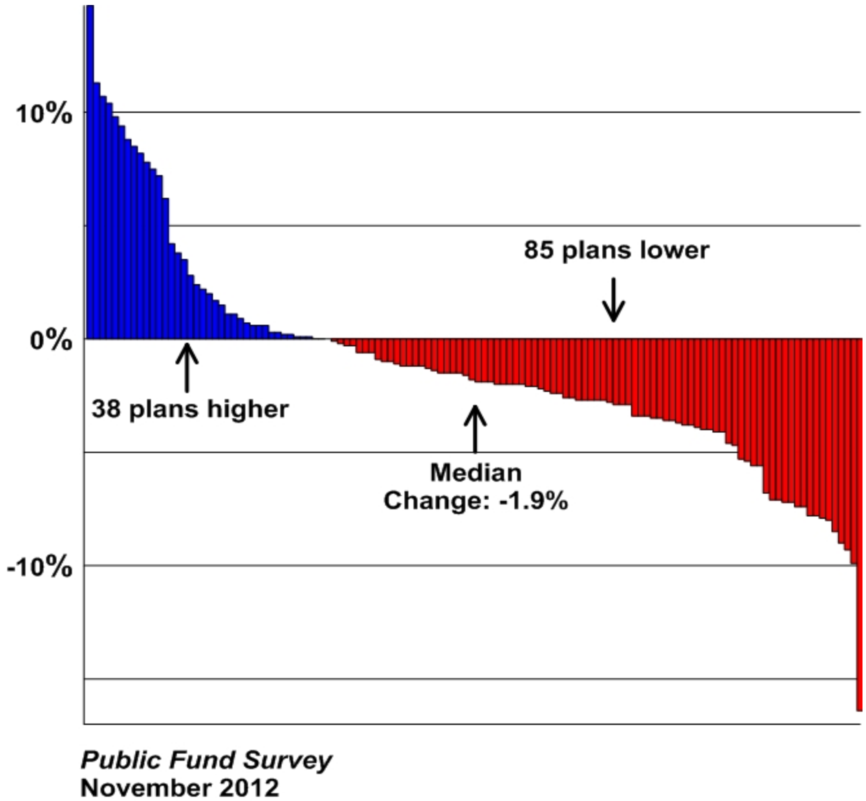
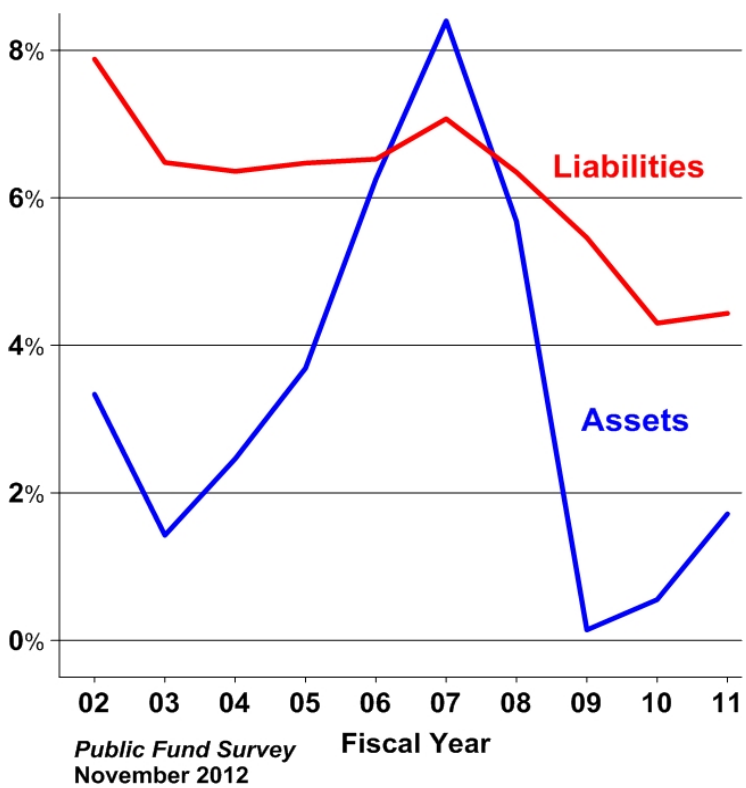


Figure E plots the median annual change among plans in the Survey in the actuarial value of assets and liabilities since FY 01. FY 11 median liability growth—although slower than in most previous years—was higher in FY 11 than in FY 10. All or most of the cause of this uptick is likely attributable to the many plans that reduced their investment return assumption in FY 11 (see Figure M, below). All else equal, a lower investment return assumption increases a plan's liabilities.

Figure E

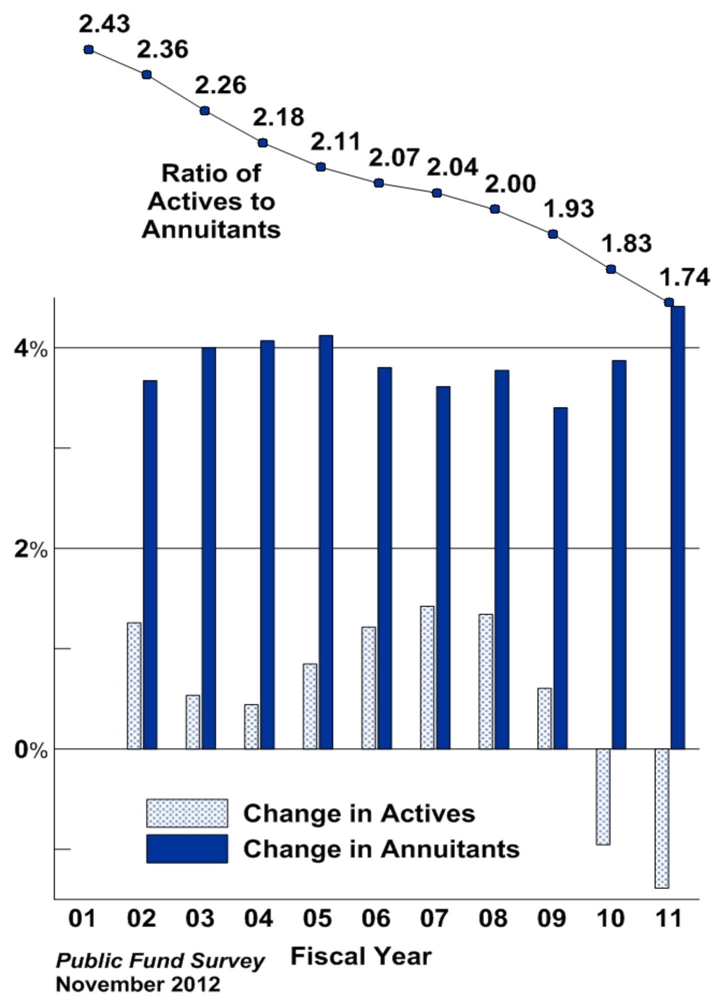


The Survey measures two types of retirement system members: Actives and Annuitants. Actives are those who are currently working and earning retirement service credits. Annuitants are those who receive a regular benefit from a public retirement system. These are predominantly retired members, but also include those who receive a disability benefit, and survivors of retired members or disabilitants.

As shown in Figure F, the median system increase in the number of annuitants rose in FY 11 to 4.4 percent; the aggregate increase over FY 10 was 4.0 percent. The number of active members declined in FY 11 for a second consecutive year. This decline is consistent with US Census Bureau reports showing a reduction in the number of employees of state and local government, which began in August 2008.

The FY 11 median change was -1.4 percent; the aggregate change was similar, at -1.2 percent. The contrast between the continued increase in annuitants and a declining number of actives is causing a continued reduction in the overall ratio of actives to annuitants. In FY 11, this ratio dropped to 1.74, the lowest level since the Survey's inception. Although a low or declining ratio of actives to annuitants is not, per se, problematic for a pension plan, the cost as a percentage of payroll of amortizing a larger unfunded pension liability typically is higher when the ratio of actives to annuitants is lower.

Figure F



The annual change in payroll among 106 plans in the survey is reflected in Figure G. As the chart shows, the median change in payroll from FY 10 to FY 11 was virtually unchanged. (Figure G excludes plans that are closed to new hires.) The change in payroll reflects two basic factors: stagnant or declining employment levels and small salary changes. Information provided by the U.S. Bureau of Labor Statistics indicates that annual growth in wages and salary for employees of state and local government has remained below 2.0 percent since mid-2009 and below 1.5 percent since early 2010.

A growing base of annuitants combined with a low or negative rate of growth in active members is a reduction in a retirement system's external cash flow, defined as the difference between a system's contributions and payouts for benefits and administrative expenses, divided into the value of the system's assets. Generally, retirement system payouts have been growing at a steady pace in recent years, while revenue from contributions has grown more slowly, if at all.

Figure G

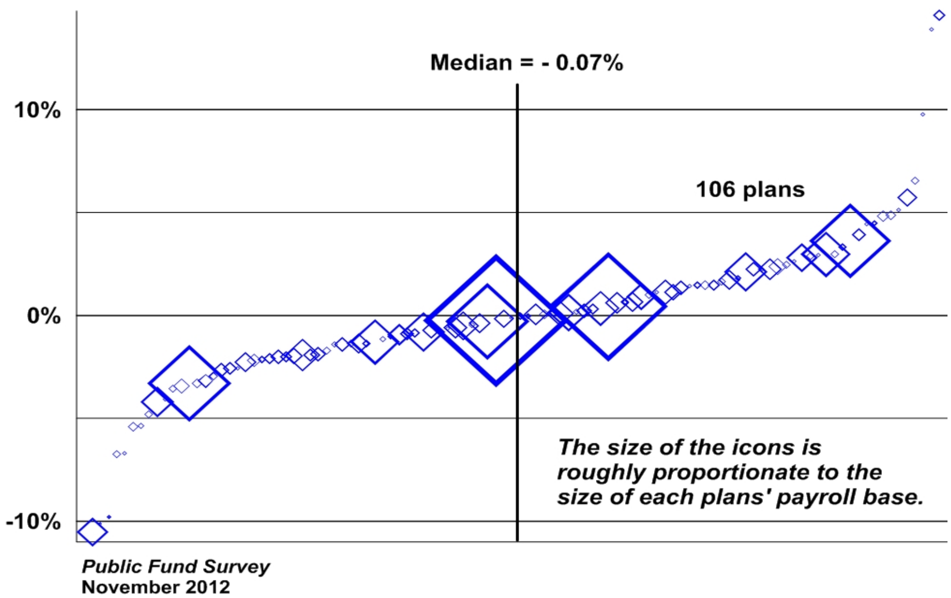
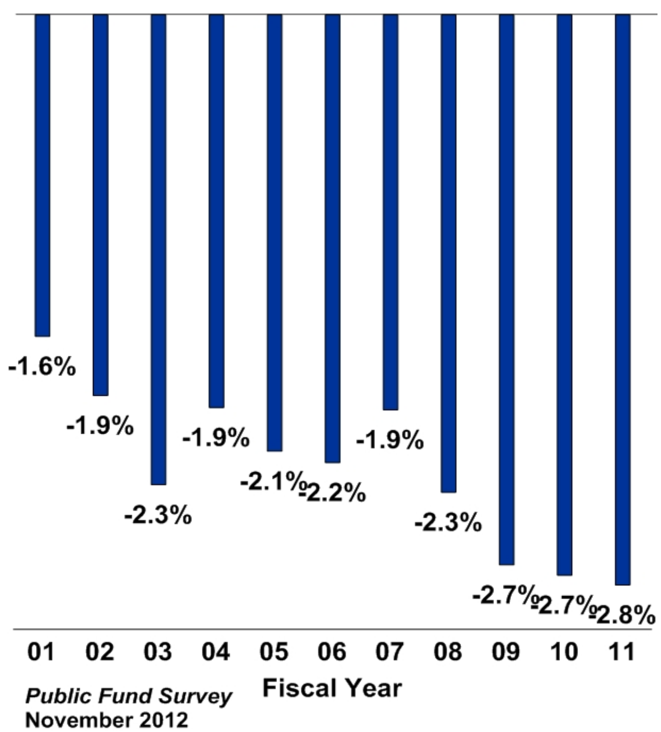


Figure H summarizes the change in external cash flow since FY 01. A lower (more negative) cash flow typically requires the system's assets to be managed more conservatively, with a larger allocation to more liquid assets in order to meet current benefit payroll requirements.

Figure H



Figures I and J reflect changes in median employee and employer contribution rates. Figure I includes active members who also participate in Social Security; Figure J includes those participants who do not. Twenty-five to thirty percent of employees of state and local government do not participate in Social Security.

The investment market losses experienced by public pension funds in 2008-09 increased public pensions' unfunded liabilities, which, in turn, increases the cost of the plan. Meanwhile, the Great Recession decimated state and local government revenues, an experience from which these plan sponsors are still recovering. On a national basis, the resulting effect of the combination of higher plan costs and reduced government revenue has been a reduction in contributions relative to the Annual Required Contribution, or ARC.

Figure I

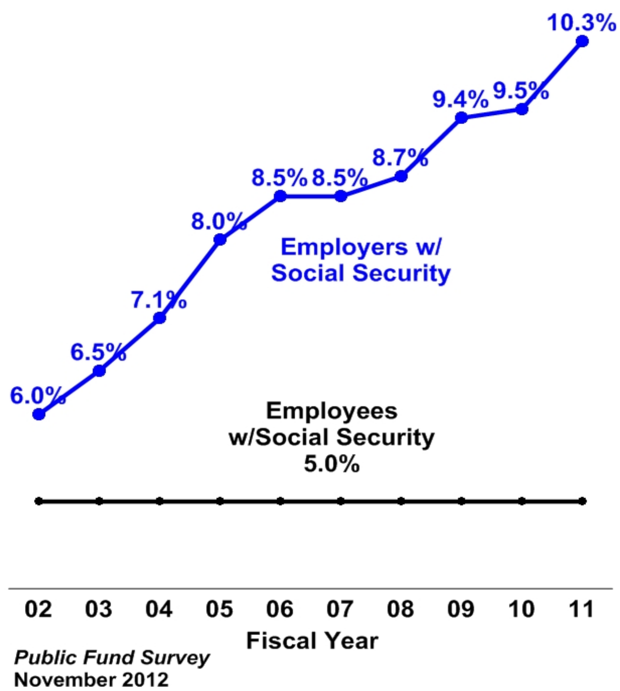


Figure J

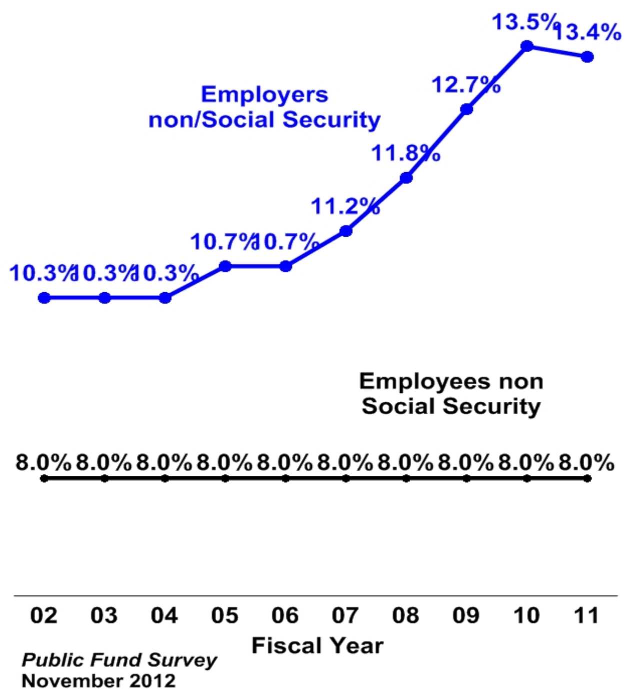
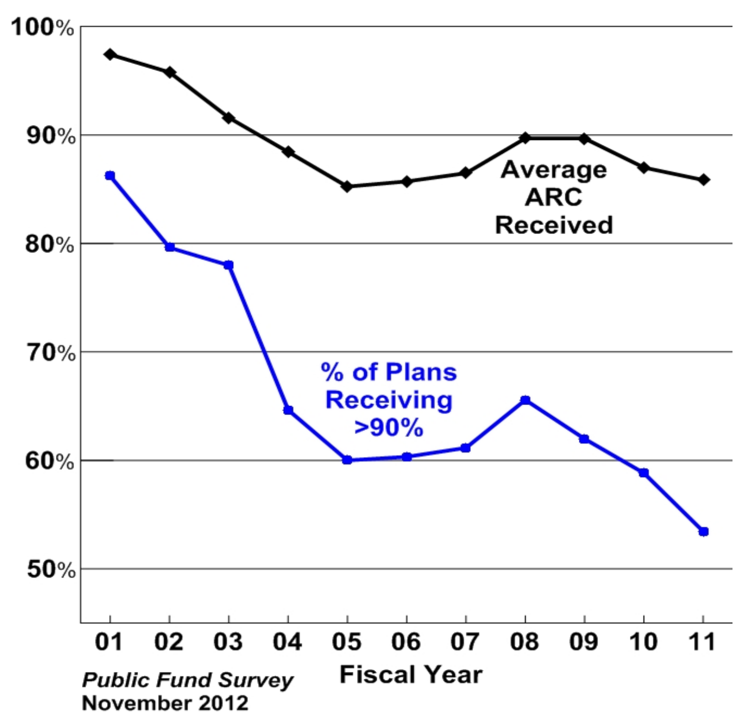


Figure K illustrates the changes over time in two ARC-related measures: the average ARC received by all plans in the Survey; and the percentage of plans that received at least 90 percent of their ARC (i.e., an arbitrary benchmark denoting a "good faith" effort). This reduction in ARC effort has occurred despite the increases in employer contribution rates, as illustrated in Figures I and J.

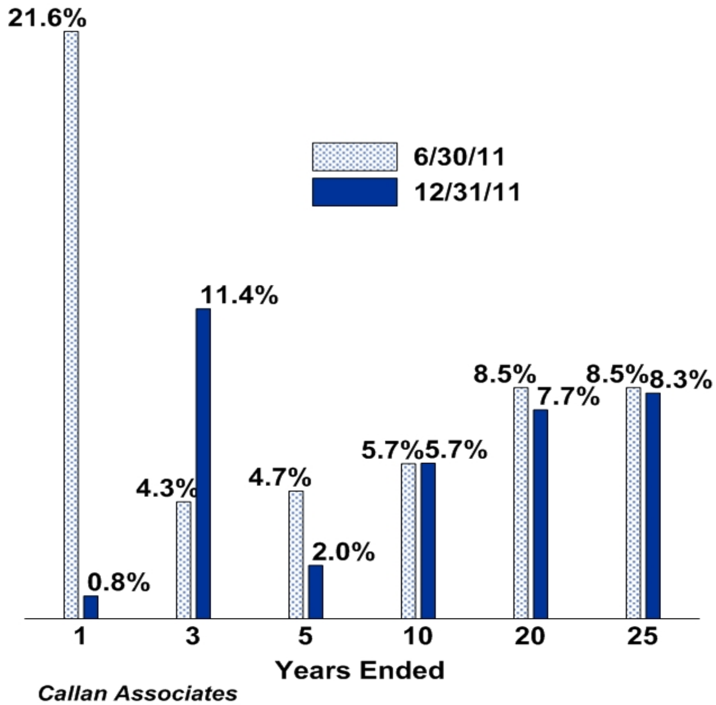
Figure K



Because of a sharp decline in equity markets that took place in the second half of 2011, investment returns in FY 11 diverged widely depending on pension funds' fiscal year-end date. As shown in Figure L, the median investment return for plans with an FY-end date of June 30, 2011 (which is approximately three-fourths of the funds in the survey), exceeded 21 percent. By contrast, the median one-year return for funds with an FY-end date of December 31, 2011, were less than one percent.

Predictably, median returns over longer periods become more similar for funds with different FY-end dates.

Figure L

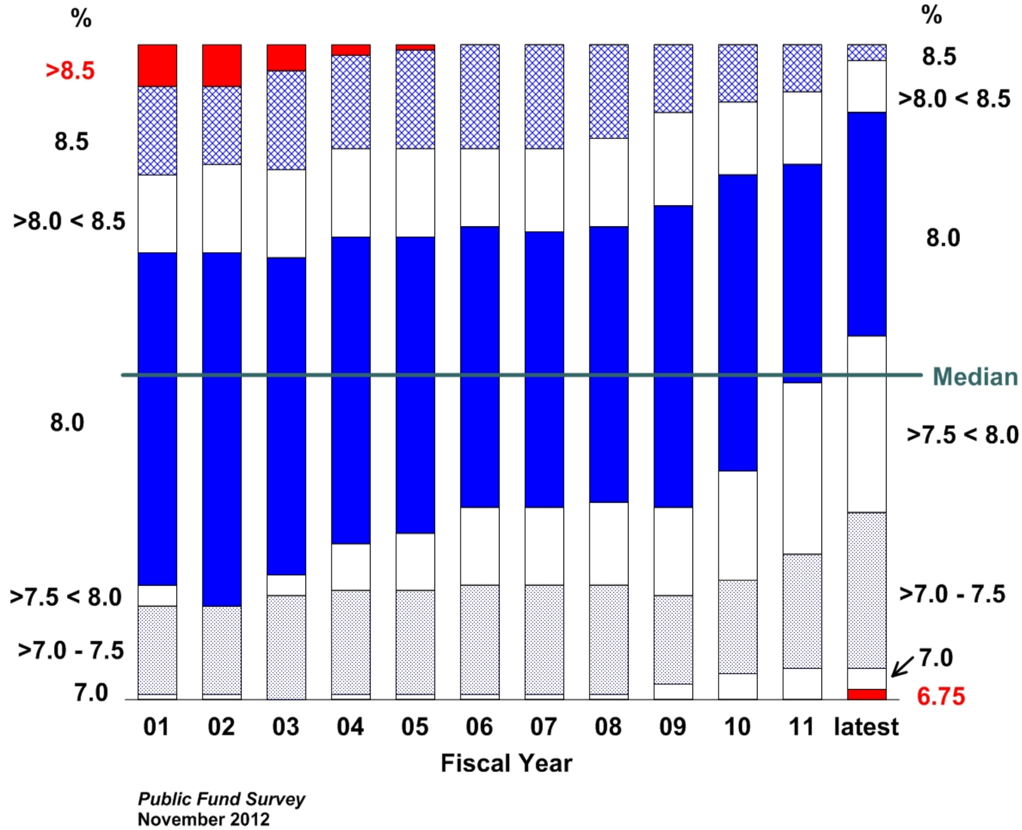


Of all actuarial assumptions, a public pension plan's investment return assumption has the greatest effect on the long-term cost of the plan. This is because a majority of revenues of a typical public pension fund come from investment earnings. Even a minor change in a plan's investment return assumption can impose a disproportionate impact on a plan's funding level and cost.

For most of the Public Fund Survey's measurement period, the most common investment return assumption used by public pension plans was 8.0 percent, with rates in use above and below that benchmark. Figure M illustrates the change in investment return assumptions since the inception of the Survey in FY 01. Since 2009 especially, an unprecedented number of plans have reduced their investment return assumption.

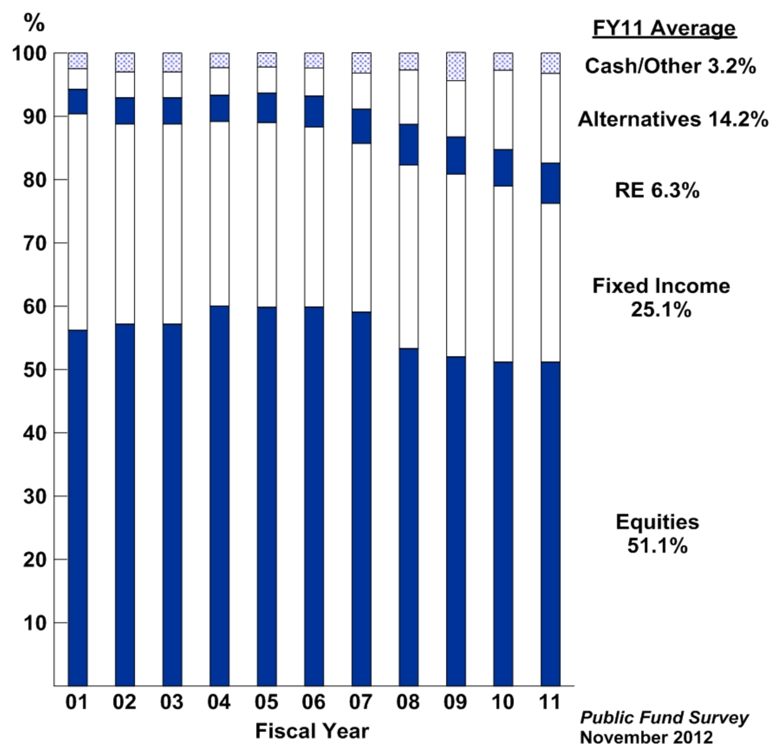
Some features of this chart are notable: a) the change in the median assumption from 8.0 percent at the beginning of the measurement period to 7.8 percent currently; b) the abandonment of rates above 8.5 percent; and c) the adoption for the first time for the Survey of a rate by two plans (the Indiana PERF and TRF) that is below 7.0 percent.

Figure M



Public pension funds continued in FY 11 to increase the diversification of their assets. Figure N summarizes the average asset allocation of funds in the Survey since FY 2001. The average allocation to Alternatives increased, continuing a trend from prior years. Much of this growth occurred at the expense of fixed income assets, which declined again in FY 11. Alternatives consists primarily of private equity and hedge funds and also can include such asset subclasses as currency, commodities, and others.

Figure N



Appendix A and B are accessible via the Report Selection page to registered users of the Public Survey. Access these appendices by logging in via the **User Login page**.

- Appendix A presents a listing of systems in the survey, including their market value of assets and membership counts.
- Appendix B presents a listing of plans in the survey, including their actuarial value of assets and liabilities and funding levels.

Public Pension Plan Comparisons

ND Teachers' Fund for Retirement Board

January 2013

2011 Public Fund Survey

- Published November 2012 for FY 2011
  - **Survey results do not include FY 2012 data.**
- Includes key characteristics of 126 large public retirement plans.
- Represents about 85% of entire state and local government (SLG) retirement system community.
- Sponsored by NCTR and NASRA since 2001.
- Accessible online at www.publicfundsurvey.org

Public Pension Plans Overview

- Retirement benefits play an important role in attracting and retaining qualified employees needed to perform essential public services, promote orderly turnover of workers, and enhance the retirement security of a large segment of the nation’s workforce.

- Pension plans provide stable and adequate income replacement in retirement for long-term workers, and ancillary benefits related to disability and death before retirement.

- SLG systems generally are funded in advance by investing employee and employer contributions during employees’ working years; benefits are distributed in the form of a lifetime payout in retirement.

2008-09 Market Decline

- 2008-09 market decline, combined with other factors, increased plan's unfunded liabilities – and the cost of amortizing them - for most public pension plans.
- Extent of cost increases depend on plan's:
  - Funding condition prior to the market decline
  - Adequacy of employer and employee contributions
  - Demographic composition
  - Actuarial methods and assumptions
  - Past and future investment returns
- Most plans use a 5 year smoothing period to phase in investment gains and losses. This phase-in period will extend through 2013, the time when the recent investment losses are incorporated into public pension funding levels.

Response to 2008-09 Market Decline

- Higher costs resulting from market decline have been calculated.
- Higher contributions are becoming due at a time when revenue for most states is stagnant or low, complicating plan's ability to fully fund pension costs.
- In past 3 years, an unprecedented number of public plan sponsors are responding to higher pension costs by:
  - Raising contributions for employees
  - Raising contributions for employers
  - Reducing benefits – higher retirement ages, lower retirement multipliers, increased vesting requirements, etc.
  - Capping benefits; addressing salary spiking, etc.
  - Offering DC or hybrid plan designs for new employees.
  - Postponing or reducing future retiree COLAs

Legal Authority to Make Changes

- Authority to revise benefit and financing arrangements varies widely among states, depending on a combination of constitutional and statutory provisions and case law.
  - New hires only
  - Future benefit accrual patterns for existing plan participants
  - Future retiree COLAs
  - Other
- Outcome of lawsuits in various states.

Actuarial Funding Levels

- Funding ratio is most recognized measure of plan’s financial health.
- Determined by dividing actuarial value of assets by liabilities.
- Both fully funded and underfunded plans rely on future contributions and investment returns.
- Plan’s funded status is a snapshot in a long-term, continuous financial and actuarial process.
- Most public pension benefits are prefunded.
  - Significant portion of assets needed to fund liabilities is accumulated during working life of participant.
- Pay-as-you-go is opposite of prefunded
  - Current pension obligations are paid with current revenues.
  - Much more expensive

Actuarial Funding Levels

- Public pension plans are designed to moderate year-to-year changes in funding levels and required costs in the face of events such as investment market volatility. This is accomplished with:
  - Portfolio diversification.
  - Long investment and funding horizons.
  - Actuarial smoothing methods, which phase in investment gains and losses over several years.
  - Amortization periods, which enable plans to set and pursue long-term funding and investment policies.
  - Use of a discount rate that is consistent with historic and projected long-term investment returns.

Actuarial Funding Levels

- Public pension funding levels declined from 77.0% in FY10 to 75.8% in FY11.
  - NDTFFR declined from 69.8% in FY10 to 66.3% in FY11.
  - Ranking is 88 of 126 plans in 2011 Survey.

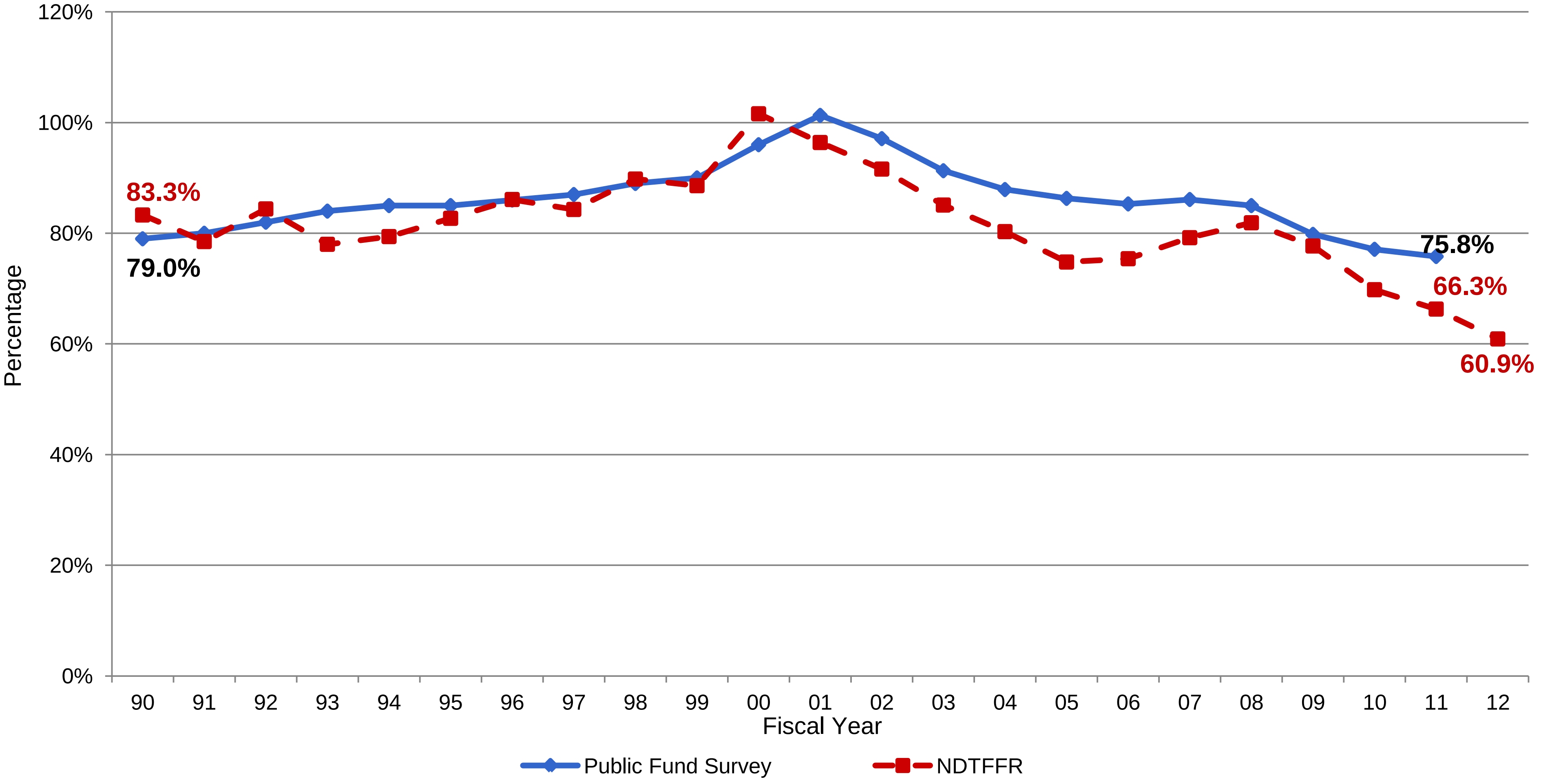
- Note the substantial effect of investment returns on a pension plan's funding level
  - Investment market performance was relatively strong during the 1990s, but has been relatively weak since 2000.

Actuarial Funding Levels

- Other factors also have an effect on a plan’s funding level, including actual contributions made relative to required contributions, changes in benefit levels, and rates of employee salary growth.

- Pension funding levels are likely to continue to drift lower due to phasing of investment gains and losses over a number of years. Once investment losses have been factored in to actuarial calculations, funding levels are expected to begin to improve.

Change in Actuarial Funding Levels



*Note: 1990-2000 PFS funding level numbers are biannual

Change in Actuarial Funding Levels

- About 2/3 of the plans had funding levels that were lower in 2011 than in 2010.
- Nearly 1/3 of the plans had funding levels that were higher than in the prior year.
  - In most cases, these higher funding levels are due to reductions in benefit levels effected by the plans’ sponsoring government.
- Nearly every state has approved pension reforms in recent years; some have affected benefit levels of existing plan participants, resulting in lower unfunded liabilities, higher funding levels, or both.

Membership Changes

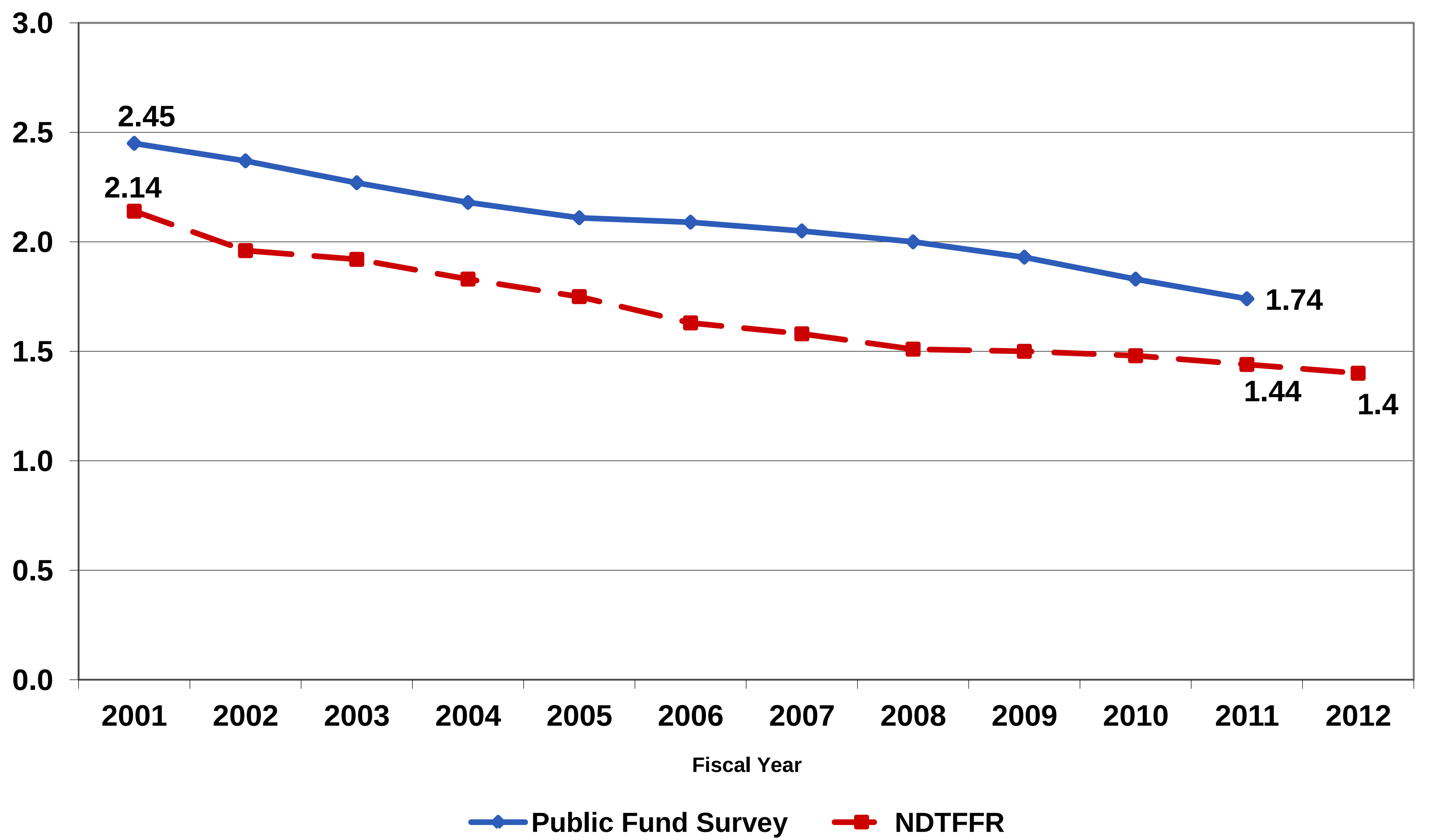
- Number of active members continues to decline which reflects the steady decline in the number of state and local government employees beginning in August 2008 according to US Census Bureau.

- Number of retirees continues to grow.

- Contrast between the increase in annuitants and a declining number of actives is causing a continued reduction in the overall ratio of actives to annuitants.
  - In FY 11, this ratio dropped to 1.74.
  - For TFFR in FY 11, the ratio was 1.44.

- By itself, a low or declining ratio of actives to retirees is not problematic for a pension plan. However, the cost as a percentage of payroll of amortizing a larger UAAL typically is higher when the ratio of actives to annuitants is lower.

Change in Active Members per Annuitant



Annual Change in Payroll

- Median change in active member payroll from FY 10 to FY 11 was virtually unchanged (0.07%). This reflects two basic factors:
  - Stagnant or declining employment levels
  - Small salary changes (US Bureau of Labor Statistics reports the annual growth in wages and salary for employees of SLG has remained below 2.0% since mid 2009.)

- NDTFFR active payroll has increased an average of 4.9% since 2008.

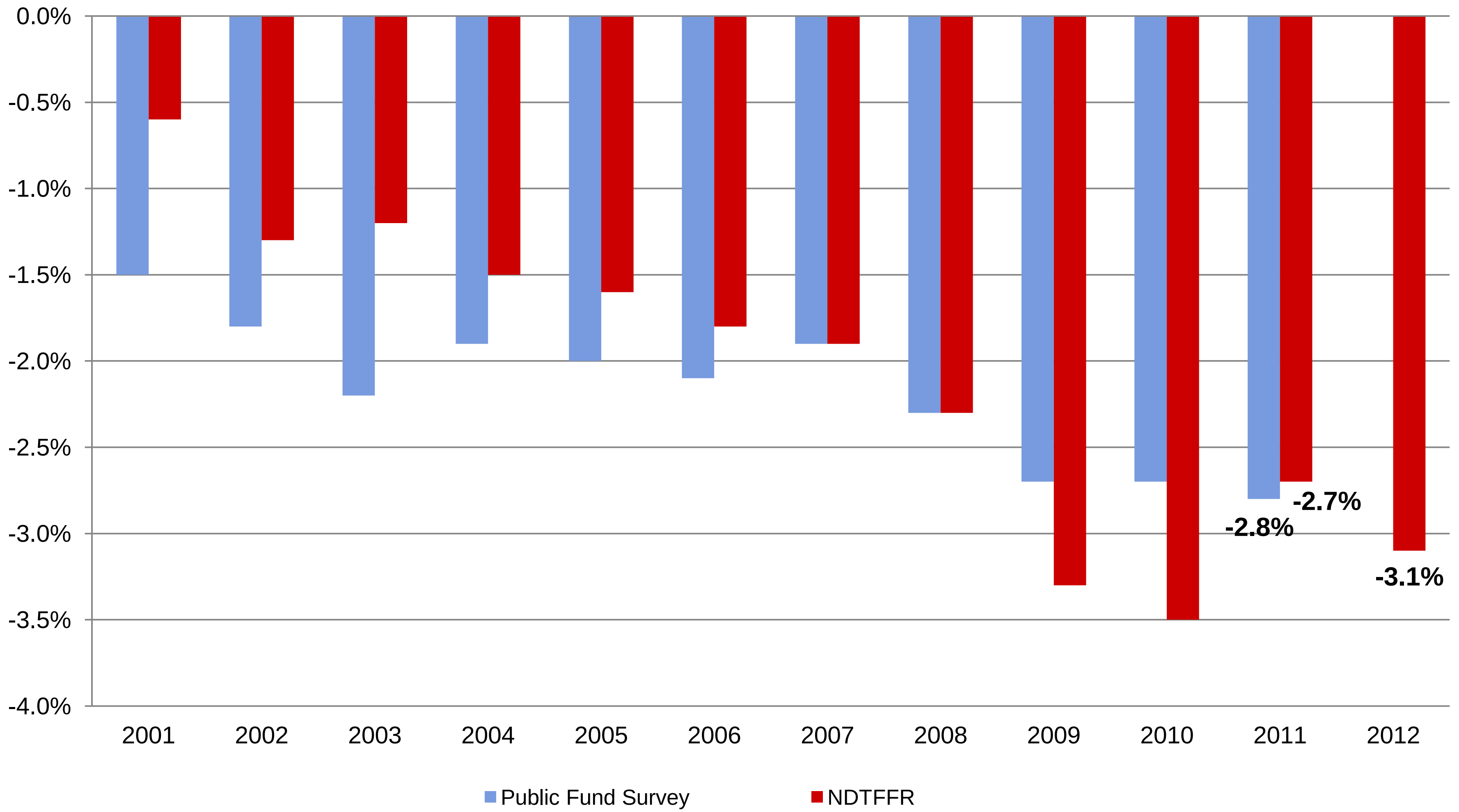
External Cash Flow

- External cash flow is the difference between contributions received and expenditures (benefits and administrative expenses).
- Negative cash flow is normal development in pension plan evolution. Assets are accumulated through contributions and increased through investment earnings. As work force ages, pension plan will eventually distribute more in benefits than it takes in from contributions.
- A growing base of annuitants combined with a low or negative rate of growth in active members results in a reduction in a retirement system's external cash flow.

External Cash Flow

- Generally retirement system payouts have been growing at a steady pace in recent years, while revenue from contributions has grown more slowly, if at all.
- A lower (more negative) cash flow typically requires the system's assets to be managed more conservatively, with a larger allocation to more liquid assets in order to meet current benefit payroll requirements.
- External cash flow changed slightly from -2.7% in FY10 to -2.8% in FY11.
- NDTFFR external cash flow was -3.5% in FY10, and -2.7% in FY11.

Median External Cash Flow



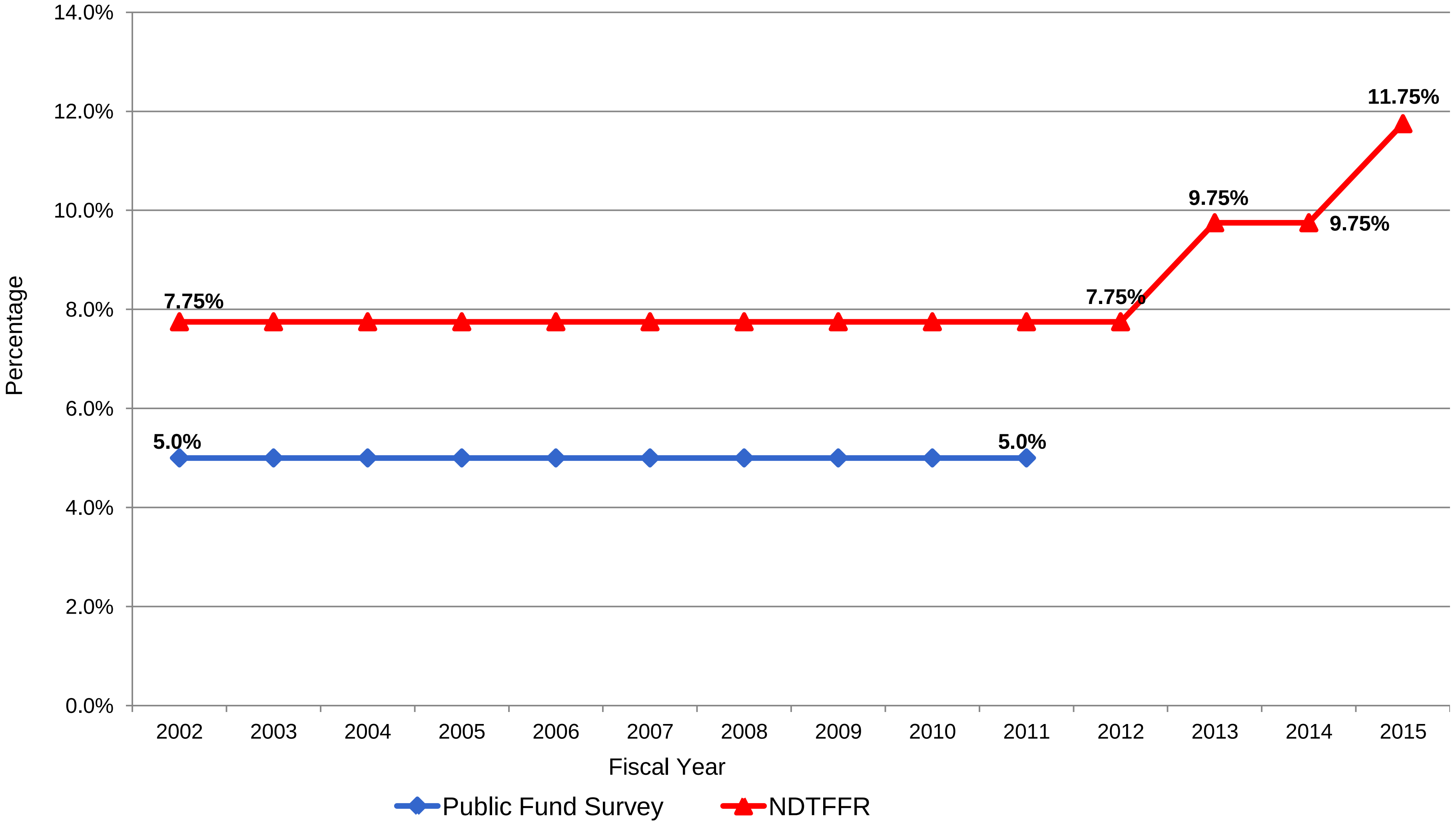
Contribution Rates

- Variety of arrangements for payment of employee and employer contribution rates.
  - Employee rates are typically fixed % of pay.
  - Employer rates may be fixed or floating.
  - Rates may be set by statute, actuarial requirements, board, etc.
- Contribution rates differ on basis of Social Security participation.
- Other considerations include benefit design (existence or lack of an automatic retiree increase, retirement eligibility conditions, benefit multiplier, etc.)
- Also statutory limits, funded status, actuarial assumptions, amortization period, demographics(number of females, retirement rates, termination rates, etc.)

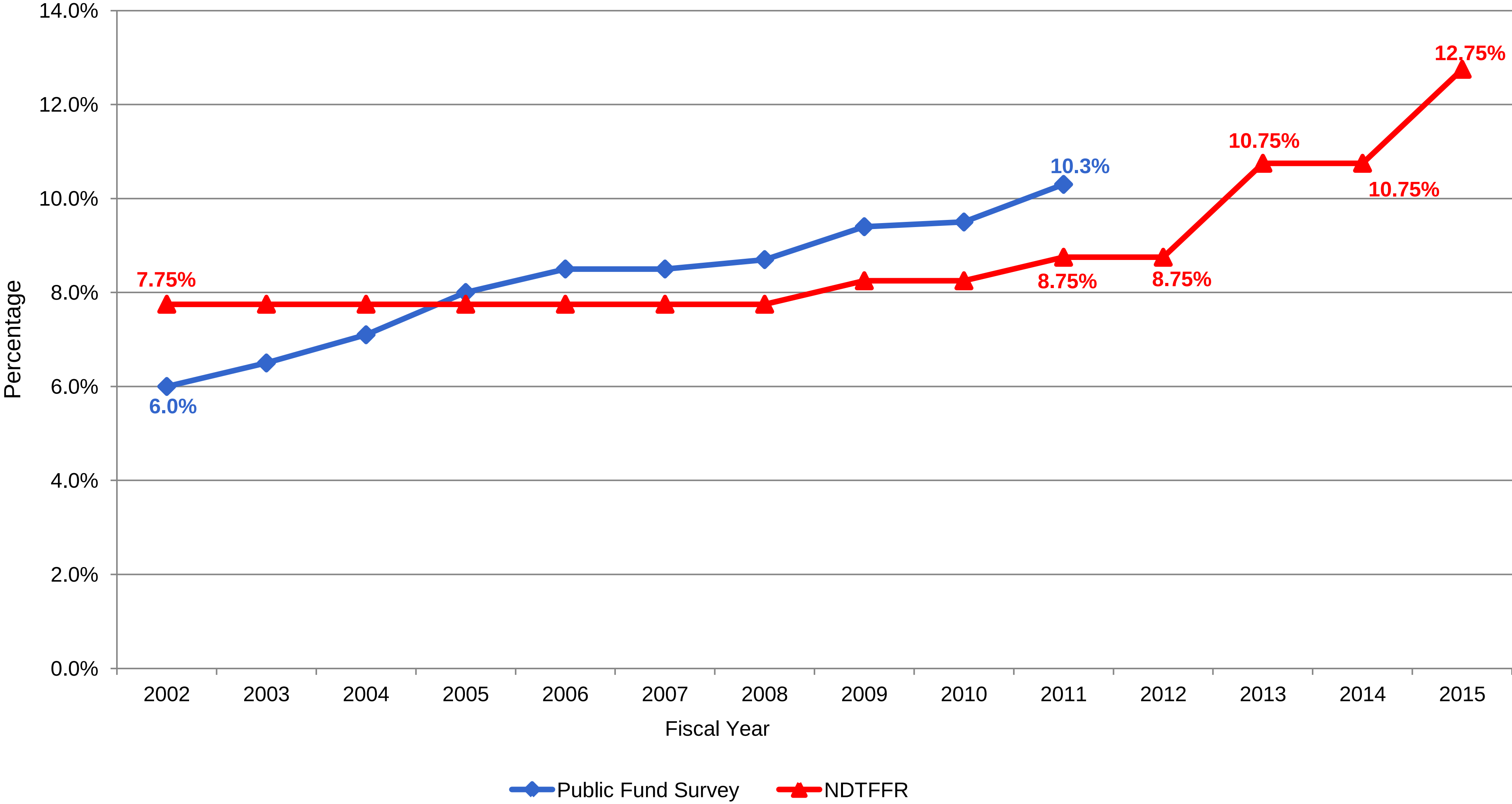
Contribution Rates

- Median **employer** contribution rates for workers who participate in Social Security rose from 9.5% of pay in FY10 to 10.3% in FY11.
  - NDTFFR employer rate was 8.75% in 2011, and 10.75% in 2012.
- Median **employee** contribution rates remained at 5% of pay in 2011 for Social Security eligible workers.
  - NDTFFR employee rate was 7.75% in 2011, and 9.75% in 2012.
  - Contribution rates for SLG employees have increased since 2009, but the number of plans where increases have occurred, and size of increases have not been large enough to cause a change to the median employee contribution rate.

Employee Contribution Rates



Employer Contribution Rates



Annual Required Contributions

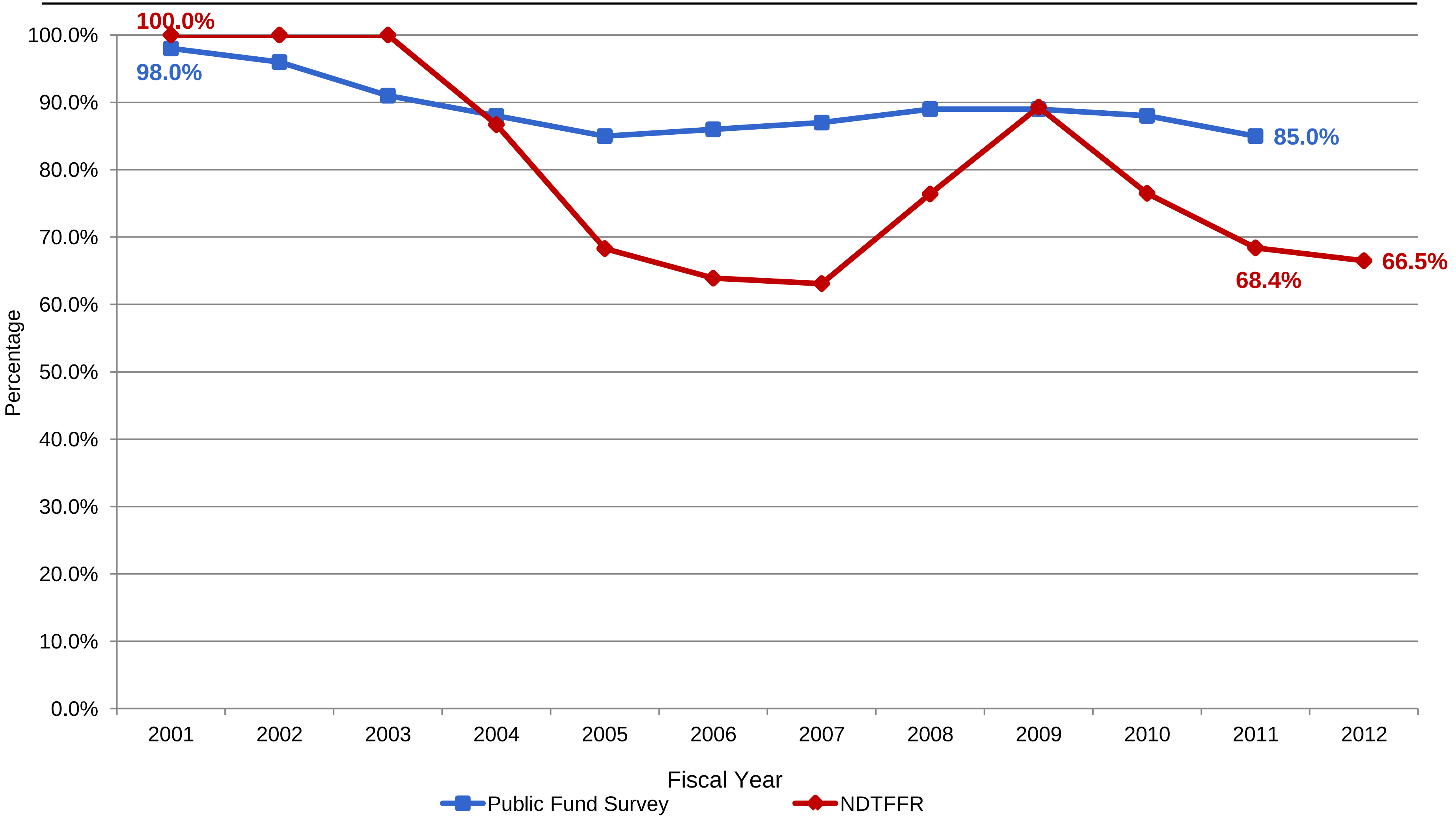
- Annual required contribution (ARC) is amount needed to fund benefits accrued in the current period (normal cost) plus the amount necessary to amortize the plan's unfunded liability over a designated period (amortization period).

- Investment market losses experienced by public pension funds in 2008-09 increased public pensions' unfunded liabilities, which, in turn, increases the cost of the plan. Meanwhile, the Great Recession decimated SLG revenues, from which these plan sponsors are still recovering. On a national basis, the resulting effect of the combination of higher plan costs and reduced government revenue has been a reduction in contributions relative to the ARC.

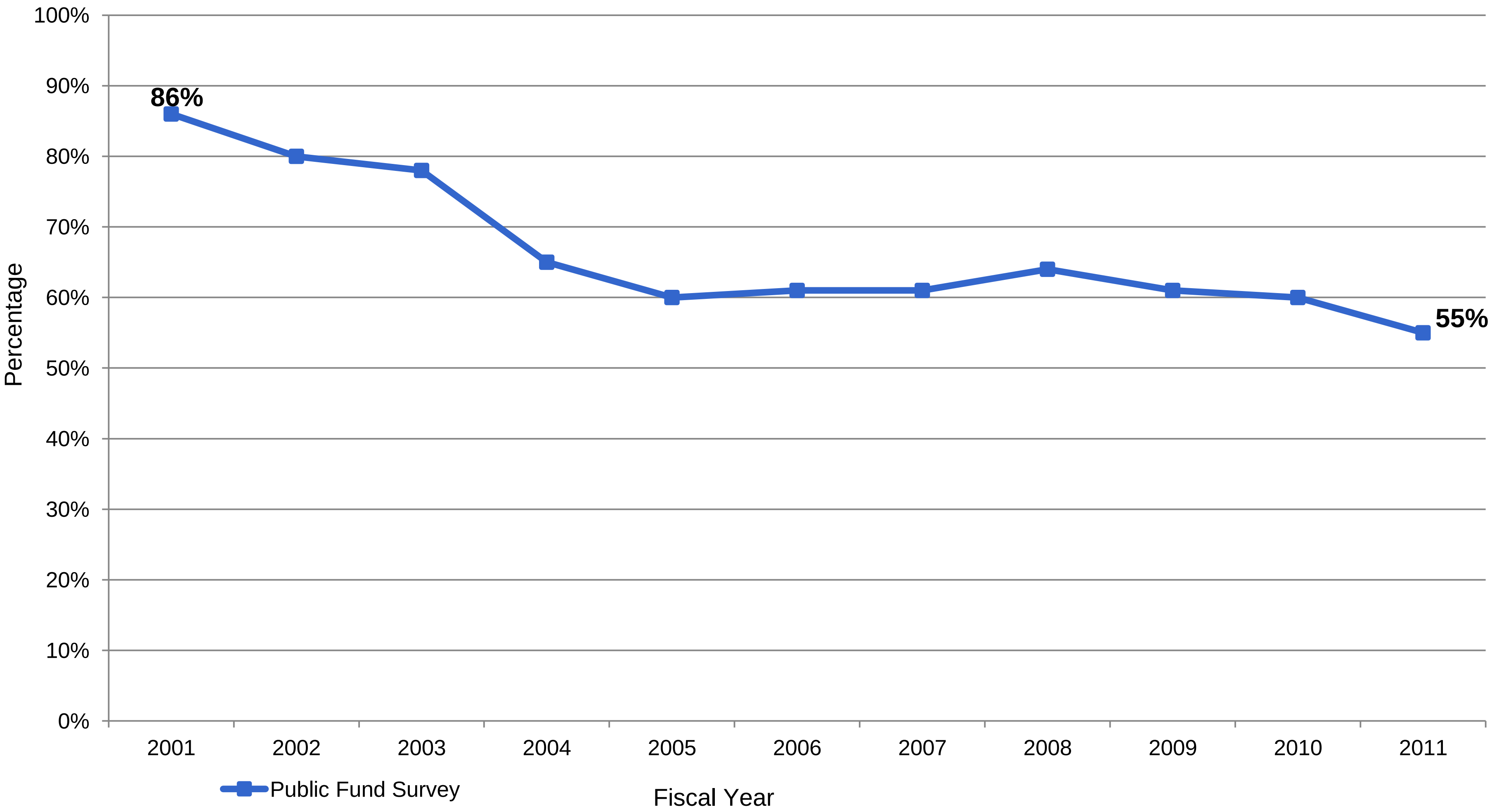
- Percentage of public pension plans contributing less than the full ARC has risen in recent years.

- More than half the plans received 90% or more of their full ARC.

Average ARC Received



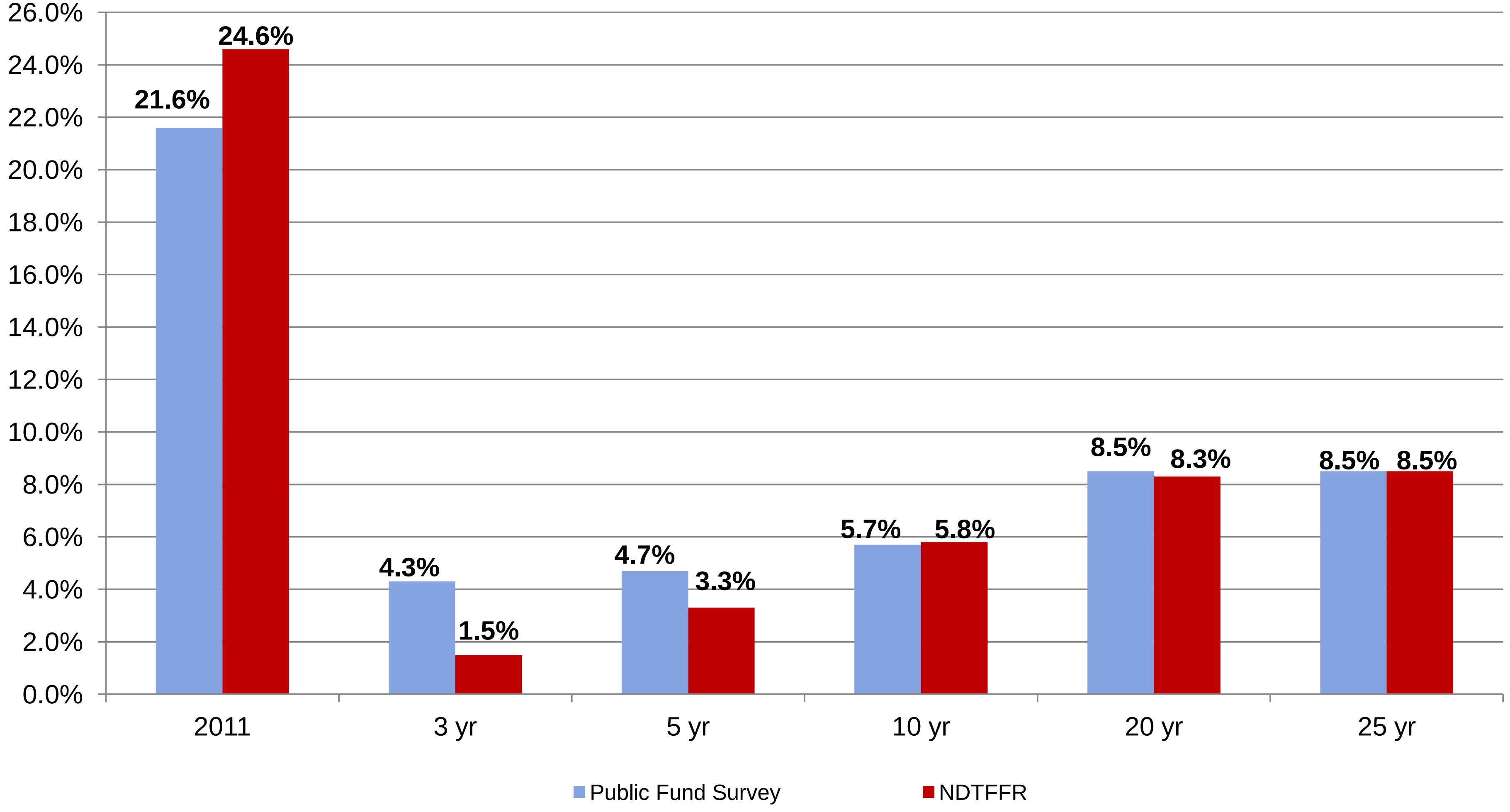
Plans Receiving 90%+ of ARC



Investment Returns

- Investment returns in FY11 diverged widely depending on pension funds' fiscal year-end date because of a sharp decline in equity markets that took place in the second half of 2011.
- Median return for plans with FY end date of 6/30/11 (about ¾ of the survey participants) was 21.6%.
  - NDTFFR return was 24.6% (gross of fees)

Median Annual Investment Returns (gross)



Actuarial Assumptions

- Actuarial valuation contains many assumptions:
  - Retirement rate
  - Mortality rate
  - Turnover rate
  - Disability rate
  - Investment return rate
  - Inflation rate
  - Salary increase rate

- Last Experience Study was conducted after the 2009 valuation report, and delivered in January 2010.
- Next scheduled Experience Study will be conducted after the 2014 valuation report, and delivered in 2015.

Investment Return Assumption

- Of all assumptions, a public pension plan's investment return assumption has the greatest effect on the long-term cost of the plan. Because a majority of revenues of a typical fund come from investment earnings, even a minor change in a plan's investment return assumption can impose a disproportionate impact on a plan's funding level and cost.
- Investment assumption is made up of 2 components
  - Inflation assumption
  - Real return assumption which is investment return net of inflation.

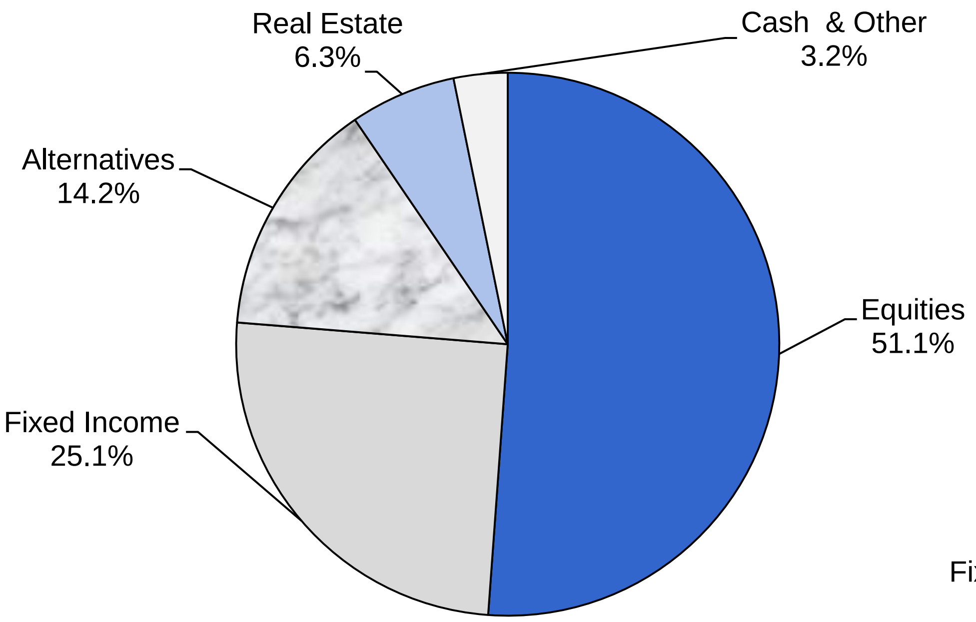
Investment Return Assumption

- The most common investment return assumption used by public pension plans was 8.0% in the past (through 2011), with rates in use both above and below that benchmark.
- Since 2009, an unprecedented number of plans have reduced their investment return assumption.
- Median investment return assumption is currently 7.8% (as of November 2012).
- ND TFFR investment return assumption is 8.0% (3% inflation and 5% real return).
- None of plans in current survey have rates above 8.5%.
- 2 plans have adopted a rate that is below 7.0%.

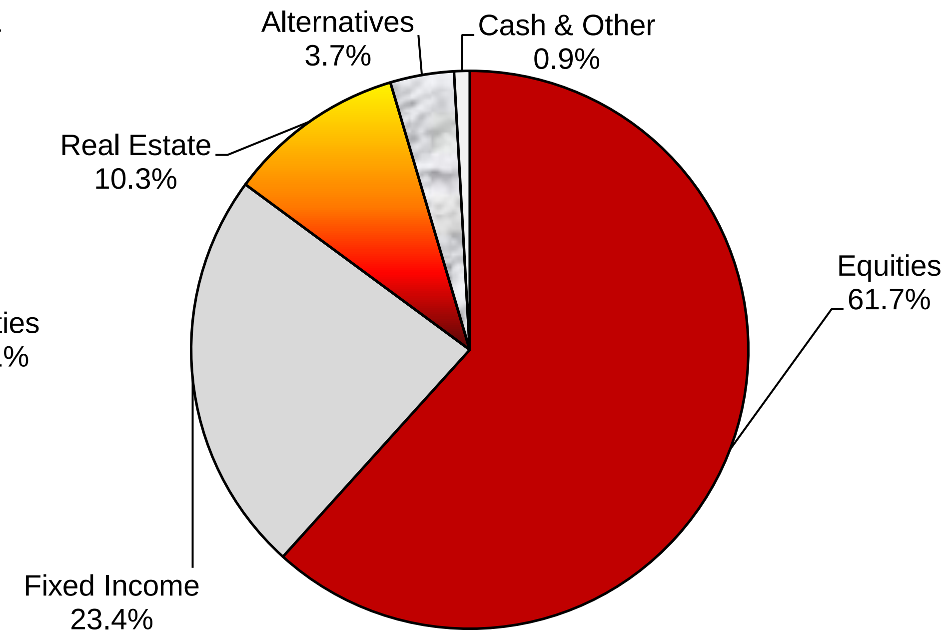
Asset Allocation

- Public funds continued in FY11 to increase the diversification of assets.
- Average allocation to alternatives increased, continuing a trend from prior years. Much of this growth occurred at the expense of fixed income assets, which declined again in FY11.
- This increased diversification reflects an effort by many funds to generate returns at lower levels of risk, or to increase projected returns at the same level of expected portfolio risk.

Asset Allocation



Public Fund Survey
Fiscal Year 2011



NDTFFR
2011 (Actual)

Conclusion

- Decline in public pension funding levels, triggered chiefly by market declines in 2008-09, is expected to continue.
- Decline continues to serve as primary catalyst for plan changes (contribution increases and benefit reductions) made by many states and other pension plan sponsors.
- Plan changes are likely to continue to be made until state and local fiscal conditions improve.
- Currently a very difficult operating environment featuring struggling investment markets, criticism of public employees and their benefits, and challenging fiscal condition facing most states and cities.
- Most public retirement systems strive to maintain sound management and governance practices, and seek opportunities to continuously improve in those areas.

Until next year's survey….Questions?

MEMORANDUM

TO: TFFR Board

FROM: Fay Kopp

DATE: January 17, 2013

SUBJ: Annual Retirement Trends Report

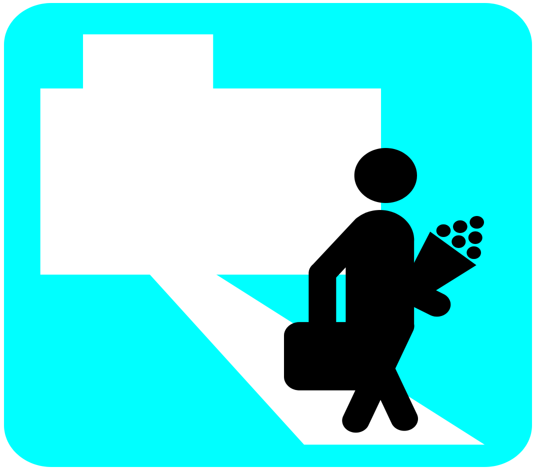
Shelly will distribute and present the TFFR Annual Retirement Trends Report at the January meeting. This report shows the number of members who have retired in recent years, and projects how many members are expected to retire in the future.

In developing this report, we receive work title information from DPI and licensure information from ESPB to provide a breakdown by superintendents, other administrators, teachers, and special teachers.

Retirement eligibility projections can also be provided to employers regarding their employees if requested.

North Dakota Teachers' Fund for Retirement

Retirement Trends and Projections



January 2013

Retirement: Now or Later?

- The decision to retire is intensely personal and prompted by both non-financial and financial reasons
- Non-financial considerations:
  - Age of teacher (and spouse)
  - Health of teacher (and spouse)
  - Family issues (spouse, children, parents)
  - Personal reasons (job satisfaction vs. job stress)
  - Federal regulations
  - State and local issues (school closings, school consolidations)

Retirement: Now or Later?

- Financial considerations – Active employment
  - Salary
    - TFFR plan changes – Increase in contributions
  - Fringe benefits- most importantly, health insurance
  - Other financial incentives to continue teaching
- Financial considerations – Retirement
  - TFFR benefits
  - Social Security and Medicare
  - TSA’s and other personal savings
  - Health insurance benefits – rising cost of medical care
  - Employment in another state or profession
  - Part-time teaching re-employment in ND
  - Inflation

TFFR Members

- TFFR member count includes number of people, not FTE’s.
- TFFR members may be full time, part time, or temporary teachers, but must be licensed and contracted. Noncontracted substitute teachers are not TFFR members.

TFFR Member Categories

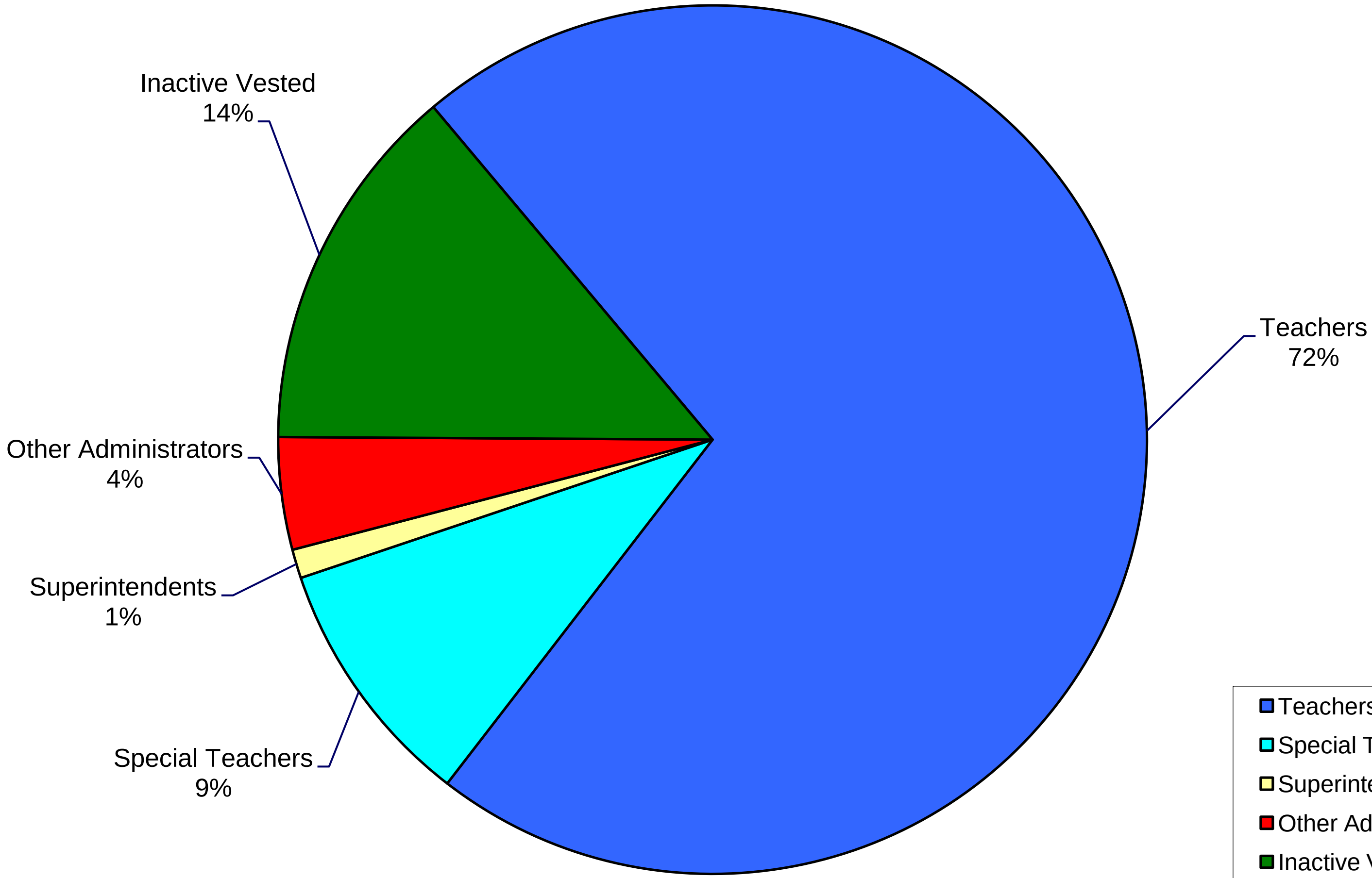
TFFR member categories are based on DPI title codes and presented according to teacher and administrator categories defined in NDCC 15.1-02-13.6.

- “Teacher” includes positions of teacher, special ed teacher, and tutor in training.
- “Special Teacher” includes positions of coordinator, counselor, instructional programmer, library media specialist, pupil personnel, psychologist, speech/language pathologist, supervisor.
- “Superintendent” includes only school superintendents.
- “Other Administrators” includes positions of assistant superintendent, director, assistant director, principal, assistant principal, county superintendent, and other administrative positions.

Today

Current TFFR Membership

There are 11,912 active and inactive vested TFFR members in January 2013.



Teachers	8,525
Special Teachers	1,118
Superintendents	128
Other Administrators	498
Inactive Vested	1,643
Total	11,912

Note: There are also 575 inactive non-vested TFFR members and 7,185 retired members and beneficiaries.

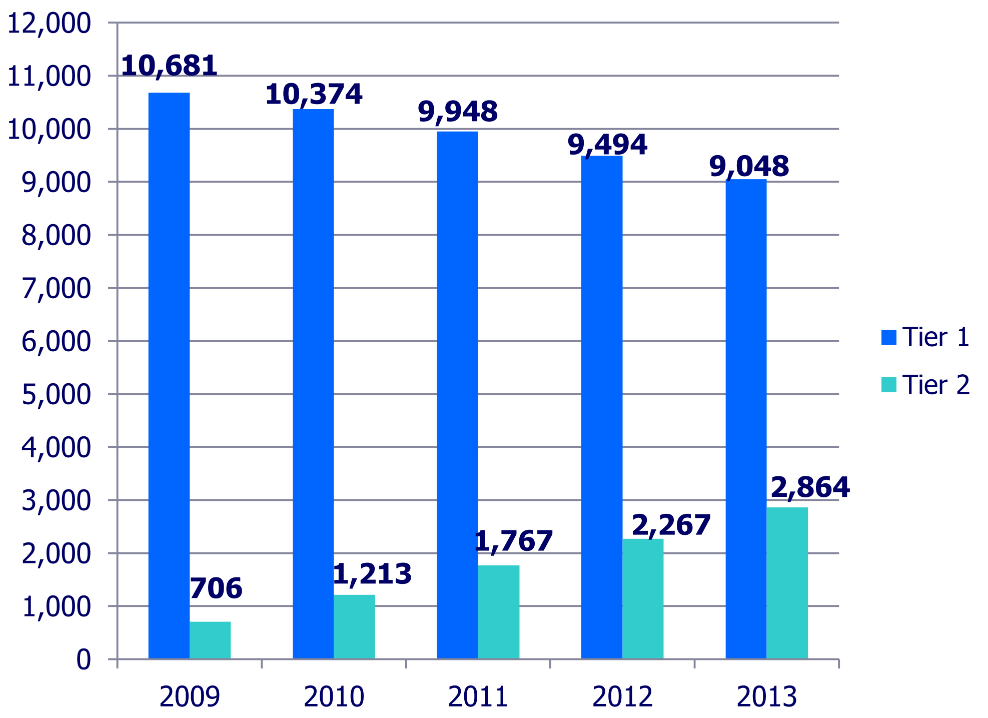
Today

TFFR Tier Membership

Active and inactive vested Tier membership in January 2013.

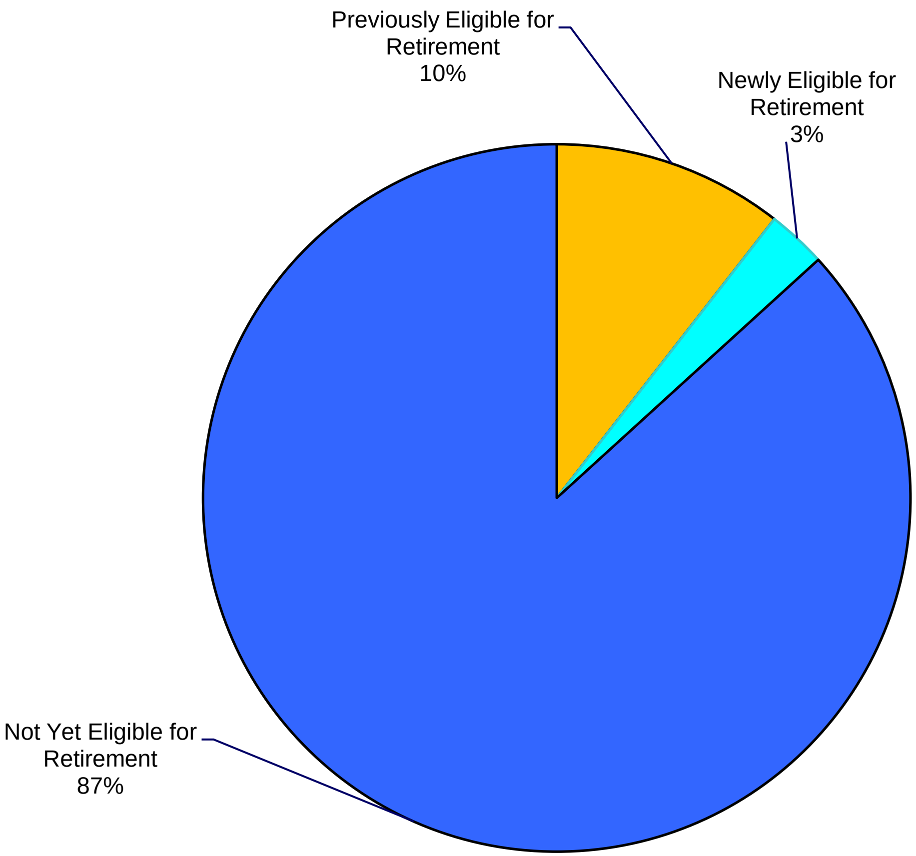
TFFR Members	Tier 1	Tier 2	Total
Teachers	6,068	2,457	8,525
Special Teachers	792	326	1,118
Superintendents	115	13	128
Other Administrators	445	53	498
Inactive Vested	1,628	15	1,643
Total	9,048	2,864	11,912

TFFR Tier Membership History



Today

Current Active TFFR Membership Eligible for Retirement



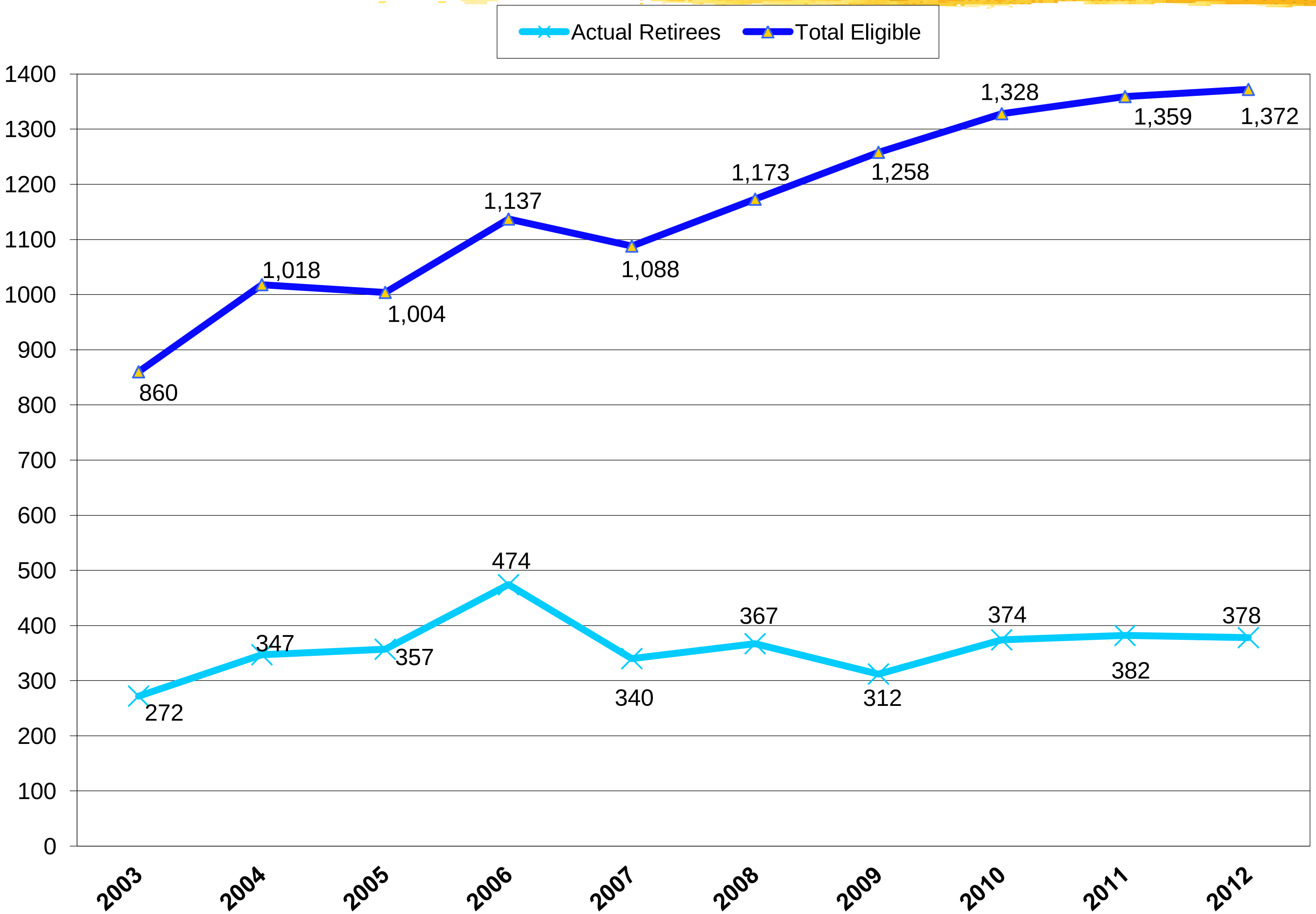
Of the 10,269 active TFFR members, 1,360 members are currently eligible to retire (13%) either under the Rule of 85/90 or age 65 or older.

Of the 1,360 active TFFR members eligible to retire, 80% are previously eligible and 20% are newly eligible in 2012-13.

Previously Eligible	1,083
Newly Eligible in 2012/13	277
Not Eligible	8,909
Total	10,269

Yesterday

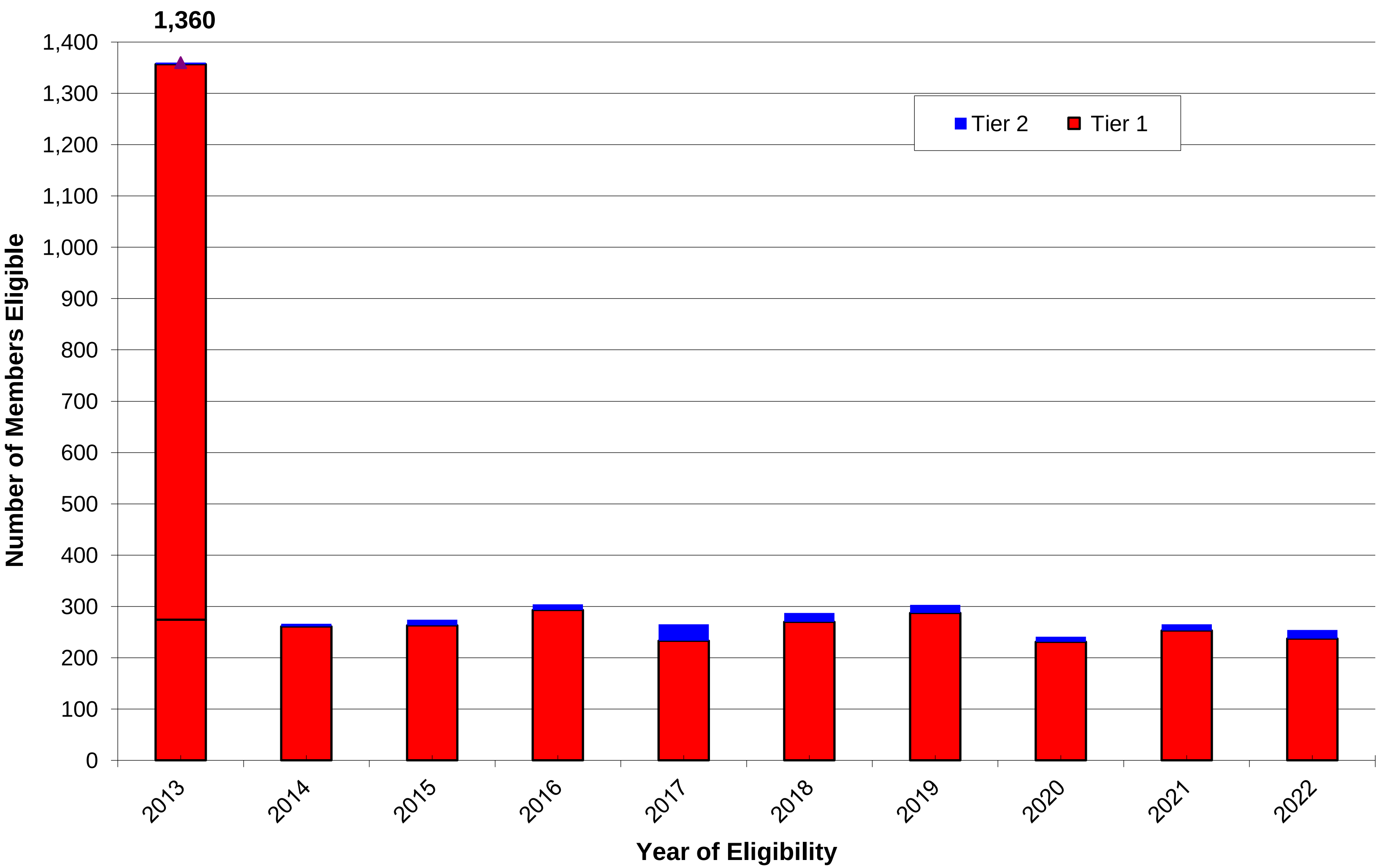
Actual Retirees and Total Eligible



10 Year History 2003-2012

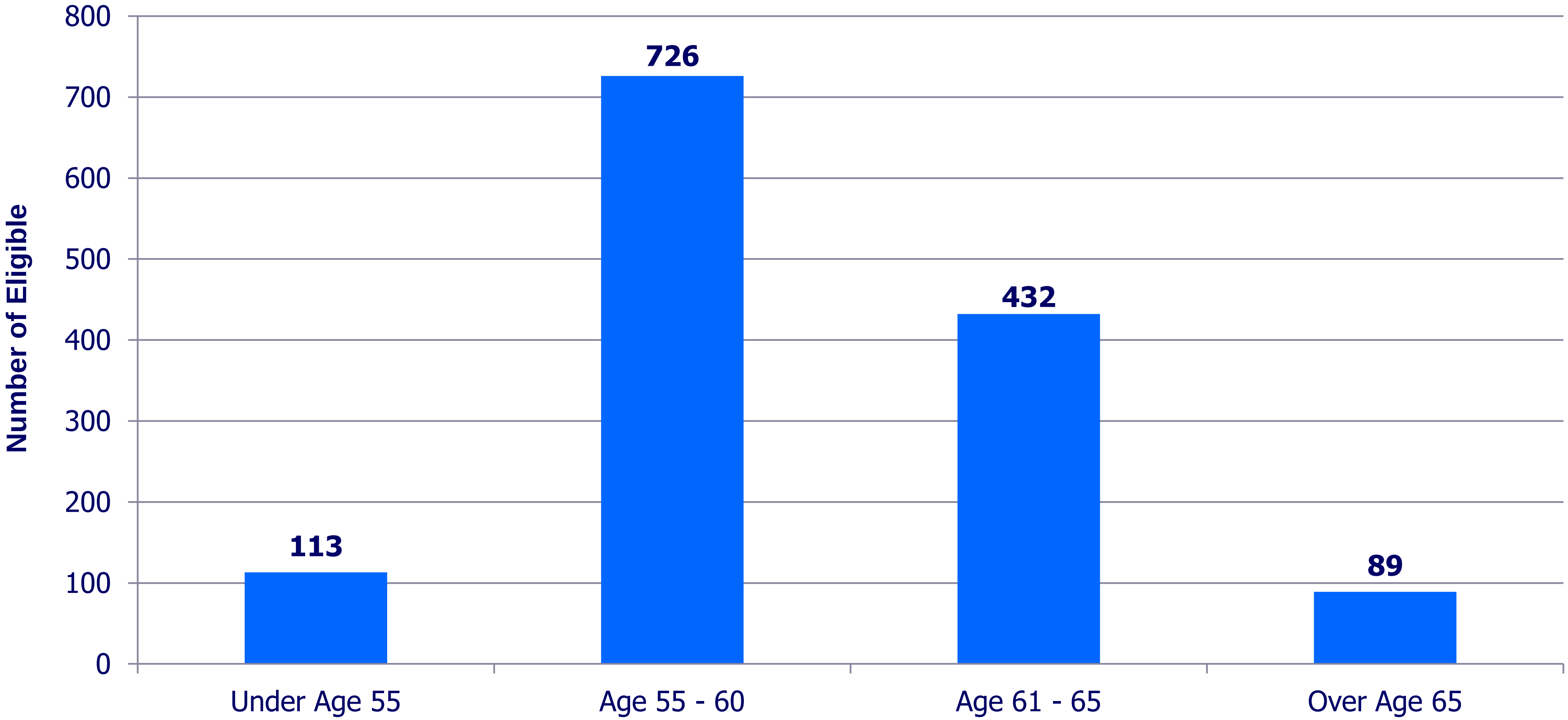
- On average, 1,200 teachers have been eligible to retire each year over the last 10 years.
- On average, 360 teachers actually retired each year, or total of over 3,600 for 10 year period.
- Approximately 31% of eligible members actually retired over the past 10 years.

2012-13 TFFR Active Member Retirement Eligibility Profile



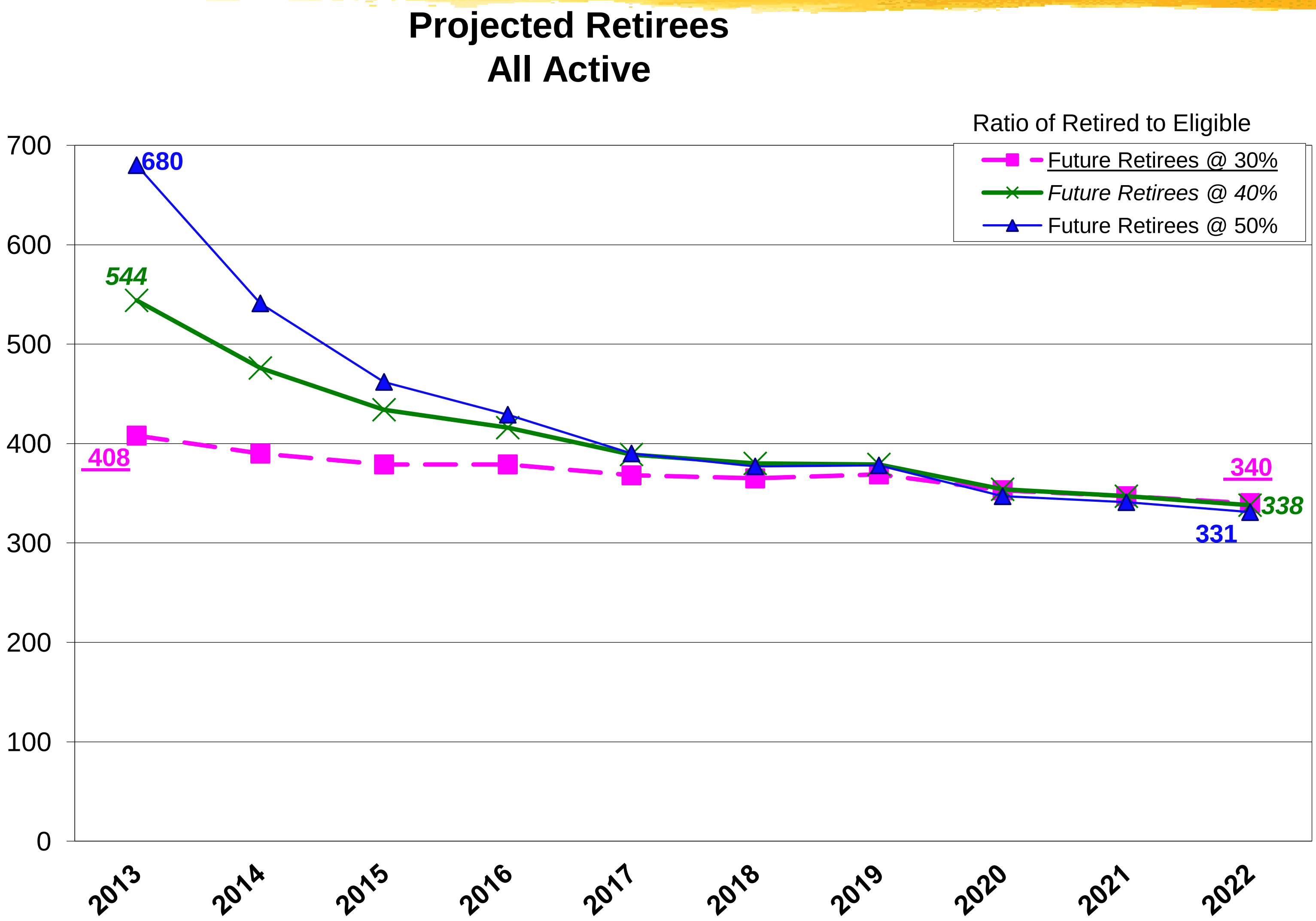
*Note: 2013 total of 1,360 members includes 1,083 previously eligible for retirement and 277 newly eligible in 2012-13.

Current Eligible in 2013 by Age



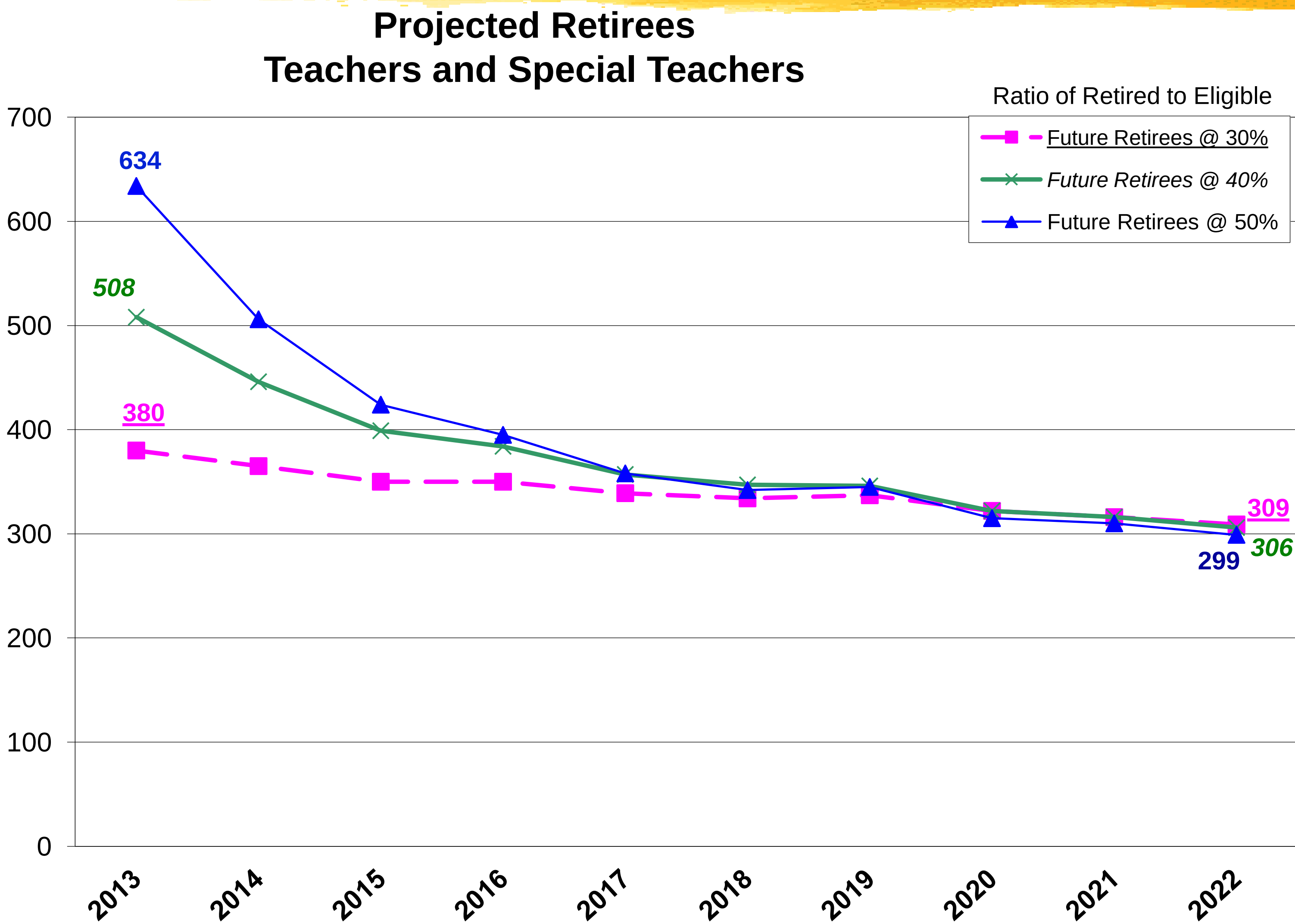
NOTE: Of the 1,360 total eligible in 2013 the youngest is age 52 and the oldest is age 76.

Tomorrow???



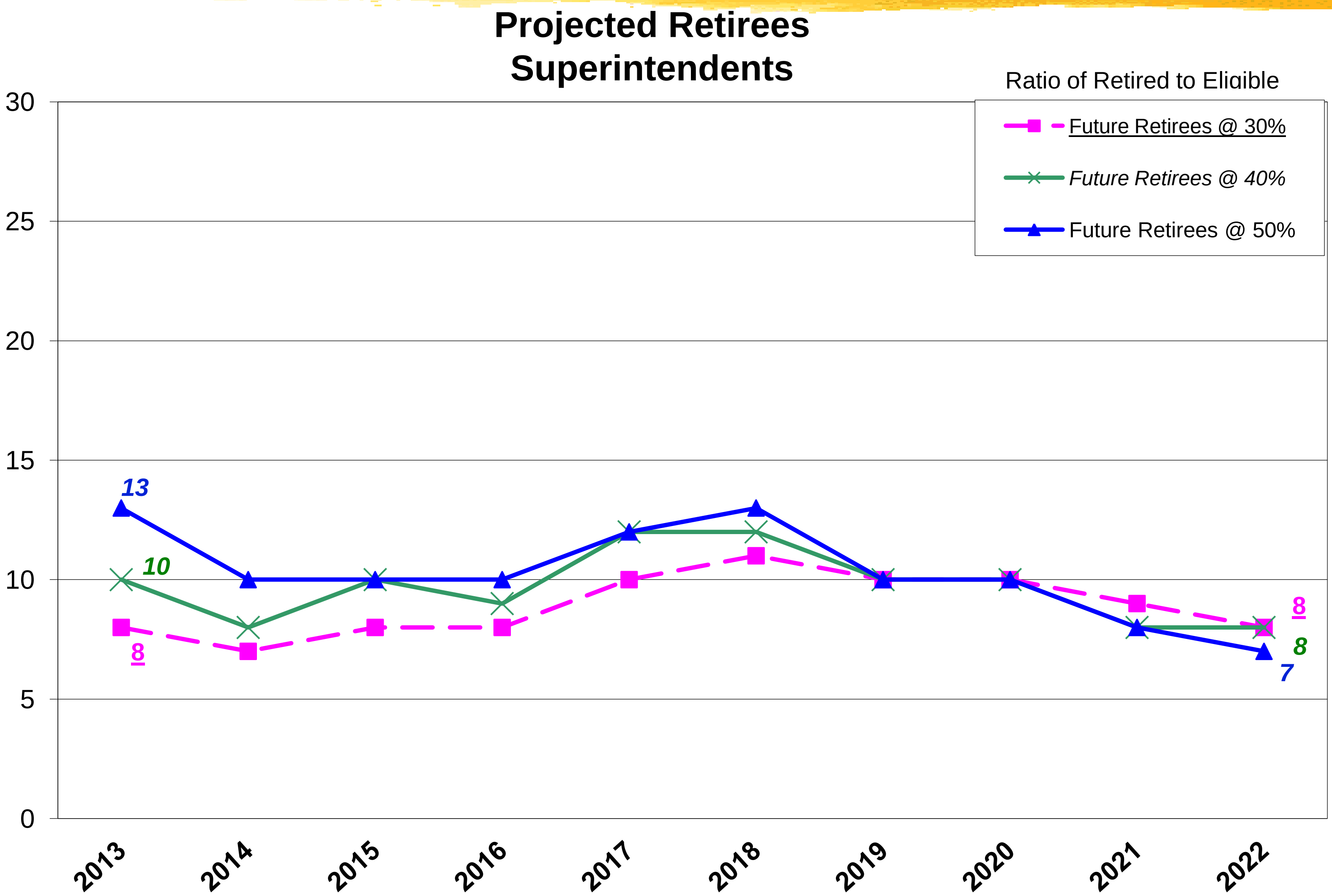
Based on ratios of 30%, 40%, and 50% of actual retirements to eligible retirements, the number of active members projected to retire in the next 10 years.

Tomorrow???



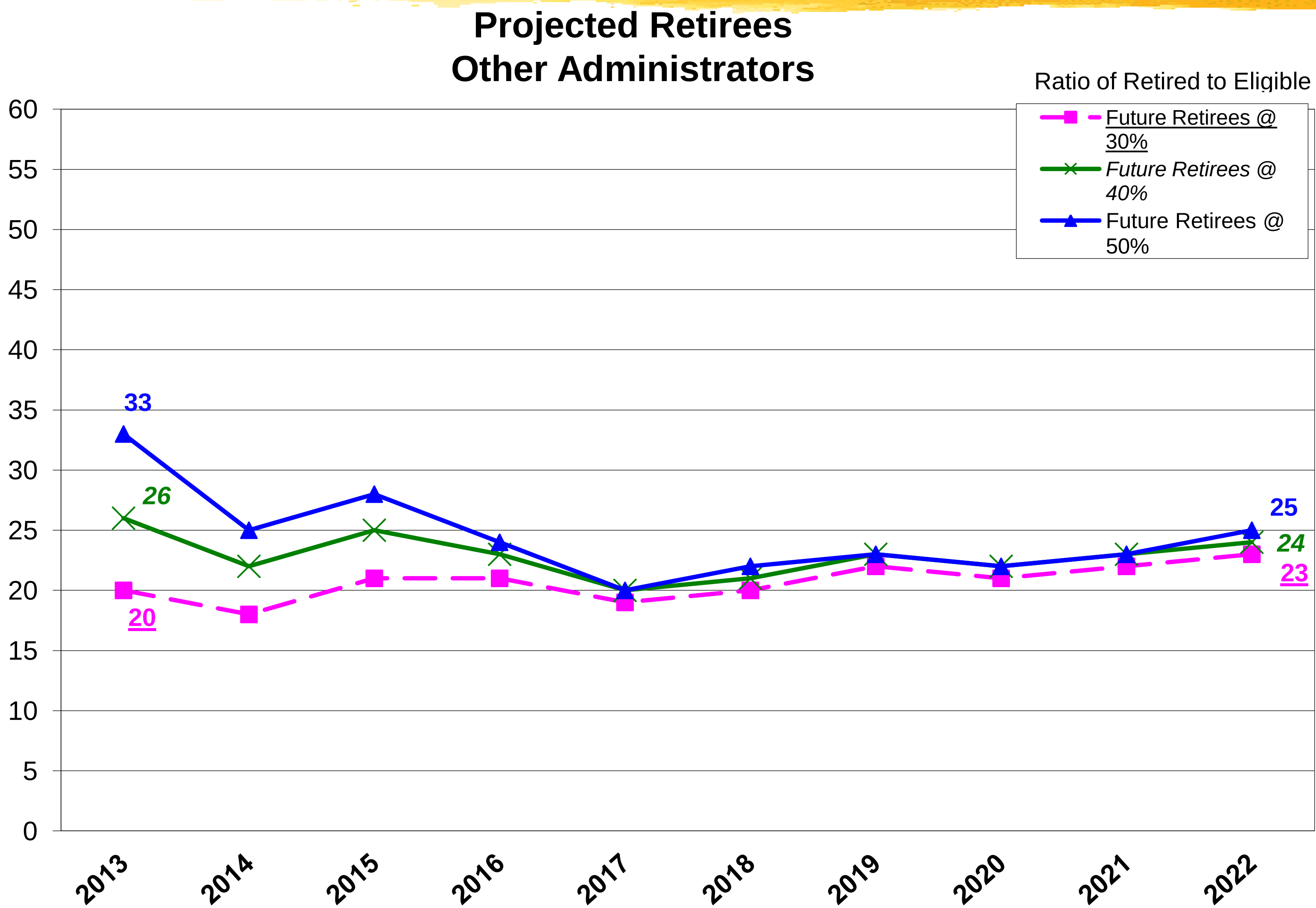
Based on ratios of 30%, 40%, and 50% of actual retirements to eligible retirements, the number of teachers and special teachers projected to retire in the next 10 years.

Tomorrow???



Based on ratios of 30%, 40%, and 50% of actual retire-ments to eligible retirements, the number of superintendents projected to retire in the next 10 years.

Tomorrow???



Based on ratios of 30%, 40%, and 50% of actual retire-ments to eligible retirements, the number of other administrators projected to retire in the next 10 years.

Summary

Based on ratios of 30% and 40% of actual retirements to eligible retirements, approximately 3,700 to 4,100 active members are projected to retire in the next 10 years which averages about 400 per year.

	Members	# Retire		Avg/Yr	
		30%	**40%**	**30%**	**40%**
Teachers and Special Teachers	9,643	3,402	3,731	340	373
Superintendents	128	89	97	9	10
Other Administrators	498	207	229	21	23
Total Active Members	10,269	3,698	4,057	370	406

Note: All retirement projections are estimates only.

MEMORANDUM

TO: TFFR Board

FROM: Fay Kopp

DATE: January 17, 2013

SUBJ: 2012 CAFR and PPCC Award

Enclosed is the 2012 NDRIO Comprehensive Annual Financial Report (CAFR) which provides a detailed look at investment, financial, actuarial, and statistical information about the TFFR and SIB programs. The CAFR is also posted to the NDRIO website at http://www.nd.gov/rio/SIB/Publications/CAFR/default.htm.

Please notice that the Government Finance Officers Association (GFOA) has awarded a Certificate of Achievement for Excellence in Financial Reporting to RIO for 14 years. In order to receive the award, the CAFR must satisfy both generally accepted accounting principles and applicable legal requirements (page 13).

Also, TFFR has once again received the 2012 Public Pension Standards Award for Funding and Administration from the Public Pension Coordinating Council (PPCC). To receive the award, the retirement system must certify that it meets specific standards for a comprehensive benefit program, actuarial valuations, financial reporting, investments, communications to members, and funding adequacy. TFFR has received a PPCC Award since 1992 (page 14).

If you have any questions about the information included in the CAFR, please let us know.

Enclosure

MEMORANDUM

TO: TFFR Board

FROM: Fay Kopp

DATE: January 17, 2013

SUBJ: Member Annual Statements

TFFR Policy C-5 Disclosure to Membership requires member handbooks, member statements, and financial reports to be prepared and made available to TFFR members in a timely manner. This memo is to document exceptions to this board policy due to extenuating circumstances.

Member Statements:

- All active and inactive members were mailed Annual Statements in August 2012. As we informed the Board earlier in 2011 legislative implementation updates, the 2011, 2012, and 2013 annual statements will not include retirement benefit estimates because the TFFR pension administration software changes are not yet completed. The recently approved grandfathering provisions and changes in retirement eligibility dates impact benefit estimates, therefore we did not think it was appropriate to send benefit estimates to members (which would not reflect legislative changes) until programming is complete and correct benefit eligibility dates can be determined for both grandfathered and non-grandfathered members. Individual benefit estimates continue to be available upon request.

- Retired members will be mailed their Annual Statements on January 30, 2013. Typically, retiree statements are sent in late December and include calendar year-to-date benefit totals as well as changes to monthly benefits due to new federal and state tax withholding tables each year. Unfortunately, due to delays by Congress in passing the “fiscal cliff” bill, new 2013 federal tax rates were not published until January 3, 2013, and so the new tables will be put into effect with February 1 retiree benefit payments. Consequently, we made the decision to also wait to send the retiree annual statements on January 30 so the statements can reflect the tax changes. Note: TFFR sent 1099 tax forms to retirees very early this year (January 14, 2013), so retirees will have the calendar year TFFR benefit information which is needed for filing 2012 taxes.

Enclosures

Policy Type: TFFR Program

Policy Title: Disclosure to Membership

It shall be the policy of the TFFR Board of Trustees that member handbooks, member statements, and financial reports be prepared and made available for TFFR members.

- Member Handbooks (Summary Plan Descriptions)

A member handbook will be developed and will include information about membership, contribution rates, service credit, benefit provisions for service retirement, disability retirement, and survivor benefits, eligibility for benefits, and how to apply for benefits. The handbook will be updated within 6 months of adoption of any significant legislative changes made to the plan.

Members will be notified in writing that the member handbook is available on the RIO website.

- Member Statements

All active and inactive members will be mailed a statement to their home within six months of fiscal year end reporting the status of their member account as of June 30 of the current year. The information to be reported annually will include: member's name, address, personal identification number, date of birth, beneficiary on file, value of account, retirement salary reported for current year, service credit earned during the current year, accumulated service credit, date of eligibility for unreduced benefits, retirement benefit estimate, and other information pertinent to the teacher's account.

All retired members and beneficiaries receiving monthly benefits will be mailed a statement to their home annually. The information will include: retired member's name, address, personal identification number, beneficiary on file, value of account, accumulated service credit, retirement date, retirement option, benefits received life-to-date, current monthly benefit, and adjustments to benefit (if applicable).

- Annual Financial Report

An annual financial report will be published within six months following every fiscal year end. The report will include financial, actuarial, and investment information about the plan. It will available on the RIO website, and can be provided to any TFFR member, benefit recipient, or the public upon request.

TFFR Board Adopted: July 16, 1998.
Amended: July 18, 2002, September 20, 2007, September 23, 2010.

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2012

	November-12					October-12					September-12					Current Fiscal YTD		Prior FY12		3 Years Ended 6/30/2012		5 Years Ended 6/30/2012
		Allocation		Month			Allocation		Month			Allocation		Quarter								
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Net
TOTAL FUND	1,697,497,980	100.0%	100.0%	0.92%	0.78%	1,682,745,616	100.0%	100.0%	0.15%	0.02%	1,683,110,433	100.0%	100.0%	4.53%	4.44%	5.65%	5.28%	-0.62%	-0.97%	12.29%	11.88%	-1.23%
POLICY TARGET BENCHMARK				0.78%	0.78%				-0.31%	-0.31%				4.37%	4.37%	4.86%	4.86%	-0.82%	-0.82%	11.17%	11.17%	1.19%
ATTRIBUTION ANALYSIS																						
Asset Allocation				0.00%	0.00%				-0.01%	-0.01%				0.01%	0.01%	0.01%	0.01%	0.27%	0.27%			
Manager Selection				0.14%	0.00%				0.47%	0.34%				0.14%	0.06%	0.79%	0.41%	-0.07%	-0.43%			
TOTAL RELATIVE RETURN				0.14%	0.00%				0.46%	0.33%				0.16%	0.07%	0.79%	0.42%	0.20%	-0.16%			
GLOBAL EQUITIES	975,380,716	57.5%	57.0%	1.15%	1.12%	964,617,589	57.3%	57.0%	-0.69%	-0.72%	975,918,182	58.0%	57.0%	5.81%	5.72%	5.81%	5.72%					
Benchmark				1.17%	1.17%				-0.78%	-0.78%				6.01%	6.01%	6.01%	6.01%					
Epoch (1)	77,840,437	4.6%	4.5%	1.70%	1.69%	76,520,541	4.5%	4.5%	-0.49%	-0.50%	77,035,363	4.6%	4.5%	4.91%	4.66%	6.17%	4.06%	-1.33%	-2.28%	11.26%	10.15%	0.02%
Calamos	23,218,572	1.4%	1.5%	1.04%	1.03%	23,020,000	1.4%	1.5%	-0.97%	-0.98%	23,245,618	1.4%	1.5%	6.14%	5.95%	6.21%	4.86%	N/A	N/A	N/A	N/A	N/A
Total Global Equities	101,059,008	6.0%	6.0%	1.55%	1.53%	99,540,541	5.9%	6.0%	-0.60%	-0.61%	100,280,981	6.0%	6.0%	5.19%	4.96%	6.18%	4.25%					
MSCI World (2)				1.28%	1.28%				-0.68%	-0.68%				6.71%	6.71%	7.34%	5.99%					
Domestic - broad	463,660,658	27.3%	27.4%	0.82%	0.80%	460,128,212	27.3%	27.4%	-1.71%	-1.74%	472,834,867	28.1%	27.4%	6.22%	6.13%	6.22%	6.13%					
Benchmark				0.73%	0.73%				-1.80%	-1.80%				6.08%	6.08%	6.08%	6.08%					
Large Cap Domestic																						
LA Capital	105,853,185	6.2%	6.7%	1.64%	1.63%	104,197,789	6.2%	6.7%	-2.96%	-2.97%	109,445,344	6.5%	6.7%	5.74%	5.69%	4.29%	4.20%	6.79%	6.56%	17.64%	17.43%	2.00%
Russell 1000 Growth				1.68%	1.68%				-2.92%	-2.92%				6.11%	6.11%	4.74%	4.74%	5.76%	5.76%	17.50%	17.50%	2.87%
LSV	108,269,267	6.4%	6.7%	0.50%	0.48%	107,727,563	6.4%	6.7%	-0.23%	-0.25%	108,316,199	6.4%	6.7%	7.51%	7.43%	7.80%	7.66%	-1.21%	-1.51%	15.39%	15.02%	-3.25%
Russell 1000 Value				-0.04%	-0.04%				-0.49%	-0.49%				6.50%	6.50%	5.94%	5.94%	3.00%	3.00%	15.80%	15.80%	-2.19%
LA Capital	71,460,288	4.2%	3.8%	0.69%	0.67%	70,994,552	4.2%	3.8%	-1.66%	-1.68%	73,757,095	4.4%	3.8%	5.41%	5.36%	4.38%	4.29%	6.37%	6.15%	17.26%	16.97%	0.99%
Russell 1000				0.79%	0.79%				-1.69%	-1.69%				6.31%	6.31%	5.34%	5.34%	4.37%	4.37%	16.64%	16.64%	0.39%
Northern Trust	35,336,476	2.1%	2.1%	-0.10%	-0.13%	35,373,331	2.1%	2.1%	-2.14%	-2.17%	36,231,281	2.2%	2.2%	7.05%	6.95%	4.65%	4.49%	6.46%	6.05%	16.89%	16.74%	0.00%
Prudential	-	0.0%	0.0%	1.36%	1.35%	162,806	0.0%	0.0%	0.00%	-0.01%	163,192	0.0%	0.0%	0.00%	-0.04%	1.36%	1.29%	6.42%	6.25%	30.88%	30.72%	N/A
Clifton	35,508,339	2.1%	1.9%	0.60%	0.58%	35,297,948	2.1%	1.9%	-1.84%	-1.86%	36,576,554	2.2%	1.9%	6.56%	6.49%	5.23%	5.11%	6.57%	6.30%	N/A	N/A	N/A
S&P 500				0.58%	0.58%				-1.85%	-1.85%				6.35%	6.35%	4.99%	4.99%	5.45%	5.45%	16.40%	16.40%	0.22%
Total Large Cap Domestic	356,427,555	21.0%	21.2%	0.82%	0.80%	353,753,988	21.0%	21.2%	-1.69%	-1.71%	364,489,664	21.7%	21.2%	6.40%	6.33%	5.46%	5.35%	3.68%	3.35%	17.27%	16.86%	-4.31%
Russell 1000 (2)				0.79%	0.79%				-1.69%	-1.69%				6.31%	6.31%	5.34%	5.34%	5.34%	5.34%	16.36%	16.36%	0.20%
Small Cap Domestic																						
SEI	128,775	0.0%	0.0%	0.00%	0.00%	128,760	0.0%	0.0%	69.90%	69.90%	75,044	0.0%	0.0%	-0.49%	-0.49%	69.07%	69.07%	-27.98%	-27.98%	-3.92%	-4.12%	-17.53%
Callan	53,911,697	3.2%	3.1%	1.01%	0.94%	53,396,079	3.2%	3.1%	-1.56%	-1.63%	53,743,850	3.2%	3.1%	5.14%	4.94%	4.55%	4.21%	-3.11%	-3.87%	19.05%	18.33%	0.63%
Clifton	53,192,630	3.1%	3.1%	0.63%	0.59%	52,849,384	3.1%	3.1%	-2.11%	-2.15%	54,526,309	3.2%	3.1%	6.12%	6.01%	4.54%	4.35%	-0.63%	-1.05%	N/A	N/A	N/A
Total Small Cap Domestic	107,233,103	6.3%	6.2%	0.82%	0.77%	106,374,224	6.3%	6.2%	-1.79%	-1.84%	108,345,204	6.4%	6.2%	5.63%	5.47%	4.59%	4.33%	0.23%	-0.37%	23.45%	22.72%	-0.06%
Russell 2000				0.53%	0.53%				-2.17%	-2.17%				5.25%	5.25%	3.52%	3.52%	-2.08%	-2.08%	17.80%	17.80%	0.54%
International - broad	307,987,164	18.1%	18.6%	2.04%	1.99%	301,720,599	17.9%	18.6%	0.73%	0.69%	299,730,142	17.8%	18.6%	7.22%	7.07%	7.22%	7.07%					
Benchmark				2.20%	2.20%				0.56%	0.56%				7.09%	7.09%	7.09%	7.09%					
Developed International																						
State Street	20,595,388	1.2%	1.7%	2.40%	2.33%	20,126,620	1.2%	1.7%	1.77%	1.70%	19,777,366	1.2%	1.7%	7.38%	7.15%	11.91%	11.50%	-17.85%	-18.59%	4.88%	4.18%	-8.34%
MSCI EAFE (3)				2.42%	2.42%				0.83%	0.83%				6.92%	6.92%	10.42%	10.42%	-13.83%	-13.83%	5.96%	5.96%	-6.10%
Capital Guardian	28,670,755	1.7%	3.8%	3.35%	3.30%	27,693,421	1.6%	3.8%	0.72%	0.67%	27,586,983	1.6%	3.8%	7.45%	7.29%	11.85%	11.58%	-11.29%	-11.83%	6.93%	6.40%	-6.44%
LSV	54,824,312	3.2%	3.8%	2.32%	2.27%	53,527,668	3.2%	3.8%	1.01%	0.96%	53,051,809	3.2%	3.8%	8.36%	8.21%	11.99%	11.73%	-15.65%	-16.14%	4.91%	4.41%	-9.09%
MSCI EAFE (4)				2.42%	2.42%				0.83%	0.83%				6.92%	6.92%	10.42%	10.42%	-13.83%	-13.83%	4.92%	4.92%	-6.49%
Clifton	90,376,869	5.3%	2.4%	2.20%	2.19%	88,357,689	5.3%	2.4%	1.27%	1.26%	87,282,832	5.2%	2.4%	6.10%	6.07%	9.81%	9.76%	-15.37%	-15.46%	N/A	N/A	N/A
MSCI EAFE				2.42%	2.42%				0.83%	0.83%				6.92%	6.92%	10.42%	10.42%	-13.83%	-13.83%			

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2012

	November-12					October-12					September-12					Current Fiscal YTD		Prior FY12		3 Years Ended 6/30/2012		5 Years Ended 6/30/2012
		Allocation		Month			Allocation		Month			Allocation		Quarter								
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Net
DFA	25,160,343	1.5%	1.7%	1.46%	1.39%	24,791,331	1.5%	1.7%	1.00%	0.93%	24,562,387	1.5%	1.7%	8.38%	8.16%	11.07%	10.68%	-17.09%	-17.81%	7.91%	7.22%	N/A
Wellington	28,744,535	1.7%	1.7%	1.60%	1.52%	28,322,567	1.7%	1.7%	0.30%	0.22%	28,227,279	1.7%	1.7%	7.56%	7.31%	9.61%	9.18%	-7.52%	-8.42%	13.15%	12.25%	-2.98%
S&P/Citigroup BMI EPAC < $2BN				***0.98%***	***0.98%***				***0.00%***	***0.00%***				***6.96%***	***6.96%***	***8.01%***	***8.01%***	***-15.07%***	***-15.07%***	***7.45%***	***7.45%***	***-6.11%***
Total Developed International	**248,372,202**	**14.6%**	**15.0%**	**2.23%**	**2.19%**	**242,819,295**	**14.4%**	**15.0%**	**1.05%**	**1.01%**	**240,488,656**	**14.3%**	**15.0%**	**7.25%**	**7.12%**	**10.79%**	**10.57%**	**-14.72%**	**-15.15%**	**8.42%**	**7.93%**	**-6.05%**
MSCI EAFE (4)				***2.42%***	***2.42%***				***0.83%***	***0.83%***				***6.92%***	***6.92%***	***10.42%***	***10.42%***	***-13.83%***	***-13.83%***	***4.92%***	***4.92%***	***-6.49%***
Emerging Markets																						
JP Morgan	16,181,683	1.0%	0.6%	1.72%	1.65%	15,932,098	0.9%	0.6%	-0.18%	-0.25%	15,960,447	0.9%	0.6%	6.49%	6.28%	8.13%	7.77%	-12.96%	-13.67%	10.63%	9.87%	0.43%
PanAgora	6,662,212	0.4%	0.6%	-0.12%	-0.20%	6,667,598	0.4%	0.6%	-0.22%	-0.30%	6,682,088	0.4%	0.6%	8.11%	7.86%	7.74%	7.32%	-14.67%	-15.49%	9.90%	9.15%	-1.25%
UBS	16,025,224	0.9%	1.1%	0.85%	0.78%	15,884,057	0.9%	1.1%	-1.27%	-1.34%	16,088,098	1.0%	1.1%	7.66%	7.42%	7.19%	6.80%	-15.06%	-15.82%	11.31%	10.48%	-0.03%
NTGI	7,608,031	0.4%	0.6%	1.30%	1.30%	7,507,508	0.4%	0.6%	-0.56%	-0.56%	7,550,007	0.4%	0.6%	5.15%	5.15%	5.92%	5.92%					
DFA	13,137,813	0.8%	0.7%	1.80%	1.72%	12,910,043	0.8%	0.7%	-0.31%	-0.39%	12,960,845	0.8%	0.7%	7.40%	7.15%	9.00%	8.56%	-16.19%	-17.02%	15.04%	14.26%	1.06%
Total Emerging Markets	**59,614,962**	**3.5%**	**3.5%**	**1.24%**	**1.18%**	**58,901,304**	**3.5%**	**3.5%**	**-0.56%**	**-0.62%**	**59,241,486**	**3.5%**	**3.5%**	**7.09%**	**6.88%**	**7.81%**	**7.46%**	**-9.21%**	**-9.98%**	**12.70%**	**12.00%**	**0.96%**
MSCI Emerging Markets				***1.27%***	***1.27%***				***-0.61%***	***-0.61%***				***7.74%***	***7.74%***	***8.45%***	***8.45%***	***-15.95%***	***-15.95%***	***9.98%***	***9.98%***	***0.14%***
Private Equity																						
Brinson IVCF III	40,278	0.0%		0.00%	0.00%	40,278	0.0%		0.00%	0.00%	40,278	0.0%		0.00%	0.00%	0.00%	0.00%	9.19%	9.19%	19.22%	19.22%	14.97%
Coral Partners V	1,487	0.0%		0.00%	0.00%	1,487	0.0%		0.00%	0.00%	1,487	0.0%		0.00%	0.00%	0.00%	0.00%	12.85%	12.85%	75.73%	75.73%	38.62%
Coral Partners V - Supplemental	95,761	0.0%		0.00%	0.00%	95,761	0.0%		0.00%	0.00%	95,761	0.0%		0.00%	0.00%	0.00%	0.00%	-58.37%	-58.37%	-15.87%	-15.87%	-14.90%
Coral Momentum Fund (Formerly Fund VI)	2,099,312	0.1%		0.00%	0.00%	2,095,983	0.1%		0.00%	0.00%	2,095,983	0.1%		-5.18%	-5.18%	-5.18%	-5.18%	4.47%	4.47%	-14.90%	-14.90%	-16.04%
Brinson 1998 Partnership Fund	54,460	0.0%		0.00%	0.00%	54,460	0.0%		0.00%	0.00%	54,460	0.0%		1.44%	1.44%	1.44%	1.44%	-14.46%	-14.46%	-1.43%	-1.43%	-7.20%
Brinson 1999 Partnership Fund	524,650	0.0%		0.00%	0.00%	524,650	0.0%		0.00%	0.00%	524,650	0.0%		3.42%	3.42%	3.42%	3.42%	-5.66%	-5.66%	8.72%	8.72%	0.81%
Brinson 2000 Partnership Fund	1,931,983	0.1%		0.00%	0.00%	1,931,983	0.1%		0.00%	0.00%	1,931,983	0.1%		2.43%	2.43%	2.43%	2.43%	6.74%	6.74%	14.10%	14.10%	5.38%
Brinson 2001 Partnership Fund	2,048,010	0.1%		0.00%	0.00%	2,199,468	0.1%		0.00%	0.00%	2,199,468	0.1%		-0.22%	-0.22%	-0.22%	-0.22%	4.90%	4.90%	12.44%	12.44%	2.58%
Brinson 2002 Partnership Fund	1,309,434	0.1%		0.00%	0.00%	1,309,434	0.1%		0.00%	0.00%	1,309,434	0.1%		-0.29%	-0.29%	-0.29%	-0.29%	12.41%	12.41%	22.51%	22.51%	3.79%
Brinson 2003 Partnership Fund	416,104	0.0%		0.00%	0.00%	416,104	0.0%		0.00%	0.00%	416,104	0.0%		-0.58%	-0.58%	-0.58%	-0.58%	-5.78%	-5.78%	10.46%	10.46%	-0.59%
Total Brinson Partnership Funds	6,284,641	0.4%		0.00%	0.00%	6,436,099	0.4%		0.00%	0.00%	6,436,099	0.4%		0.88%	0.88%	0.88%	0.88%	4.35%	4.35%	13.60%	13.60%	3.89%
Brinson 1999 Non-US Partnership Fund	216,285	0.0%		0.00%	0.00%	216,285	0.0%		0.00%	0.00%	216,285	0.0%		9.24%	9.24%	9.24%	9.24%	-0.36%	-0.36%	18.50%	18.50%	2.79%
Brinson 2000 Non-US Partnership Fund	543,074	0.0%		0.00%	0.00%	543,074	0.0%		0.00%	0.00%	622,195	0.0%		0.04%	0.04%	0.04%	0.04%	-3.49%	-3.49%	12.53%	12.53%	2.59%
Brinson 2001 Non-US Partnership Fund	330,313	0.0%		0.00%	0.00%	330,313	0.0%		0.00%	0.00%	384,710	0.0%		-3.59%	-3.59%	-3.59%	-3.59%	-14.12%	-14.12%	5.11%	5.11%	-7.15%
Brinson 2002 Non-US Partnership Fund	1,361,030	0.1%		0.00%	0.00%	1,434,234	0.1%		0.00%	0.00%	1,434,234	0.1%		2.74%	2.74%	2.74%	2.74%	-2.78%	-2.78%	12.99%	12.99%	-1.62%
Brinson 2003 Non-US Partnership Fund	848,524	0.0%		0.00%	0.00%	848,524	0.1%		0.00%	0.00%	848,524	0.1%		9.23%	9.23%	9.23%	9.23%	-11.60%	-11.60%	16.11%	16.11%	4.71%
Brinson 2004 Non-US Partnership Fund	629,998	0.0%		0.00%	0.00%	629,998	0.0%		0.00%	0.00%	629,998	0.0%		1.53%	1.53%	1.53%	1.53%	-8.24%	-8.24%	9.51%	9.51%	0.91%
Total Brinson Non-US Partnership Fund	3,929,224	0.2%		0.00%	0.00%	4,002,429	0.2%		0.00%	0.00%	4,135,946	0.2%		3.21%	3.21%	3.21%	3.21%	-6.71%	-6.71%	12.87%	12.87%	0.73%
Adams Street 2008 Non-US Partnership Fd	1,904,878	0.1%		0.00%	0.00%	1,904,878	0.1%		0.00%	0.00%	1,904,878	0.1%		3.75%	3.75%	3.75%	3.75%	-1.84%	-1.84%	3.99%	3.99%	N/A
Brinson BVCF IV	1,883,774	0.1%		0.00%	0.00%	1,883,774	0.1%		0.00%	0.00%	1,883,774	0.1%		0.00%	0.00%	0.00%	0.00%	64.19%	64.19%	89.31%	89.31%	44.31%
Adams Street Direct Co-investment Fund	8,244,215	0.5%		0.00%	0.00%	8,703,183	0.5%		0.00%	0.00%	8,869,298	0.5%		0.00%	0.00%	0.00%	0.00%	5.82%	5.82%	14.37%	14.37%	1.24%
Adams Street 2010 Direct Fund	373,254	0.0%		0.00%	0.00%	348,088	0.0%		0.00%	0.00%	348,088	0.0%		0.00%	0.00%	0.00%	0.00%	22.19%	22.19%	N/A	N/A	N/A
Adams Street 2010 Non-US Emerging Mkts	109,865	0.0%		0.00%	0.00%	109,865	0.0%		0.00%	0.00%	109,865	0.0%		-0.62%	-0.62%	-0.62%	-0.62%	-21.77%	-21.77%	N/A	N/A	N/A
Adams Street 2010 Non-US Developed Mkts	512,116	0.0%		0.00%	0.00%	487,997	0.0%		0.00%	0.00%	487,997	0.0%		3.38%	3.38%	3.38%	3.38%	4.57%	4.57%	N/A	N/A	N/A
Adams Street 2010 Partnership Fund	1,163,955	0.1%		0.00%	0.00%	1,163,955	0.1%		0.00%	0.00%	1,106,337	0.1%		1.41%	1.41%	1.41%	1.41%	8.84%	8.84%	N/A	N/A	N/A
Total Adams Street 2010 Funds	2,159,190	0.1%		0.00%	0.00%	2,109,905	0.1%		0.00%	0.00%	2,052,288	0.1%		1.52%	1.52%	1.52%	1.52%	8.71%	8.71%	N/A	N/A	N/A
Matlin Patterson Global Opportunities	6,129	0.0%		0.00%	0.00%	6,031	0.0%		0.00%	0.00%	6,031	0.0%		24.07%	24.07%	24.07%	24.07%	-21.48%	-21.48%	58.17%	58.17%	-0.76%
Matlin Patterson Global Opportunities II	807,518	0.0%		0.00%	0.00%	807,371	0.0%		0.00%	0.00%	807,371	0.0%		0.00%	0.00%	0.00%	0.00%	-79.03%	-79.03%	-53.26%	-53.26%	-45.01%
Matlin Patterson Global Opportunities III	12,344,159	0.7%		0.00%	0.00%	11,199,258	0.7%		0.00%	0.00%	11,199,258	0.7%		0.00%	0.00%	0.00%	0.00%	124.86%	124.86%	44.50%	44.50%	5.42%
InvestAmerica (Lewis and Clark Fund)	2,767,058	0.2%		0.00%	0.00%	3,284,605	0.2%		0.00%	0.00%	3,284,605	0.2%		0.00%	0.00%	0.00%	0.00%	6.13%	6.13%	8.60%	8.60%	7.72%
L&C II	4,017,598	0.2%		0.00%	0.00%	4,017,598	0.2%		0.00%	0.00%	4,017,598	0.2%		0.00%	0.00%	0.00%	0.00%	-3.26%	-3.26%	-10.62%	N/A	N/A
Corsair III (2)	5,638,787	0.3%		-5.72%	-5.72%	5,980,998	0.4%		-0.54%	-0.54%	5,980,998	0.4%		-0.60%	-0.60%	-6.79%	-6.79%	-1.10%	-2.14%	1.97%	1.61%	5.38%
Corsair III - ND Investors LLC (2)	5,083,961	0.3%		0.00%	0.00%	5,083,961	0.3%		-0.47%	-0.47%	5,083,961	0.3%		0.00%	0.00%	-0.47%	-0.47%	5.30%	5.04%	1.15%	1.06%	N/A
Corsair IV	4,661,915	0.3%		0.41%	0.41%	4,643,091	0.3%		-1.49%	-1.49%	4,843,042	0.3%		-1.20%	-1.20%	-2.28%	-2.28%	-15.55%	-16.03%	N/A	N/A	N/A
Capital International (CIPEF V)	11,736,161	0.7%		-0.22%	-0.22%	11,762,375	0.7%		-0.30%	-0.30%	11,631,956	0.7%		-0.47%	-0.47%	-0.98%	-0.98%	-4.74%	-4.74%	13.64%	13.57%	N/A
Capital International (CIPEF VI)	2,502,056	0.1%		-1.09%	-1.09%	2,383,482	0.1%		-3.07%	-3.07%	2,367,140	0.1%		-2.95%	-2.95%	-6.95%	-6.95%	N/A	N/A	N/A	N/A	N/A
EIG (formerly TCW)	16,468,396	1.0%		0.02%	0.02%	16,708,079	1.0%		-0.22%	-0.22%	16,744,602	1.0%		0.42%	0.42%	0.22%	0.22%	7.17%	7.17%	13.10%	13.10%	11.58%
Quantum Resources	5,541,405	0.3%		0.00%	0.00%	5,351,643	0.3%		0.00%	0.00%	5,351,643	0.3%		21.08%	21.08%	21.08%	21.08%	-0.85%	-0.85%	-13.12%	-13.12%	-49.44%
Quantum Energy Partners	4,455,981	0.3%		0.00%	0.00%	4,723,177	0.3%		0.00%	0.00%	4,235,403	0.3%		-2.37%	-2.37%	-2.37%	-2.37%	30.29%	30.29%	16.80%	16.80%	3.54%
Total Private Equity (8)	**102,673,886**	**6.0%**	**5.0%**	**-0.36%**	**-0.36%**	**103,228,237**	**6.1%**	**5.0%**	**-0.26%**	**-0.26%**	**103,072,192**	**6.1%**	**5.0%**	**0.88%**	**0.88%**	**0.25%**	**0.25%**	**5.12%**	**5.12%**	**12.90%**	**12.90%**	**-0.14%**

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2012

	November-12					October-12					September-12					Current Fiscal YTD		Prior FY12		3 Years Ended 6/30/2012		5 Years Ended 6/30/2012
		Allocation		Month			Allocation		Month			Allocation		Quarter								
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Net
GLOBAL FIXED INCOME	***376,110,651***	***22.2%***	***22.0%***	***0.62%***	***0.11%***	***374,351,731***	***22.2%***	***22.0%***	***1.01%***	***0.51%***	***375,572,494***	***22.3%***	***22.0%***	***4.19%***	***4.13%***	***4.19%***	***4.13%***					
Benchmark				***0.24%***	***0.24%***				***0.21%***	***0.21%***				***2.88%***	***2.88%***	***2.88%***	***2.88%***					
Domestic Fixed Income	***286,761,861***	***16.9%***	***17.0%***	***0.67%***	***0.01%***	***285,292,475***	***17.0%***	***17.0%***	***1.26%***	***0.62%***	***286,690,303***	***17.0%***	***17.0%***	***3.91%***	***3.86%***	***3.91%***	***3.86%***					
Benchmark				***0.35%***	***0.35%***				***0.40%***	***0.40%***				***2.44%***	***2.44%***	***2.44%***	***2.44%***					
Investment Grade Fixed Income																						
PIMCO (DiSCO II) (8)	38,013,527	2.2%	1.9%	2.23%	2.23%	37,179,638	2.2%	1.9%	6.80%	6.80%	34,973,450	2.1%	1.9%	9.64%	9.64%	19.70%	19.70%	N/A	N/A	N/A	N/A	N/A
BC Aggregate				***0.16%***	***0.16%***				***0.20%***	***0.20%***				***1.58%***	***1.58%***	***1.94%***	***1.94%***	***7.47%***	***7.47%***	***6.93%***	***6.93%***	***6.79%***
Bank of ND	20,015,919	1.2%	1.2%	1.35%	1.35%	19,746,418	1.2%	1.2%	-0.06%	-0.06%	19,848,156	1.2%	1.2%	-1.20%	-1.21%	0.07%	0.05%	9.53%	9.47%	7.95%	7.89%	7.73%
BC Long Treasuries				***1.33%***	***1.33%***				***-0.12%***	***-0.12%***				***0.20%***	***0.20%***	***1.42%***	***1.42%***	***15.86%***	***15.86%***	***9.62%***	***9.62%***	***8.26%***
PIMCO (Unconstrained)	24,314,072	1.4%	1.4%	0.11%	0.11%	24,283,221	1.4%	1.4%	0.48%	0.48%	28,336,708	1.7%	1.4%	2.65%	2.65%	3.25%	3.25%	N/A	N/A	N/A	N/A	N/A
3m LIBOR				***0.03%***	***0.03%***				***0.03%***	***0.03%***				***0.11%***	***0.11%***	***0.17%***	***0.17%***					
Declaration (Total Return)	23,643,214	1.4%	1.4%	1.88%	1.83%	23,203,935	1.4%	1.4%	1.08%	1.03%	23,075,219	1.4%	1.4%	3.49%	3.34%	6.58%	6.32%	N/A	N/A	N/A	N/A	N/A
3m LIBOR				***0.03%***	***0.03%***				***0.03%***	***0.03%***				***0.11%***	***0.11%***	***0.17%***	***0.17%***					
Western Asset	40,791,498	2.4%	2.4%	-0.14%	-0.15%	40,966,448	2.4%	2.4%	-0.21%	-0.22%	41,139,291	2.4%	2.4%	1.33%	1.29%	0.98%	0.91%	N/A	N/A	N/A	N/A	N/A
PIMCO (MBS)	60,385,531	3.6%	3.6%	-0.05%	-0.06%	60,449,397	3.6%	3.6%	-0.13%	-0.14%	60,810,157	3.6%	3.6%	2.05%	2.02%	1.87%	1.82%	N/A	N/A	N/A	N/A	N/A
BC Mortgage Backed Securities Index				***-0.17%***	***-0.17%***				***-0.17%***	***-0.17%***				***1.13%***	***1.13%***	***0.78%***	***0.78%***					
Total Investment Grade Fixed Income	**207,163,761**	**12.2%**	**12.0%**	**0.71%**	**0.70%**	**205,829,056**	**12.2%**	**12.0%**	**1.24%**	**1.23%**	**208,182,981**	**12.4%**	**12.0%**	**3.02%**	**2.99%**	**5.05%**	**4.99%**	**6.24%**	**6.01%**	**6.53%**	**5.91%**	**4.55%**
BC Aggregate				***0.16%***	***0.16%***				***0.20%***	***0.20%***				***1.58%***	***1.58%***	***1.94%***	***1.94%***	***7.47%***	***7.47%***	***6.93%***	***6.93%***	***6.79%***
Below Investment Grade Fixed Income																						
Loomis Sayles	73,566,028	4.3%	4.6%	0.58%	0.54%	73,290,629	4.4%	4.6%	1.46%	1.42%	72,288,176	4.3%	4.6%	6.38%	6.25%	8.56%	8.34%	2.57%	2.07%	16.71%	16.20%	6.96%
Goldman Sachs 2006 Fund (8)	1,780,543	0.1%	0.1%	0.00%	0.00%	1,780,543	0.1%	0.1%	-1.51%	-1.51%	1,842,965	0.1%	0.1%	0.37%	0.37%	-1.14%	-1.14%	-20.28%	-20.28%	31.00%	31.00%	-2.25%
Goldman Sachs Fund V (8)	4,251,527	0.3%	0.3%	0.00%	0.00%	4,251,527	0.3%	0.3%	0.00%	0.00%	4,376,180	0.3%	0.3%	-1.00%	-1.00%	-1.00%	-1.00%	7.04%	7.04%	22.19%	22.19%	N/A
PIMCO (8)	2	0.0%	0.0%	9.71%	9.71%	140,720	0.0%	0.0%	-259.60%	-259.60%	0	0.0%	0.0%	386.85%	386.85%	-952.47%	-952.47%	5.54%	5.54%	30.43%	30.43%	N/A
Total Below Investment Grade Fixed Income	**79,598,100**	**4.7%**	**5.0%**	**0.55%**	**-1.77%**	**79,463,419**	**4.7%**	**5.0%**	**1.31%**	**-1.02%**	**78,507,322**	**4.7%**	**5.0%**	**6.33%**	**6.22%**	**8.32%**	**3.28%**	**3.45%**	**3.06%**	**17.33%**	**16.95%**	**3.99%**
LB High Yield 2% Issuer Constrained Index				***0.80%***	***0.80%***				***0.88%***	***0.88%***				***4.53%***	***4.53%***	***6.29%***	***6.29%***	***7.21%***	***7.21%***	***16.20%***	***16.20%***	***8.62%***
International Fixed Income	**89,348,790**	**5.3%**	**5.0%**	**0.44%**	**0.41%**	**89,059,255**	**5.3%**	**5.0%**	**0.18%**	**0.15%**	**88,882,192**	**5.3%**	**5.0%**	**5.11%**	**5.02%**	***5.77%***	***5.62%***					
Benchmark				***-0.14%***	***-0.14%***				***-0.42%***	***-0.42%***				***4.37%***	***4.37%***	***3.79%***	***3.79%***					
Developed Investment Grade Int'l FI																						
UBS Global (Brinson)	43,571,568	2.6%	2.5%	-0.18%	-0.20%	43,679,466	2.6%	2.5%	-0.05%	-0.07%	43,731,242	2.6%	2.5%	4.77%	4.69%	4.53%	4.40%	-0.87%	-1.16%	5.36%	5.05%	6.72%
BC Global Aggregate ex-US (6)				***-0.14%***	***-0.14%***				***-0.42%***	***-0.42%***				***4.37%***	***4.37%***	***3.79%***	***3.79%***	***-0.64%***	***-0.64%***	***5.23%***	***5.23%***	***7.45%***
Brandywine	45,777,222	2.7%	2.5%	1.04%	1.01%	45,379,790	2.7%	2.5%	0.41%	0.38%	45,150,950	2.7%	2.5%	5.45%	5.35%	6.98%	6.81%	9.67%	9.25%	13.36%	12.95%	9.36%
BC Global Aggregate (ex-US)				***-0.01%***	***-0.01%***				***-0.14%***	***-0.14%***				***3.27%***	***3.27%***	***3.12%***	***3.12%***	***2.73%***	***2.73%***	***6.31%***	***6.31%***	***7.11%***
Total Developed Investment Grade Int'l FI	**89,348,790**	**5.3%**	**5.0%**	**0.44%**	**0.41%**	**89,059,255**	**5.3%**	**5.0%**	**0.18%**	**0.15%**	**88,882,192**	**5.3%**	**5.0%**	**5.11%**	**5.02%**	**5.77%**	**5.62%**	**4.61%**	**4.25%**	**9.76%**	**9.40%**	**8.29%**
BC Global Aggregate ex-US				***-0.14%***	***-0.14%***				***-0.42%***	***-0.42%***				***4.37%***	***4.37%***	***3.79%***	***3.79%***	***-0.64%***	***-0.64%***	***5.23%***	***5.23%***	***7.45%***

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2012

	November-12					October-12					September-12					Current Fiscal YTD		Prior FY12		3 Years Ended 6/30/2012		5 Years Ended 6/30/2012
		Allocation		Month			Allocation		Month			Allocation		Quarter								
	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Market Value	Actual	Policy	Gross (8)	Net	Gross (7)	Net	Gross (7)	Net	Gross	Net	Net
GLOBAL REAL ASSETS	332,857,798	19.6%	20.0%	0.64%	0.60%	329,288,018	19.6%	20.0%	1.72%	1.68%	322,866,740	19.2%	20.0%	1.36%	1.26%	1.36%	1.26%					
Benchmark				0.30%	0.30%				0.43%	0.43%				1.59%	1.59%	1.59%	1.59%					
Global Real Estate																						
INVESCO - Core	60,710,376			0.00%	-0.03%	60,710,376			-0.10%	-0.14%	60,772,364			2.80%	2.70%	2.70%	2.53%	8.97%	8.54%	8.03%	7.54%	-1.28%
INVESCO - Fund II (8)	21,625,528			0.00%	0.00%	21,625,528			9.32%	9.32%	19,782,387			0.00%	0.00%	9.32%	9.32%	28.70%	28.70%	-3.10%	-3.10%	N/A
INVESCO - Fund III (9)	9,576,915			0.00%	0.00%	9,576,915			4.34%	4.34%	9,178,937			0.00%	0.00%	4.34%	4.34%	N/A	N/A	N/A	N/A	N/A
INVESCO - Asia Real Estate Fund (8)	8,985,902			8.07%	8.07%	8,315,072			0.00%	0.00%	8,315,072			-3.39%	-3.39%	4.41%	4.41%	1.09%	1.09%	-22.90%	-22.90%	N/A
J.P. Morgan Strategic & Special Funds	55,255,078			0.75%	0.68%	54,846,097			0.70%	0.63%	54,593,439			3.65%	3.43%	5.16%	4.78%	13.33%	12.37%	8.42%	7.42%	-2.25%
J.P. Morgan Alternative Property Fund	8,377,546			0.00%	-0.02%	8,377,546			7.55%	7.53%	7,794,835			3.11%	3.04%	10.89%	10.77%	27.71%	27.38%	2.93%	2.15%	-9.30%
J.P. Morgan Greater Europe Fund (8)	3,149,389			0.37%	0.37%	3,137,766			0.72%	0.72%	3,127,503			-16.43%	-16.43%	-15.52%	-15.52%	-100.01%	-100.01%	N/A	N/A	N/A
J.P. Morgan Greater China Property Fund (8)	10,397,216			0.00%	0.00%	10,691,423			0.06%	0.06%	10,691,423			-4.30%	-4.30%	-4.24%	-4.24%	-4.20%	-4.20%	3.62%	3.62%	N/A
Total Global Real Estate	178,077,950	10.5%	10.0%	0.62%	0.57%	177,280,724	10.5%	10.0%	1.82%	1.78%	174,255,960	10.4%	10.0%	1.42%	1.32%	3.91%	3.71%	12.97%	12.46%	7.34%	6.72%	-2.97%
NCREIF TOTAL INDEX				0.77%	0.77%				0.77%	0.77%				2.34%	2.34%	3.93%	3.93%	12.04%	12.04%	8.82%	8.82%	2.51%
Timber																						
TIR - Teredo (7)	35,244,635	2.1%		0.00%	0.00%	35,244,635	2.1%		6.97%	6.97%	32,948,859	2.0%		0.00%	0.00%	6.97%	6.97%	-2.76%	-2.76%	4.79%	4.79%	8.28%
TIR - Springbank	54,977,710	3.2%		0.00%	0.00%	54,977,710	3.3%		0.19%	0.19%	54,886,635	3.3%		0.02%	0.02%	0.21%	0.21%	-5.48%	-5.48%	-8.06%	-8.06%	-1.70%
Total Timber	90,222,345	5.3%	5.0%	0.00%	0.00%	90,222,345	5.4%	5.0%	2.73%	2.73%	87,835,494	5.2%	5.0%	0.01%	0.01%	2.75%	2.75%					
NCREIF Timberland Index(8)				0.25%	0.25%				0.25%	0.25%				0.75%	0.75%	1.25%	1.25%	1.49%	1.49%	-3.83%	-0.56%	4.43%
Infrastructure																						
JP Morgan (Asian)	9,112,014	0.5%		0.00%	0.00%	7,491,263	0.4%		0.16%	0.16%	7,491,263	0.4%		0.00%	0.00%	0.16%	0.16%	-4.29%	-4.29%	-0.51%	-0.68%	N/A
JP Morgan (IIF)	43,003,826	2.5%		2.40%	2.29%	42,053,403	2.5%		0.00%	-0.11%	42,053,403	2.5%		4.61%	4.28%	7.12%	6.55%	4.51%	3.22%	5.87%	4.40%	-0.91%
Credit Suisse	12,441,664	0.7%		0.00%	0.00%	12,240,283	0.7%		-0.30%	-0.30%	11,230,619	0.7%		-0.31%	-0.31%	-0.61%	-0.61%	N/A	N/A	N/A	N/A	N/A
Total Infrastructure (8)	64,557,503	3.8%	5.0%	1.63%	1.56%	61,784,949	3.7%	5.0%	-0.04%	-0.11%	60,775,286	3.6%	5.0%	3.09%	2.86%	4.73%	4.35%					
CPI				-0.61%	-0.61%				-0.09%	-0.09%				0.95%	0.95%	0.25%	0.25%					
Cash Equivalents																						
Northern Trust STIF	13,148,815			0.02%	0.02%	14,488,278			0.02%	0.02%	8,753,017			0.03%	0.03%	0.07%	0.07%	0.13%	0.13%	0.14%	0.14%	0.42%
Total Cash Equivalents	13,148,815	0.8%	1.0%	0.02%	0.02%	14,488,278	0.9%	1.0%	0.02%	0.02%	8,753,017	0.5%	1.0%	0.03%	0.03%	0.07%	0.07%	0.13%	0.13%	0.19%	0.19%	0.46%
90 Day T-Bill				0.02%	0.02%				0.01%	0.01%				0.03%	0.03%	0.06%	0.06%	0.06%	0.06%	0.13%	0.13%	0.99%

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.

ND STATE INVESTMENT BOARD MEETING

Friday, January 25, 2013, 8:30 a.m.
Workforce Safety & Insurance
1600 E Century, Bismarck, ND

AGENDA

I. CALL TO ORDER AND ACCEPTANCE OF AGENDA

II. ACCEPTANCE OF MINUTES

A. November 16, 2012
B. December 13, 2012

III. INVESTMENTS

A. Epoch - (90 min)
B. Bank of North Dakota - (up to 30 min)
Bank of North Dakota Possible Executive Session for Attorney Consultation
N.D.C.C. §44-04-19.1(2), N.D.C.C. §44-04-19.1(5) and N.D.C.C. §44-04-19.2
C. RV Kuhns - Mr. Schulz (5 min)
D. EIG Update - Mr. Schulz (5 min)
E. Social Investing - Mr. Schulz (15 min)

IV. GOVERNANCE

A. Administration
1. Search Committee Update - Search Committee (enclosed)
2. Audit Committee Liaison Report - Mr. Gessner (enclosed) (5 min)

V. LEGISLATIVE UPDATE - Mr. Schulz, Ms. Flanagan (enclosed) (15 min)

VI. QUARTERLY MONITORING (enclosed) (5 min)

A. Budget and Financial Conditions - Ms. Flanagan
B. Executive Limitations/Staff Relations - Ms. Kopp
C. Investment Program - Mr. Schulz
D. Retirement Program - Ms. Kopp
E. RIO June 30, 2012 Financial Audit Report - Ms. Flanagan (enclosed under Item IV.A.2.)

VII. OTHER

Next Meetings:
SIB meeting - February 22, 2013, 8:30 a.m. - Workforce Safety & Insurance
SIB Audit Committee meeting - February 22, 2013, 1:00 p.m. - Workforce Safety & Insurance

VIII. ADJOURNMENT

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
DECEMBER 13, 2012, TELECONFERENCE BOARD MEETING

BOARD MEMBERS PRESENT:	Drew Wrigley, Lt. Governor, Chair Mike Sandal, Vice Chair Clarence Corneil, TFFR Board Levi Erdmann, PERS Board Lance Gaebe, Land Commissioner Mike Gessner, TFFR Board Adam Hamm, Insurance Commissioner Howard Sage, PERS Board Kelly Schmidt, State Treasurer Cindy Ternes, Workforce Safety & Insurance Bob Toso, TFFR Board
STAFF PRESENT:	Connie Flanagan, Fiscal & Investment Officer Bonnie Heit, Office Manager Fay Kopp, Interim Executive Director Leslie Moszer, Compliance Officer Darren Schulz, Interim CIO
OTHERS PRESENT:	Jan Murtha, Attorney General's Office

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 8:30 a.m. on Thursday, December 13, 2012.

A quorum was present for the purpose of conducting business.

AGENDA:

TREASURER SCHMIDT MOVED AND MS. TERNES SECONDED TO ACCEPT THE DECEMBER 13, 2012, AGENDA.

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

INVESTMENTS:

Epoch – Mr. Schulz informed the SIB Toronto-Dominion Bank Group is acquiring Epoch Holdings Corporation, the parent of Epoch Investment Partners. The acquisition is expected to be completed in the first half of 2013.

Mr. Schulz recommended placing Epoch under review due to a change in ownership.

TREASURER SCHMIDT MOVED AND MR. SANDAL SECONDED TO PLACE EPOCH ON WATCH.

AYES: MR. SAGE, MR. SANDAL, MR. CORNEIL, MR. GESSNER, MR. TOSO, MR. ERDMANN, MS. TERNES, COMMISSIONER HAMM, COMMISSIONER GAEBE, TREASURER SCHMIDT, AND LT. GOVERNOR WRIGLEY

NAYS: NONE
MOTION CARRIED

Bank of North Dakota – Mr. Schulz informed the SIB a meeting was held with BND representatives on November 30, 2012, to discuss the transition of the Pension Trust assets from a Barclays Capital Government Index mandate to a Barclays Capital Long Treasury Index. The next meeting has been scheduled for December 19, 2012. Mr. Schulz will continue to provide updates to the SIB.

FTE Discussion – At the November 16, 2012, SIB meeting, Mr. Schulz expressed the probable need to expand the investment staff in the future because of the additional oversight that will be required to effectively monitor and manage the Legacy Fund. The SIB directed staff to begin the process of requesting one additional full time position for the Investment Division.

Staff informed the SIB they were not able to include the request for an additional full time position within the Governor's budget as the Governor's budget was in the final stages of formalization. The next option would be to request an amendment to RIO's budget when the budget is heard before the Legislative Appropriations Committees. Staff suggested postponing the request for an additional position until the ED/CIO position is filled and that individual can make an assessment and determination regarding staffing needs.

After discussion, the SIB upheld their motion and suggested staff include in their testimony to the Appropriations Committees that there may be a need for an additional full-time position in the future and that the SIB is in support of additional staffing. The SIB will leave the final determination on staffing needs to the ED/CIO once the individual is in place.

Search Committee – Mr. Sandal updated the SIB on the action taken by the Search Committee at their December 12, 2012, meeting. The Search Committee, after discussing their options, decided not to utilize the services of a search consulting firm but rather the services of the State Human Resource Management Services (HRMS), a division of the Office of Management and Budget. The Search Committee felt confident the recruitment of ED/CIO candidates could be processed much more quickly and cost effectively with the same level of quality that would be achieved utilizing a search consulting firm. Treasurer Schmidt and Mr. Sandal will work with HRMS to begin the process; finalizing the advertisement, the job description, and any other paperwork or documentation that needs to be prepared prior to advertising for the position. The search will be broad based using various professional journals, regional newspapers, and Job Service ND. The anticipated salary range will be $180,000 - $220,000. The Search Committee's goal is to have an offer on the table by May 2013.

Westridge/WG Trading – Ms. Murtha requested the SIB enter into Executive Session pursuant to NDCC 44-04-19.1(2), NDCC 44-04-19.1(5), and NDCC 44-04-19.2 for the purposes of attorney consultation regarding the Westridge/WG Trading litigation.

TREASURER SCHMIDT MOVED AND MR. SANDAL SECONDED TO ENTER INTO EXECUTIVE SESSION FOR ATTORNEY CONSULTATION REGARDING THE WESTRIDGE/WG TRADING LITIGATION.

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

The board entered into Executive Session at 9:05 a.m.

The following individuals participated by teleconference - Mr. Corneil, Mr. Toso, Commissioner Hamm, Mr. Gessner, Mr. Sage, and Lt. Governor Wrigley,

The following individuals were present at RIO – Mr. Erdmann, Treasurer Schmidt, Commissioner Gaebe, Mr. Sandal, Ms. Ternes, Mr. Schulz, Ms. Flanagan, Ms. Heit, Ms. Moszer, Ms. Kopp, and Ms. Murtha.

The Board exited the Executive Session at 9:13 a.m.

Ms. Murtha received instructions and input from the SIB to pass along to the appellate counsel, Jenner & Block, and K&L Gates at the district court level.

With no further business to come before the SIB, Ms. Ternes moved and Treasurer Schmidt seconded to adjourn the meeting at 9:16 a.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
NOVEMBER 16, 2012, BOARD MEETING

BOARD MEMBERS PRESENT:	Mike Sandal, Vice Chair Clarence Corneil, TFFR Board Levi Erdmann, PERS Board Lance Gaebe, Land Commissioner Mike Gessner, TFFR Board Adam Hamm, Insurance Commissioner (teleconference) Howard Sage, PERS Board Kelly Schmidt, State Treasurer Cindy Ternes, Workforce Safety & Insurance Bob Toso, TFFR Board
BOARD MEMBER ABSENT:	Drew Wrigley, Lt. Governor, Chair
STAFF PRESENT:	Connie Flanagan, Fiscal & Investment Officer Bonnie Heit, Office Manager Fay Kopp, Interim Executive Director Leslie Moszer, Compliance Officer Darren Schulz, Interim CIO Susan Walcker, Investment Accountant
OTHERS PRESENT:	Jeff Engleson, Land Dept. Bryan Klipfel, WSI Josef Lakonishok, LSV Jan Murtha, Attorney General's Office Tricia Opp, Procurement Office James Owens, LSV

CALL TO ORDER:

Mr. Sandal called the State Investment Board (SIB) meeting to order at 8:30 a.m. on Friday, November 16, 2012, at Workforce Safety & Insurance, 1600 E Century, Bismarck, ND.

A quorum was present for the purpose of conducting business.

AGENDA:

MR. CORNEIL MOVED AND MR. GESSNER SECONDED TO ACCEPT THE NOVEMBER 16, 2012, AGENDA AS REVISED.

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

MINUTES:

The minutes were considered from the October 26, 2012, meeting.

TREASURER SCHMIDT MOVED AND MS. TERNES SECONDED TO ACCEPT THE OCTOBER 26, 2012, MINUTES AS WRITTEN.

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

INVESTMENTS:

LSV – Representatives provided an organizational, strategy, and performance overview of the firm.

Mr. Schulz reviewed his recommendation to transition LSV's current mandates in the Pension Trust's existing large cap value and international value equity into a single global equity mandate within the global equity allocation.

After discussion,

MS. TERNES MOVED AND MR. CORNEIL SECONDED TO ACCEPT STAFF RECOMMENDATION AND TRANSITION LSV'S CURRENT MANDATES INTO A SINGLE GLOBAL EQUITY MANDATE WITHIN THE GLOBAL EQUITY ALLOCATION IN THE PENSION TRUST.

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

The SIB is of the understanding that staff will negotiate an appropriate fee structure for the new mandate.

Bank of North Dakota (BND) – Mr. Schulz informed the SIB he has been in contact with BND representatives to establish dates to discuss the transition of the Pension Trust assets from a Barclays Capital Government Index mandate to a Barclays Capital Long Treasury Index. Mr. Schulz will keep the SIB informed.

Clifton Group – Mr. Schulz informed the SIB The Clifton Group is being acquired by Parametric Portfolio Associates on or about December 31, 2012. Mr. Schulz and Callan Associates are in contact with Clifton representatives and monitoring the acquisition. Mr. Schulz also recommended placing The Clifton Group on watch for further assessment and due diligence.

TREASURER SCHMIDT MOVED AND MR. SAGE SECONDED TO ACCEPT STAFF RECOMMENDATION AND PLACE THE CLIFTON GROUP ON WATCH.

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

Legacy Fund – Mr. Schulz updated the SIB on the November 15, 2012, meeting with the Legacy and Budget Stabilization Fund Advisory Board (Advisory Board). RVKuhns representatives conducted their first meeting with the Advisory Board and discussed fund revenues, risk tolerance, asset mix, spending, roles of the Advisory Board and the SIB, and project support. Mr. Schulz will continue to provide updates to the SIB on the progress of establishing an asset allocation and spending plan for the Legacy Fund.

The SIB recessed at 10:30 a.m. and reconvened at 10:40 a.m.

GOVERNANCE:

RIO Structure – At the October 26, 2012, SIB meeting, the SIB instructed staff to provide an organizational chart which would keep RIO intact, and assign the Executive Director duties to a separate new position. In addition, the SIB asked staff to estimate costs, and outline potential job duties and responsibilities for a separate Executive Director position. Ms. Kopp reviewed the requested information.

After discussion, the SIB took the following action,

MR. ERDMANN MOVED AND MR. SAGE SECONDED TO AFFIRM THE RIO ORGANIZATIONAL STRUCTURE AS IT CURRENTLY EXISTS AND IS REPRESENTED IN CHART NO. 1.

AYES: MR. ERDMANN, TREASURER SCHMIDT, MR. CORNEIL, MR. TOSO, COMMISSIONER HAMM, MR. GESSNER, MR. SAGE, MR. SANDAL
NAYS: COMMISSIONER GAEBE, MS. TERNES
MOTION CARRIED
ABSENT: LT. GOVERNOR WRIGLEY

COMMISSIONER GAEBE MOVED AND MS. TERNES SECONDED TO DIRECT THE EXISTING SEARCH COMMITTEE TO IMMEDIATELY INITIATE EFFORTS TO RECRUIT A SLATE OF CANDIDATES FOR THE ED/CIO POSITION.

AYES: MR. TERNES, MR. CORNEIL, COMMISSIONER GAEBE, MR. ERDMANN, MR. TOSO, MR. SANDAL, MR. SAGE,
NAYS: COMMISSIONER HAMM, TREASURER SCHMIDT, MR. GESSNER
MOTION CARRIED
ABSENT: LT. GOVERNOR WRIGLEY

MR. TOSO MOVED AND MR. SAGE SECONDED TO AUTHORIZE THE SEARCH COMMITTEE TO HIRE AN EXECUTIVE SEARCH FIRM TO ASSIST THEM IN THE HIRING OF AN ED/CIO IF THEY SO DESIRE.

AYES: COMMISSIONER HAMM, MS. TERNES, MR. CORNEIL, TREASURER SCHMIDT, MR. GESSNER, MR. SAGE, COMMISSIONER GAEBE, MR. TOSO, MR. SANDAL
NAYS: MR. ERDMANN
MOTION CARRIED
ABSENT: LT. GOVERNOR WRIGLEY

The Search Committee consists of Lt. Governor Wrigley, Chair, Treasurer Schmidt, Commissioner Gaebe, Mr. Sandal, and Mr. Toso.

Mr. Schulz expressed the probable need to expand the investment staff in the future because of the additional oversight that will be required to effectively monitor and manage the Legacy Fund. After discussion,

MS. TERNES MOVED AND COMMISSIONER GAEBE SECONDED TO REQUEST TWO ADDITIONAL FULL TIME POSITIONS TO BE UTILIZED AS THE NEW ED/CIO WOULD SEE FIT ALONG WITH BEST ESTIMATED COSTS FOR THOSE POSITIONS.

AYES: TREASURER SCHMIDT, COMMISSIONER GAEBE, MS. TERNES
NAYS: MR. TOSO, MR. CORNEIL, MR. ERDMANN, COMMISSIONER HAMM, MR. GESSNER, MR. SAGE, AND MR. SANDAL
MOTION FAILED
ABSENT: LT. GOVERNOR WRIGLEY

COMMISSIONER GAEBE MOVED AND TREASURER SCHMIDT SECONDED TO DIRECT STAFF TO BEGIN THE PROCESS OF REQUESTING ONE ADDITONAL FULL TIME POSITION FOR THE INVESTMENT DIVISION.

AYES: MS. TERNES, COMMISSIONER GAEBE, MR. GESSNER, MR. SAGE, MR. ERDMANN, MR. TOSO, MR. CORNEIL, TREASURER SCHMIDT, AND MR. SANDAL
NAYS: COMMISSIONER HAMM
MOTION CARRIED
ABSENT: LT. GOVERNOR WRIGLEY

MONITORING:

Mr. Schulz reviewed Callan's Investment Measurement Reports for the Pension and Insurance Trusts for the quarter ending September 30, 2012.

ADJOURNMENT:

With no further business to come before the SIB, Mr. Sandal adjourned the meeting at 12:00 p.m.

Respectfully Submitted:

____
Mr. Sandal, Vice Chair
State Investment Board

____
Bonnie Heit
Assistant to the Board

Asset Allocation Definitions

<u>Global Equity</u>

Definition

Investment represents an ownership claim on the residual assets of a company after the discharge of all senior claims such as secured and unsecured debt.

Public Equity

Public equity is traded on a national exchange. Includes common stock, preferred stock, convertible to stock, options, warrants, futures and other derivatives on equities or composites of equities, exchange-traded funds and equity-linked notes, units and partnership shares representing ownership interests in an underlying equity investment.

Private Equity

Private equity represents equity or equity linked securities in operating companies that are not publicly traded on a stock exchange.

Types of investment strategies:

- *Leveraged buyout (LBO)* – Acquisition of a company with the use of financial leverage
- *Growth capital* – Investment in mature companies looking for capital to expand, restructure, enter new markets
- *Venture capital* – Investment in typically less mature companies, for launch, early development, or expansion
- *Mezzanine* – Subordinated debt/preferred equity used to reduce amount of equity capital required to finance LBOs
- *Distressed* – Equity securities of financially stressed companies
- *Secondaries* – Investment in existing private equity assets

Types of structures:

- *Direct investment* – Direct purchase of equity securities of a private company
- *Co-investments* – Investments in equity securities of a private company alongside the manager of a direct fund
- *Direct fund* – Pool of capital formed to make direct investments
- *Fund-of-funds* – Pool of capital formed to make investments in direct funds

Strategic Role

- High long-term real returns
- Hedge against active (pre-retirement) liabilities
- Private equity enhances total portfolio return as a tradeoff for illiquidity

Characteristics

Public Developed Markets

- Relatively high returns (long-term)
- Relatively high volatility (standard deviation of returns)
- Relatively high liquidity
- Diversification
- Currency adds to volatility but can be hedged, which mutes the diversification benefits

Public Emerging Markets

- Higher expected returns due to economic growth potential
- Liquidity risk is significant
- High volatility
- FX markets not sufficiently developed to hedge currency risk
- Limited access to markets
- Market information less abundant than for developed markets

Private Equity

- Illiquid, long-term time horizon (7-12 year closed-end partnerships)
- Quality of the managers selected is the key determinant of success
- High volatility of returns compensated by higher expected returns
- Encompasses three stages: fundraising, portfolio construction and investment, exit and return realization

Risks

Public Equity

- *Absolute risk* – Possible magnitude of price decline
- *Liability hedging risk* – Risk that assets will not increase when liabilities increase
- *Regulatory risk* – Changes may adversely affect markets
- *Tax risk* – Changes may adversely affect markets
- *Liquidity risk* – Difficulty trading securities under adverse market conditions
- *Firm specific risk* – Unique risks associated with a specific firm
- *Tracking risk* – Magnitude of performance deterioration from a benchmark
- *Time horizon* – Horizon too short to weather cycles
- *Benchmark risk* – Benchmark not appropriate proxy
- *Market risks* – Price decline
- *Currency risk* – Unanticipated changes in exchange rate between two currencies

Private Equity

- *Liquidity risk* – Absence of liquidity and appropriate exits could significantly increase time horizon

- *Firm specific risk* – Unique risks associated with a specific firm
- *Leverage risk* – Historical excess use of leverage and current inability to secure financing may adversely affect LBOs
- *Manager selection risk* – Selecting managers that fail to deliver top performance results
- *Diversification risk* – Inability to properly diversify the portfolio by vintage year, industry groups, geography
- *Tax risk* – Changes may adversely affect markets
- *Regulatory risk* – Changes may adversely affect markets
- *Strategy risk* – Continuing applicability of investment strategy in context of capital flows
- *Market risks* – Price decline

Global Fixed Income

Definition

Investment represents a legal obligation between a borrower and the lender with a maturity in excess of one year. Evidence of indebtedness and securities that evidence an ownership interest in debt obligations that are issued, insured, guaranteed by, or based on the credit of the following: companies, governmental entities or agencies, banks and insurance companies. Includes agency and non-agency mortgage-backed securities, collateralized mortgage obligations, commercial mortgage-backed securities, asset-backed securities, private placements, and options, futures or other derivatives on fixed income securities or components of fixed income.

Strategic Role

- Diversification within a multi-asset class, total return portfolio
- Hedge against a long duration accrued liability
- Current income
- Non-U.S. provides hedge against unanticipated domestic inflation and diversification to U.S. assets

Characteristics

- Medium volatility asset class
- Relatively high liquidity
- Broadly diversified by market sector, quality, and maturity
- A large currency component exists within international fixed income returns
- Developed markets are extremely liquid. Many issues of less developed markets are also relatively liquid.

Risks

- *Duration risk* – Price volatility from a change in overall interest rates
- *Convexity risk* – Negative convexity is the risk of price declines being

greater than the price increase due to interest rates moving equally up versus down

- *Default or credit risk* – The uncertainty surrounding the borrower's ability to repay its obligations
- *Structure risk* – Risk that arises from the options implicit in bonds (like call ability and sinking funds) or the rules that govern cash flow differ from expectations
- *Sector risk* – Risk of holding sectors that are in different proportions than the benchmark
- *Liquidity risk* – Cost of trading in a security which is reflected in the bid-ask spread or the cost of selling due to cash flow needs
- *Reinvestment risk* – The uncertainty surrounding future yield opportunities to invest funds which come available due to call, maturities, or coupon payments
- *Benchmark risk* – Risk of the benchmark being inappropriate
- *Yield curve risk* – Price changes induced by changes in the slope of the yield curve
- *Currency risk* – The risk of currency movements vs. the dollar for each market. Currency may contribute greatly to return and lower correlation.

Global Real Assets

Definition

Investment represents an ownership interest in real return assets that provide inflation hedging characteristics in periods of unanticipated inflation. Includes inflation-linked securities, private or public real estate equity or equity-linked investments, private or public real estate debt, infrastructure, timber, real asset mezzanine debt or equity, non-fixed assets and other opportunistic investments in real assets.

Strategic Role

- Reduces risk of composite multi-asset portfolios through diversification
- Relatively low correlations to traditional asset classes
- Can serve as a possible inflation hedge during periods of high inflation
- Provides an attractive return relative to fixed income asset class in periods of low to moderate inflation
- Infrastructure provides inflation protection as he revenues of the underlying assets are typically linked to CPI
- Potential for high returns in niche opportunities

Characteristics

Real Estate

- *Risk* – Volatility of private real estate falls between publicly-traded debt and publicly-traded equities

- *Returns* – Nominal returns are expected to fall between equities and fixed income
- *Illiquidity* – Transactions require a significantly longer period to execute than other asset classes
- *Inefficient Market* – Information affecting real estate asset valuation and market trading is not rapidly, accurately, or efficiently reflected or interpreted in its pricing

Infrastructure

- *Long life assets* – Capital intensive assets with 25 to 99 year concessions, match for liability duration
- *Inflation protection* – Revenues typically linked to CPI
- *Monopoly or quasi monopoly* – High barriers to entry due to scale and capital cost
- *Steady and predictable cash flow* – Produce strong and predictable yields
- *Low correlation* – Provides portfolio diversification, low beta
- *Inelastic demand* – Predictable demand with little volatility, less susceptibility to economic downturns
- *Limited commodity risk* – Not subject to commodity pricing
- *Insensitive to changes in technology* – Low risk of redundancy or technology obsolescence
- Investments are usually illiquid and involve a long (10 to 20 year) holding period

Timberland

- *Return* – Low correlation with other asset classes, returns stem from four distinct sources: biological growth, timber prices, land values and management strategy
- *Income* – Driven almost entirely by the sale of harvested mature trees
- *Appreciation* – Driven by increased volume and value on timber and appreciation of underlying land
- Categorized by type of land (e.g. plantation, natural forest), type of tree (e.g., hardwood, softwood), country and region

Risks

Real Estate

- *Property type risks* – Negative changes in demand/supply conditions by property type (e.g., office, industrial, retail, lodging, mixed-use, multi-family)
- *Location risks* – Local market condition relative to the adverse changes surrounding a property, or in discovery of hazardous underlying conditions, such as toxic waste
- *Tenant credit risks* – Failure by a tenant to pay what is contractually

owed

- *Physical/functional obsolescence* – Negative influences on buildings due to technological changes, outdated layout and design features, and physical depreciation
- *Interest rate risk* – Higher rates can negatively impact both sales strategies and leveraged properties at refinancing
- *Reinvestment risk* – In a declining rental rate market, cash flow received may not be reinvested at the same level
- *Business cycle risk* – As economies slow down, there may be less demand for space
- *Inflationary risk* – Rent levels may not always keep up with rising operating expense levels
- *Illiquidity* – Inability to effectively liquidate a property into cash
- *Natural disaster risk* – Weather, floods, earthquake
- Regulatory concerns are critical, especially in emerging markets
- Capital and managerial intensive

Infrastructure

- *Leverage* – Deals with leverage between 40% and 80% can transform low risk assets into risky investments. Changes in the credit environment alter refinancing risk.
- *Market inefficiencies* – Competitive auctions lead to overpaying. There is a limited history and track record in the U.S. infrastructure space.
- *Political and headline risk* – Public acceptance and understanding of infrastructure needs to expand. In addition, the political landscape in every state and municipality differs.
- *Regulatory risk* – Regulated assets are subject to government changes
- *Construction and development* – Project overruns and delays should be shared with construction partners. Volume/demand risk for new developments can vary.
- *Labor issues* – Greenfield projects could generate new jobs while the privatization of brownfield assets could eliminate skilled labor members
- *Asset control* – Stipulations via concession agreements limit some management control (pricing, growth, decision approvals, etc.). Asset control needs to be appropriately priced.
- *Firm specific risk* – Unique risks are associated with specific firm

Timberland

- *Liquidity risk* – Liquidity is thin, marketplace characterized by few buyers and sellers, transactions are complicated and can take many months to execute
- *Valuation risk* – Annual appraisal process can lead to disparities

between carrying value and realized sales prices during downturns

- *Physical risk* – Subject to losses from natural and human-caused events such as fire, insect and vermin infestations, disease, inclement weather, and theft
- *Political and regulatory risk* – Environmental regulations can restrain or prohibit timberland management activities
- *Leverage* – Can amplify volatility and potentially lead to an inability to refinance properties or lead to a distressed sale, requires a minimum level of generated income
- *Location risks* – Real estate dispositions may also be impacted by weakness in local residential real estate markets

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Global Alternatives

Definition

Investment has a distinct return/risk factor profile as compared to other specified broad asset class groupings. Examples: Low market exposure/absolute return strategies such as market neutral, and other niche strategies with low asset class beta such as insurance-linked investments, volatility, intellectual property, healthcare royalty, litigation finance and fine art.

Strategic Role

- More robust diversification achieved through the introduction of non-traditional return drivers/risk factors
- Low or negative correlations to other asset classes
- Return profile less dependent on economic growth and interest rates
- Potential for attractive risk-adjusted returns

Characteristics

- *Returns* – Exhibits lower correlations to broader equity and credit markets in periods of market distress
- *Illiquidity* – Transactions may require a longer period to execute than other asset classes
- *Inefficient Market* – Information affecting asset valuation and market trading may not be accurately or efficiently reflected or interpreted in its pricing

Risks

- *Market risk* – Cost of carry on being long volatility
- *Natural disaster risk* – Weather, floods, earthquake affect natural catastrophe-based insurance-linked products
- *Due diligence* – Complicated to evaluate and monitor
- *Illiquidity* – Transactions may require a longer period to execute than other asset classes
- *Implementation* – Complexity of implementation may be an impediment

1. PLAN CHARACTERISTICS AND FUND CONSTRAINTS.

The North Dakota Teachers' Fund for Retirement (TFFR) is a pension benefit plan that was established in 1913 to provide retirement income to all public school and certain state teachers and administrators in the state of North Dakota. The plan is administered by a seven member Board of Trustees comprised of five active and retired members of the fund appointed by the Governor of North Dakota and two elected officials - the State Treasurer and the State Superintendent of Public Instruction.

The plan is a multi-employer defined benefit public pension plan that provides retirement, disability, and death benefits in accordance with Chapter 15-39.1 of the North Dakota Century Code (NDCC). Monthly retirement benefits are based on the formula: Number of Years of service X 2.0% X Final Average Salary. Adjustments to the basic formula are made depending on the retirement option selected.

Funding is provided by monthly employee and employer contributions scheduled to increase as follows:

	7/1/11	7/1/12	7/1/14
Employee	7.75%	9.75%	11.75%
Employer	8.75%	10.75%	12.75%

Employee and employer contributions will be reduced to 7.75% each when TFFR reaches 90% funded level on an actuarial value basis.

The TFFR Board has an actuarial valuation performed annually and an Experience Study and Asset Liability Study performed every five years. The current actuarial assumed rate of return on assets is 8.0%. Key plan and financial statistics are recorded in the most recent valuation report on file at the North Dakota Retirement and Investment office (RIO).

2. FUND GOALS

The Plan benefits are financed through both statutory employer and employee contributions and the investment earnings on assets held in the Fund. The TFFR Board recognizes that a sound investment program is essential to meet the pension obligations.

As a result, the Fund goals are to:

- Improve the Plan's funding status to protect and sustain current and future benefits.
- Minimize the employee and employer contributions needed to fund the Plan over the long term

- Avoid substantial volatility in required contribution rates and fluctuations in the Plan's funding status.
- Accumulate a funding surplus to provide increases in retiree annuity payments to preserve the purchasing power of their retirement benefit.

The Board acknowledges the material impact that funding the pension plan has on the State/School District's financial performance. These goals affect the Fund's investment strategies and often represent conflicting goals. For example, minimizing the long-term funding costs implies a less conservative investment program, whereas dampening the volatility of contributions and avoiding large swings in the funding status implies a more conservative investment program. The Board places a greater emphasis on the strategy of improving the funding status and reducing the contributions that must be made to the Fund, as it is most consistent with the long-term goal of conserving money to apply to other important state/local projects.

3. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD (SIB).

The TFFR Board is charged by law under NDCC 21-10-02.1 with the responsibility of establishing policies on investment goals and asset allocation of the Fund. The SIB is charged with implementing these policies and investing the assets of the Fund in the manner provided in NDCC 21-10-07, the prudent investor rule. Under this rule, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The Fund must be invested exclusively for the benefit of the members and their beneficiaries in accordance with this investment policy.

Management responsibility for the investment program not assigned to the SIB in Chapter 21-10 of the North Dakota Century Code (NDCC) is hereby delegated to the SIB, who must establish written policies for the operation of the investment program, consistent with this investment policy.

The SIB may delegate investment responsibility to professional money managers. Where a money manager has been retained, the SIB's role in determining investment strategy and security selection is supervisory, not advisory

At the discretion of the SIB, the Fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset class pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and the objectives of the funds participating in the pools.

The SIB is responsible for establishing criteria, procedures, and making decisions with respect to hiring, keeping, and terminating money managers. SIB investment responsibility also includes selecting performance measurement services, consultants, report formats, and frequency of meetings with managers.

The SIB will implement changes to this policy as promptly as is prudent.

4. RISK TOLERANCE

The Board is unwilling to undertake investment strategies that might jeopardize the ability of the Fund to finance the pension benefits promised to plan participants.

However, funding the pension promise in an economical manner is critical to the State/School Districts ability to continue to provide pension benefits to plan participants. Thus, the Board actively seeks to lower the cost of funding the Plan's pension obligations by taking on risk for which it expects to be compensated over the long term. The Board understands that a prudent investment approach to risk taking can result in periods of under-performance for the Fund in which the funding status may decline. These periods, in turn, can lead to higher required contribution rates. Nevertheless, the Board believes that such an approach, prudently implemented, best serves the long-run interests of the State/School District and, therefore, of plan participants.

5. INVESTMENT OBJECTIVES

The Board's investment objectives are expressed in terms of reward and risk expectations relative to investable, passive benchmarks. The Fund's policy benchmark is comprised of policy mix weights of appropriate asset class benchmarks as set by the SIB

1) The fund's rate of return, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.
2) The fund's risk, measured by the standard deviation of net returns, should not exceed 115% of the policy benchmark over a minimum evaluation period of five years.

3) The risk adjusted performance of the fund, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.

6. POLICY ASSET MIX

Benefit payments are projected to occur over a long period of time. This allows TFFR to adopt a long-term investment horizon and asset allocation policy for the management of fund assets. Asset allocation policy is critical because it defines the basic risk and return characteristics of the investment portfolio. Asset allocation targets are established using an asset-liability analysis designed to assist the Board in determining an acceptable volatility target for the fund and an optimal asset allocation policy mix. This asset-liability analysis considers both sides of the plan balance sheet, utilizing both quantitative and qualitative inputs, in order to estimate the potential impact of various asset class mixes on key measures of total plan risk, including the resulting estimated impact of funded status and contribution rates. After consideration of all the inputs and a discussion of its own collective risk tolerance, the Board approves the appropriate policy asset mix for the Fund.

Asset Class	Policy Target (%)	Rebalancing Range (%)
Global Equity	57	46-65
Domestic Equity	31	26-36
Large	24	20-28
Small	7	4-10
International Equity	21	16-26
Developed	17	12-22
Emerging	4	2-6
Private Equity	5	4-8
Global Fixed Income	22	16-28
Domestic Fixed	17	13-21
Investment Grade	12	10-18
Non-Investment Grade	5	3-7
International Fixed	5	3-7
Developed	5	3-7
Emerging		0-3
Global Real Assets	20	12-28
Global Real Estate	10	5-15
Other	10	0-15
Infrastructure		0-10
Timber		0-7
Commodities		0-5
Inflation Linked-Bonds		0-10
Other Inflation Sensitive Strategies		0-5
Global Alternatives		0-10
Cash	1	0-2

While the Board recognizes fluctuations in market values will lead to short-term deviations from policy targets, the Board does not intend to engage in tactical asset allocation. Allocations to Global Alternatives will result in pro-rata reduction in the policy targets.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers
c. No transaction shall be made which threatens the tax exempt status of the Fund.
d. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.
e. No unhedged short sales or speculative margin purchases shall be made.

f. Social investing is prohibited unless it meets the Exclusive Benefit Rule and it can be substantiated that the investment must provide an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.

For the purpose of this document, Social Investing is defined as *"The investment or commitment of public pension fund money for the purpose of obtaining an effect other than a maximized return to the intended beneficiaries."*

g. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule.

For the purpose of this document economically targeted investment is defined as an investment designed to produce a competitive rate of return commensurate with risk involved, as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

Also, for the purpose of this document, the Exclusive Benefit Rule is met if the following four conditions are satisfied:

1) The cost does not exceed the fair market value at the time of investment.

2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar task

3) Sufficient liquidity is maintained in the Fund to permit distributions in accordance with the terms of the plan.

4) The safeguards and diversity that a prudent investor would adhere to are present.

Where investment characteristics, including yield, risk, and liquidity are equivalent, the Board's policy favors investments which will have a positive impact on the economy of North Dakota.

8. INTERNAL CONTROLS

A system of internal controls must be in place by the SIB to prevent losses of public funds arising from fraud or employee error. Such controls deemed most important are the separation of responsibilities for investment purchases from the recording of investment activity, custodial safekeeping, written confirmation of investment transactions, and established criteria for broker relationships. The annual financial audit must include a comprehensive review of the portfolio, accounting procedures for security transactions and compliance with the investment policy.

9. EVALUATION AND REVIEW

Investment management of the Fund will be evaluated against the Fund's investment objectives. Emphasis will be placed on five year results. Evaluation should include an assessment of the continued feasibility of achieving the investment objectives and the appropriateness of the Investment Policy Statement for achieving those objectives.

Performance reports will be provided to the TFFR Board periodically, but not less than annually. Such reports will include asset returns and allocation data as well as information regarding all significant and/or material matters and changes pertaining to the investment of the Fund, including but not limited to:

1) A list of the advisory services managing investments for the board.
2) A list of investments at market value, compared to previous reporting period, of each fund managed by each advisory service.

3) Earnings, percentage earned, and change in market value of each fund's investments.
4) Comparison of the performance of each fund managed by each advisory service to other funds under the board's control and to generally accepted market indicators.
5) All material legal or legislative proceedings affecting the SIB.
6) Compliance with this investment policy statement.

TFFR Board Adopted: May 25, 1995.
Amended: November 30, 1995; August 21, 1997; July 15, 1999; July 27, 2000; September 18, 2003; July 14, 2005; September 21, 2006; September 20, 2007; October 27, 2011.

Approved by SIB: November 18, 2011

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AT BOSTON COLLEGE

August 2007, Number 7-12

SHOULD PUBLIC PLANS ENGAGE IN SOCIAL INVESTING?

By Alicia H. Munnell*

Introduction

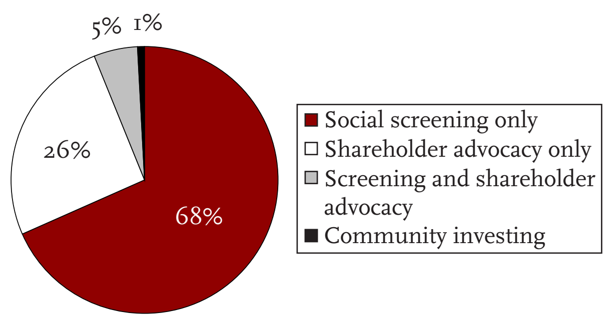
Social investing is a movement that advocates incorporating social and environmental considerations, as well as financial factors, when making investment decisions. The most recent incarnation of this movement is the initiative by state legislatures to force public pension funds to sell their holdings of companies doing business in Sudan. The effort to divest Sudan-linked stocks began in 2004 after the U.S. government characterized the killing and displacement in Darfur province as genocide.[1] Riding on the coattails of the success of the Sudan effort, state legislatures have now targeted Iran, with a goal of "terror-free" investing. The emotional appeal of such actions is powerful. Over 2 million civilians have been displaced and more than 200,000 slaughtered in Darfur since 2003.[2] And Iran refuses to back away from its pursuit of nuclear weapons.[3] But strong arguments also exist against using public pension plans to accomplish foreign policy goals.

This *brief* explores the current world of social investing, the recent efforts regarding the Sudan and Iran, the likely impact of social investing on the target firms, and the reasons why such activity may be inappropriate for public pension plans.

What Is Social Investing? How Much? Who's Doing It?

Social investing takes three primary forms: 1) screening (either excluding "bad" companies or including "good" companies); 2) shareholder advocacy; and 3) community investing. The Social Investment Forum (SIF), a trade group of social investors, reports that at the end of 2005, in terms of assets under management, screening is by far the most prevalent approach (see Figure 1). Significantly less is involved in shareholder advocacy, and community investing activity is tiny.

Figure 1. Social Investing in the United States by Type of Strategy, 2005



Source: Social Investment Forum (2006).

* Alicia H. Munnell is the Director of the Center for Retirement Research at Boston College (CRR) and the Peter F. Drucker Professor of Management Sciences at Boston College's Carroll School of Management. Jerilyn Libby served as the major research assistant on this project; Dan Muldoon also provided able assistance. John Langbein and Alan Marcus provided valuable comments.

Table 1. Assets in Socially Screened Portfolios, 1999-2005 (Billions)

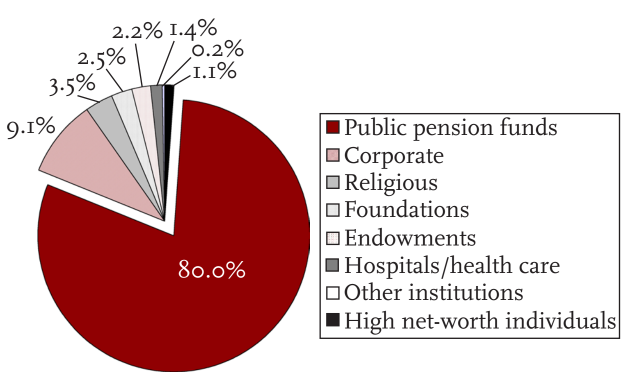
Year	Mutual funds	Separate accounts	Total
1995	$12	$150	$162
1997	96	433	529
1999	154	1,343	1,497
2001	140	1,870	2,010
2003	151	1,992	2,143
2005	179	1,506	1,685

Source: Center for Retirement Research at Boston College (2006).

The Social Investment Forum reports that as of the end of 2005, mutual funds with social screens held $179 billion and that socially screened "separate accounts," which are managed for individuals and institutional clients, held $1,506 billion (see Table 1). The SIF calculates that these totals amount to 9.4 percent of all public and private assets under management.

The bulk of the money in separate accounts (80 percent) is the assets of public pension funds (see Figure 2). And screening is pervasive among public funds. The SIF numbers suggest that, in 2005, $1.2 trillion of public pension fund assets were screened by some criteria. These screened assets accounted for 45 percent of total state and local pension holdings in that year.[4]

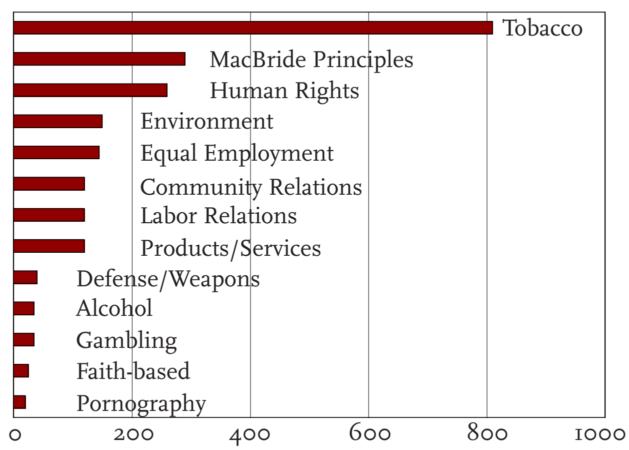
Figure 2. Socially Screened Investor Assets, 2005



Source: Social Investment Forum (2006).

The screens vary by the nature of the customer. As of 2005, by far the most popular approach for mutual funds was a negative screen for tobacco; alcohol came in second; gambling third.[5] But the pattern for institutional separate accounts, which is dominated by public plans, is quite different. For these accounts, the MacBride Principles (relating to fair hiring in Northern Ireland), Human Rights, the Environment, and Equal Employment Opportunity ranked among the top social concerns (see Figure 3).

Figure 3. Social Screening by Institutional Investors, 2005 (Billions)



Source: Social Investment Forum (2006).

Note that almost none of the screened money is held in private sector defined benefit pension funds.[6] These private plans are covered by the Employee Retirement Income Security Act (ERISA), and right from the beginning the Department of Labor has stringently enforced ERISA's duties of loyalty and prudence.[7] In 1980, the chief administrator of the Department of Labor's pension section published an influential article that warned that the exclusion of investment options would be very hard to defend under ERISA's prudence and loyalty tests.[8] And a 1994 Interpretive Bulletin reminded fiduciaries that they are prohibited from subordinating the interests of participants and beneficiaries ... to unrelated objectives."[9] Thus, ERISA fiduciary law has effectively constrained social investing in private sector defined benefit plans.[10] Social investing is a public pension fund phenomenon.

Recent Developments – Sudan and Now Iran

During 2005, and therefore not reflected in Figure 3, state legislatures in Arizona, Illinois, Louisiana, New Jersey, and Oregon passed legislation related to companies with operations in Sudan.[11] Since then some states have branched out to include Iran. And Missouri has taken the lead in initiating an entirely "terror-free" investment policy. American companies have been barred for some time from doing business in either Sudan or with states considered sponsors of terrorism according to the U.S. State Department (Cuba, Iran, North Korea, Sudan and Syria).[12] But in a world of global investing, U.S. investors can have a link to Sudan or "terror states" through foreign stock holdings. Such foreign holdings would be most affected by the recent state legislation.

Sudan

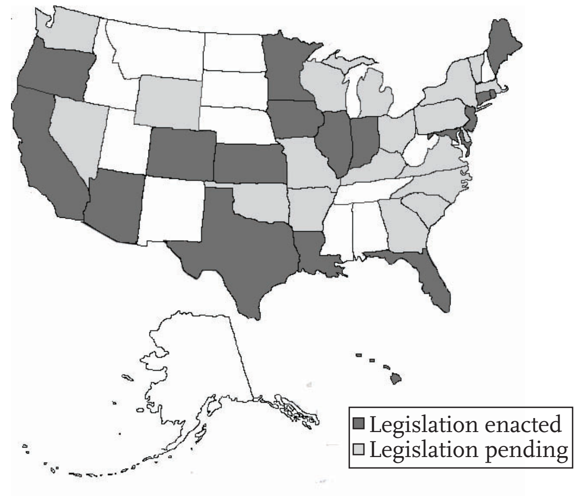
As of August 2007, eighteen states have passed laws regarding divestment of state pension and other funds from Sudan (see Figure 4).[13] Divesting is not easy, however. State and local pension funds tend to invest in global indices, so the exercise involves identifying the companies with links to Sudan and then constructing a Sudan-free index that mimics established benchmarks.

Generally, the states have asked their money managers to figure out which stocks have a Sudan link. Money managers, in turn, have left it to the social investing firms, such as KLD Research and Analytics, Institutional Shareholders Services, and the Conflict Securities Advisory Group to identify companies involved in Sudan.[14] The social investing firms refuse to make the names public, however, since that is how they earn their money.[15]

And the *New York Times* has reported that the lists are not always definitive. Some companies appear on them even though they claim that they were not actually doing business in Sudan. And for at least one company that was doing business in Sudan, 3M, its involvement was the result of a U.N. purchase of Scotchshield Ultra Safety and Security Film to protect embassy and mission windows from explosions, a transaction that was authorized by the federal government.[16]

The Sudan Divestment Task Force (2007) publishes a more tightly targeted list, recommending the divestment of only 28 companies. These are companies that 1) do business with the Sudanese government; 2) provide little benefit to the disadvantaged of Sudan; and 3) have not developed policies to prevent their business activities from inadvertently contributing to the government's genocide capability.

Figure 4. States that Have Enacted or Are Considering Sudan Divestment Legislation, 2007



Sources: National Conference of State Legislatures (2007); Office of Missouri State Treasurer (2005); Sudan Divestment Task Force (2007); State of Arizona (2005), State of Arkansas (2007); and State of Louisiana (2005 and 2007).

Fund managers take the Sudan-link list and attempt to construct "Sudan Free" funds that mimic popular benchmarks. This step is also a challenge. According to the chief investment strategist at Northern Trust, whose fund tracks the Morgan Stanley Capital International Europe Australasia Far East index (MSCI EAFE) index, constructing a "Sudan-free" index will require divesting 25 companies or 9 percent of assets.[17]

Despite the challenges involved, public funds have moved $2.2 billion away from Sudan-linked companies between 2005 and 2007.[18]

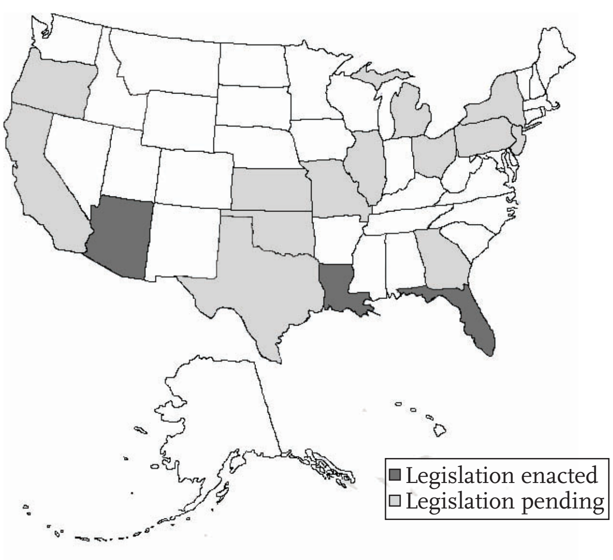
Iran

More recently, "terror-free" investment has been picking up steam. The primary targets are companies doing business in Iran.[19] As noted above, U.S. companies have long been barred from operating in Iran, but more than 200 multinationals have investments there, from Royal Dutch Shell and France's telecommunications-equipment company Alcatel to Sweden's electronics company Ericsson.[20]

On June 8, 2007, Florida's governor signed a Sudan and Iran Divestiture bill into law. Florida follows other states with regard to Sudan, but is the first to enact divestiture legislation for companies doing business with Iran.[21] Louisiana, which had passed "terror-free investing" legislation in 2005, permits — but does not require — divestment. Arizona, which also passed legislation in 2005, only requires the public retirement system to disclose investments in terror-linked companies. In Illinois, the state Senate passed an Iran divestment bill on June 14, 2007 which would compel the state's five retirement systems to divest Iran-connected companies in energy and other natural resources.[22] California, Georgia, Kansas, Michigan, Missouri, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, and Texas are also considering adopting Iran-free investing (see Figure 5).[23]

If some of the bills are passed in their broadest form, institutions may be forced to sell $18 billion in investments.[24] Selling all Iran-related securities would add substantial risk to an indexed international equity portfolio. State Street Global Advisors (SSgA), Boston, has had preliminary conversations with clients about Iran divestments. SSgA estimates that if all companies with ties to Iran were removed from Morgan Stanley's EAFE index and replaced with similar performing companies, it would introduce a tracking error of up to 200 basis points, compared to the tracking error on a typical index of between five and 10 basis points.[25]

Figure 5. States that Have Enacted or Are Considering Iran Divestment Legislation, 2007



Sources: National Conference of State Legislatures (2007); Office of Missouri State Treasurer (2005); State of Arizona (2005), and State of Louisiana (2005 and 2007).

Some state legislatures, however, are limiting the scope of divestiture to energy-related stocks, arguing that such action is likely to be most effective in curbing terrorist activities. Narrowing the scope greatly reduces the number of stocks and amount that would have to be sold.[26]

Iran is a more politically complicated issue than Sudan. Sometimes promoters of "divest Iran" suggest that the effort is aimed at Al Qaeda.[27] But Al Qaeda is an enemy without a state and therefore difficult to target. In addition, the U.S. government is not enthusiastic about the effort, because it is working on its own initiative with allies to curtail business transactions tied to nuclear activities and support for terrorism. Treasury and State Department officials have expressed concern that broad-based divestiture could cause a backlash if allies feel that a wide range of companies is under attack.[28]

Despite the complexities involved with Iran, some states have gone even further and are pursuing "terror-free" investing, which extends the scope of the boycott to all the countries on the U.S. State Department's State Sponsors of Terrorism list, which includes Cuba, Syria, and North Korea. Missouri has been at the forefront of this movement. The State Treasurer claims that at least 500 big foreign companies and multinationals do at least some business in countries identified as sponsoring terrorism.[29] The Treasurer's goal is to have all Missouri's investments "terror–free," although the state legislature has not yet passed divestiture legislation for the state pension funds.[30] Anti-terrorism bills have been enacted in Arizona, Florida, and Louisiana.

Given the substantial amount of social investing by public pension funds, it is useful to consider the likely impact of such activity on the targets of the social screen and the likely impact on the pension funds themselves.

The Economics of Social Investing

The academic literature suggests that social screens are likely to have very little impact on the target company and that the impact on the pension fund depends on the scale of the screen.

Impact on Targeted Company

The SIF Report suggests that social investing will have a financial impact — that investors are putting their money to work in ways that will build "a better, more just, and sustainable economy." The academic literature on the stock market, however, suggests the opposite. And a comprehensive survey on the effect of the South African boycott — the largest and most visible social action — documents virtually no effect, suggesting the real world mirrors the textbook model.

Injecting politics into pension policy is problematic.

According to standard finance theory, the price of any stock equals the present discounted value of expected future cash flows. Thus, the stock of a particular firm has a lot of close substitutes, which makes the demand curve for a particular stock, in economists' terms, almost perfectly elastic.[31] That is, even a big change in quantity demanded will lead to only a small change in price. And any significant deviation from the fundamental price would represent a profitable trading opportunity that market participants would quickly exploit and thus correct.[32] In other words, boycotting tobacco stocks or international companies doing business in Sudan or Iran may result in a temporary fall in the stock price, but as long as some buyers remain they can swoop in, purchase the stock, and make money. And the buyers are out there. The "Vice Fund," which was established in September 2002, specializes in only four sectors — alcohol, tobacco, arms, and gambling, and thus stands ready to buy the stocks screened out of standard portfolios.[33] Thus, the textbooks suggest that boycotting tobacco companies or international companies doing business in Iran is unlikely to have any impact on the price of their stocks.

A 1999 study took a comprehensive look at how equity prices responded to sanctions and pressures for firms to divest their holdings in South Africa.[34] The conclusion that emerges from a series of event studies is that the anti-apartheid shareholder and legislative boycotts had no negative effect on the valuation of banks or corporations with South African operations or on the South African financial markets. This is not to say that the boycott was not important politically, but merely that it did not impact financial markets. The study looks at pressure put on firms from both congressional action and divestiture by pension funds and universities.

The bulk of the congressional action occurred in 1985 and 1986, when the U.S. government passed legislation imposing trade embargoes, currency sanctions, and lending restrictions. Most importantly, the Comprehensive Anti-Apartheid Act of 1986 prohibited new private or public loans to South Africa other than for humanitarian purposes. To test the impact of this prohibition, the study identified ten important legislative events leading up to the 1986 Act and examined their impact on a portfolio of nine banks with South African loans. The results showed few significant effects on bank stock prices and where significant they were of the wrong sign.

Pension funds and universities also put pressure on corporations. Pension fund involvement in the South African issue began when a number of churches threatened to divest from banks doing business in South Africa. In 1977, the first iteration of the "Sullivan principles," which called for non-segregation of races and equal pay for equal work, was adopted in the hope that by adhering to these principles, companies could continue doing business in South Africa and at the same time promote non-discrimination policies.[35] But many felt that the Sullivan principles did not go far enough, so Reverend Sullivan called in 1987 for companies to withdraw completely from South Africa. Many funds began to divest themselves even of companies that had followed these principles.[36] The study looked at the effect of 16 pension fund divestments on a portfolio of firms with the highest exposure in South Africa. The results showed no evidence that the pension fund divestment announcements hurt firms with major South African operations.

In short, financial textbooks characterize the demand curves for individual stock as infinitely elastic, so the price of the stock of a targeted company is unlikely to be affected by a boycott so long as additional buyers remain to scoop up the profit opportunity. The fact that an effort as large as the boycott of firms doing business in South Africa had virtually no effect on stock prices suggests that the financial effect of social investing on target firms is roughly zero.

Impact on the Pension Fund

But does social investing affect the pension fund adversely? Modern portfolio theory states that investors should diversify their asset holdings over a variety of securities, so that the returns on all financial assets do not move in lockstep.[37] The question is how many securities are needed for the portfolio to be efficient? The answer is that an investor needs only 20-30 stocks to construct a fully diversified portfolio.[38] The small number of required stocks suggests that eliminating, say, tobacco, which accounts for about 1 percent of the market capitalization of the S&P 500, should leave enough securities to construct something very, very close to the market index. As the number excluded increases, it would become increasingly difficult to duplicate the market.[39]

In terms of evidence, considerable research has compared the risk-adjusted return of screened portfolios to the return of unscreened portfolios. Most of the studies cover the period since the mid-1980s. Overall, the results show that the differences in risk-adjusted returns between the screened portfolios and unscreened portfolios are negligible and in most cases zero.[40] A few studies have focused on the effects of divestiture of tobacco stocks in the 1990s and show that the risk and returns for the S&P 500 with and without tobacco stocks were almost identical.[41]

In addition to comparing the performance of screened portfolios to the S&P 500, several studies have examined the performance of social investment funds relative to the S&P 500. The Domini Social Index includes 400 U.S. companies that pass multiple and broad-based social screens, and the Calvert Social Index is a broad-based index including 659 companies. The majority of these studies show that socially screened funds have no significant effect on risk-adjusted returns.[42]

In contrast, the evidence from the early days of the South Africa divestiture suggested that screening out stocks meant large losses. For example, in the 1970s, Princeton University reported that the stocks that had been excluded because of South Africa ties outperformed other holdings by 3 percent.[43] As time passed and researchers undertook more comprehensive studies, the conclusions shifted. For example, one study examined the performance of a South-Africa free portfolio compared to an unscreened NYSE portfolio for the period 1960-1983 and found that, after adjusting for risk, the portfolio excluding South Africa companies actually performed better than the unscreened portfolio.[44] The positive results occurred because companies with South Africa ties were large and excluding these companies increased reliance on small-cap stocks, which performed better on a risk-adjusted basis during this period. During the late 1980s, the results were also mixed. On the one hand, a 1998 study analyzed data from the Surveys of State and Local Employees (PENDAT) from the early 1990s and found no significant effect on returns from restrictions on South Africa investments.[45] On the other hand, the S&P 500 including South Africa stocks performed slightly better than the index without the stocks, and one study of public pension plans found that South Africa restrictions had a negative effect on returns.[46] Thus, a large divestiture movement could have some negative effect on returns earned by public plans.

State actions may conflict with federal foreign policy.

Another aspect that has received less attention is the administrative costs of social investing. It is possible that social investing is associated with higher fees and therefore has lower net returns because additional resources are required by fund managers to do the screening. The 2003 SIF Report concluded that socially responsible funds appear as competitive as other funds when it comes to administrative costs. However, others challenge this view by pointing out that some of the large-cap social index funds have above-average fees.[47] Moreover, in the case of Sudan and Iran, constructing new indices to match existing benchmarks involves substantial costs.

In short, theoretical models of portfolio choice imply that restricting the portfolio to socially responsible investments could have an effect on the rate of return by limiting the ability to diversify. Given the large number of stocks available, however, the cost — using traditional asset pricing models — is likely to be negligible. The bulk of the studies, which compare risk-adjusted returns for socially screened portfolios to those of unrestricted portfolios, supports this claim. Although a "terror-free" effort as large as the South African divestiture may have had some effect.[48] And administrative costs may be an important issue.

Public Plans Are Not Suited to Social Investing

In the late 1970s, some observers identified the large and rapidly growing funds in state and local pension plans as a mechanism for achieving socially and politically desirable objectives. The initial debate focused on attempts to exclude from pension portfolios companies with specific characteristics, such as those with almost totally nonunion workforces or investments in South Africa. The focus quickly shifted to undertaking pension investments that would foster social goals such as economic development and home ownership.[49] Advocates generally contended that the broader goals could be achieved without any loss of return.

Early reports, however, suggested that the targeting did involve sacrificing return. For example, a 1983 study of state-administered pension funds showed that many states had purchased publicly or privately insured mortgage-backed pass-through securities to increase homeownership in their state.[50] Analysis of the risk/return characteristics of these targeted mortgage investments revealed that 10 states either inadvertently or deliberately had sacrificed as much as 200 basis points to foster homeownership. Similarly, in 1992, Connecticut's state pension fund lost $25 million attempting to shore up Colt Industries. The firm went bankrupt two years after the fund bought a 47 percent interest in an attempt to protect Connecticut jobs.[51] In Kansas, the state pension fund lost between $100 and $200 million on defaulted loans from an in-state investment program that included a chain of video stores, a steel mill, and a failed savings and loan bank.[52] State and local pension funds were on a naïve and dangerous path.[53]

The losses in the 1980s and early 1990s were a sharp wake-up call to a number of public pension fund managers who appeared to believe that they could accomplish social goals without sacrificing returns. Over the last 20 years, the rhetoric associated with targeted investments has changed markedly. Public pension fund managers, sensitive to the potential for losses, go out of their way to make clear that they are no longer willing to sacrifice returns for social considerations; almost every definition of social investing includes a requirement that the investment produce a "market rate of return."

Divestment can be complicated, costly, and ineffective.

In the recent debate regarding Sudan and Iran, trustees of public plans have spoken out opposing such initiatives. Administrators at California's large public pension funds — CalPERS and CalSTERS — oppose the California bills requiring divestiture. A CalPERS spokesman said that determining which companies have dealings with Iran would be a struggle: "We don't necessarily have the resources or the expertise."[54] Similarly, the executive director of Massachusetts' Pension Reserves Investment Management Board, which invests public plan assets, said "You hire us to make you money, and when you restrict our ability to pick stocks, you likely restrict our ability to get returns."[55] Ohio's legislature initially considered following the Missouri model making investments "terror-free" by filtering out all stocks with links to North Korea, Syria, Sudan or Iran. The pension fund administrators argued that the measure would affect stocks of more than 170 companies and require the funds to sell more than $9 billion. Administrative costs would exceed $60 million.[56]

Moreover, legislative mandates for pension fund investing may have implications elsewhere in the state. For example, in the case of Ohio the "terror-free" investing bill would have roped in companies such as Honda, DaimlerChrsyler AG, Bridgestone Corporation, Siemens, and Thyssenkrupp AG, all of which had investments in Ohio.[57] The pension funds estimated these companies employed more than 45,000 workers. In response, the legislature narrowed the scope of the effort and decided to go after only those companies with more than $20 million in Iran's energy sector.[58]

Most importantly, three aspects of public pension funds make them particularly ill-suited vehicles for social investing.

First, the decision-makers and the stakeholders are not the same people. The decision-makers are either the fund board or the state legislature. The stakeholders are tomorrow's beneficiaries and/or taxpayers. If social investing produces losses either through higher administrative costs or lower returns, tomorrow's taxpayers will have to ante up or future retirees will receive lower benefits. The welfare of these future actors is not well represented in the decision-making process.

Second, whereas the investment practices of many large public funds are first rate, other boards are much less experienced. The boards of smaller funds often consist of between five and eleven people including mayors, treasurers, comptrollers, city councilors, union leaders, and citizens. The process is often conducted behind closed doors and subject to little public scrutiny. Moreover, many state and local plans are still run in-house and involve the selection of individual stocks rather than broad-based indices. A front page *New York Times* article reported that political money sometimes affects pension investment decisions. As a result, pension boards may overlook excessive fees or high rates of turnover, and they may approve inappropriate investments.[59] Introducing divestment requirements into such an environment is problematic.

The final issue is the slippery slope. This round of divestment began with Sudan and involved only a few stocks. It is quickly spreading to Iran, where the issues are even more complicated and the number of companies substantially greater. If "terror-free" investing gains momentum, what is going to stop the spread to, say, Saudi Arabia, original home of 15 of the 19 hijackers involved in the 9/11 terrorist attacks? At some point, the administrative costs of broad-based divestiture will balloon and excluding large numbers of companies will definitely hurt returns.

Conclusion

Everyone is horrified by genocide, and no one wants to support terror. Yet even those who sell socially responsible funds admit that the issue of divestiture is complex. "You have to ask yourself what your goal is with divestment. What's there if the government falls? Is there a government there that will take over and be better? If the companies that pull out provide money, goods, and services, is there an understanding that will make the people poorer in the short run?"[60] Yes, the regime changed in South Africa, but many South Africans say that it was the cultural boycott — particularly in sports — rather than the divestiture of companies with South-Africa-linked activities that resulted in the peaceful ascendance of Nelson Mandela as president.[61]

In addition to the issue of effectiveness, the fundamental question is where foreign policy should be made. Sudan does not raise as many issues in this regard as Iran. The State Department is working closely with foreign governments to get specific companies to stop selected activities, particularly in Iran's energy sector. Additionally, in more than one instance, federal courts have ruled that state legislation regarding social investment was unconstitutional on grounds that it overlapped with federal regulations.[62] Statements by officials at both Treasury and the State Department make clear their concern that a broad-based divestiture could disrupt the government's effort.

But even assuming that divestment is an effective mechanism to stop genocide and reduce terror risk and that state legislatures and pension fund boards are the right place to make foreign policy, the issue remains whether pension funds are an appropriate vehicle for implementing that policy. The answer seems unquestionably "no." The decision-makers are not the people who will bear the brunt of any losses; rather they will accrue to future beneficiaries and/or taxpayers. In many instances, the environment surrounding public pension fund investing is politically charged and encouraging public pension fund trustees to take "their eyes off the prize" of the maximum return for any given level of risk is asking for trouble. And finally, boycotting companies doing business with particular countries is a slippery slope — today Sudan and Iran, tomorrow Saudi Arabia.

Endnotes

1 Actually, as early as 2000, many college endowments and public pension funds, including CalPERS, did not participate in the initial public offering of PetroChina, because of its involvement in oil extraction in Sudan. See Fried (2006).

2 Amnesty International (2007) and Hagan and Pallioni (2006).

3 U.S. Department of Treasury (2007).

4 The Federal Reserve Flow of Funds reports total assets for state and local pension plans of $2,701.5 billion in 2005.

5 The majority of funds (64 percent) use 5 or more screens; the remainder are divided between those with a single screen (25 percent) and those with 2-4 screens (11 percent).

6 Multi-employer plans have made a few efforts to stimulate demand for union labor, especially in the construction trades. And some health care companies and hospitals screen for tobacco. But generally very little social investment has taken place. The Social Investment Forum (SIF), however, has reported that nearly 10 percent, or $137 billion, of screened assets are controlled by corporations (Social Investment Forum, 2006). It was impossible for the author to ferret out where this money was. The Federal Home Loan and Mortgage Corporation (Freddie Mac) appeared to be the only corporation listed in Appendix 5 — "Institutions Involved in Social or Environmental Investing" — of the SIF report. Since Freddie Mac invests most of its money in home mortgages, it is not clear how it is involved in social screening. According to Joshua Humphreys, the SIF report's research director, there may be other corporations who participated in the survey but preferred that their names not be disclosed.

7 ERISA requires a fiduciary to act "solely in the interests of the [plan] participants and beneficiaries... for the exclusive purpose" of providing benefits to them. A fiduciary must also act "with the care, skill, prudence, and diligence" of the traditional "prudent man." See Langbein, Stabile, and Wolk (2006).

8 Lanoff (1980).

9 U.S Department of Labor (1994).

10 Some companies offer their employees one or more mutual fund options that pursue social investing criteria. Such an option does not raise any fiduciary concerns because the decision is left entirely to the participant.

11 The New Jersey legislation requires its pension funds to divest holdings in businesses that have equity stakes in the Sudan. A similar bill in Illinois, enacted in June 2005, provides that a fiduciary should not transact any business with a company doing business with Sudan, although in February 2007 the Federal District Court for the Northern District of Illinois ruled this act unconstitutional. Oregon also passed such a law for its public pension funds, while Louisiana legislation permits, but does not require, divestiture of investments linked to the Sudan.

12 U.S. Department of State (2007a). In 1997, President Clinton issued an executive order barring companies from conducting business in the Sudan; foreign businesses do not fall under that restriction.

13 For example, Texas legislation, signed into law on June 15, 2007, will require both the Teacher Retirement System and the Texas Employees Retirement System to ask affected companies to cease business in Sudan and to divest shares of unresponsive companies. The Hawaiian Employees' Retirement System was required to divest from Sudan-related investments when legislation went into effect July 1st. In Connecticut, legislation enables the Treasurer to divest state funds invested in companies doing business in Sudan or decide against further or future investments. Nineteen other states have pending divestment legislation or are taking other actions towards divestment. For example, the New York State Comptroller adopted a targeted Sudan divestment policy for the New York State Common Retirement Fund.

14 Fried (2006).

15 A KLD employee told us that KLD sells their compliance list to institutional money managers who are interested in social divestment and that it is not in the company's best interest to allow outside organizations to obtain their list in whole or in part. KLD also would not provide information about the American companies on the list. This information was obtained through a personal communication with KLD's Randy O'Neill.

16 Fried (2006). In a personal communication, 3M's Jacqueline Berry also confirmed the sale of the Security Film to the United Nations.

17 Fried (2006) and a personal communication with Northern Trust's Priya Khetarpal.

18 Pichardo (2007).

19 The U.S. House Financial Services Committee on May 23, 2007 passed legislation that would protect public pension funds and their money managers from litigation in response to Iranian divestiture.

20 King (2007).

21 The new law requires the State's Board of Administration to contact companies with business ties to Sudan and with energy ties in Iran, asking them to stop such activities; unresponsive companies would have to be divested 90 days after the communication. See Pensions and Investments (2007a).

22 *Pensions and Investments* (2007b).

23 The California legislation, which was proposed in January and as of July is still in committee in the state senate, would force two of the nation's largest pension funds — for the state's public employees and teachers, with combined holdings of $400 billion — to remove their money from any foreign company doing business with Iran. See Abdollah (2007).

24 Pichardo (2007).

25 See Pichardo (2007); and also confirmed by a personal communication with SSgA's Gary Conway. Also, according to Northern Trust Global Investments, companies doing business in Iran comprise about 25 percent of the MSCI EAFE index, compared to about 15 percent with ties to Sudan.

26 When narrowed, the number of companies involved declines from 100-125 to the 19-25 range. In California, for example, CalPERS would have to divest $8 billion if a bill introduced by Joel Anderson is passed. If narrowed to companies only with energy interests in Iran, the divestiture requirement drops to $2 billion. See Pichardo (2007).

27 LaFranchi (2007).

28 See U.S. Department of Treasury (2007); U.S. Department of State (2007b); and McKinley (2007).

29 Karmin (2007).

30 See Frick (2007).

31 For a summary of the literature on testing the extent to which the supply curve is elastic, see Munnell and Sundén (2005).

32 The caveat is, of course, that potential buyers must not think the sale (purchase) reflects a negative (positive) assessment of the firm's financial condition or business prospects that could affect future cash flows. If potential purchasers believe that the seller is disposing of the stock because he knows something adverse they do not, they will revise down their assessment of the stock's value, and the transaction will reduce the price of the stock.

33 Apparently the Vice Fund has grown at 20 percent annually since its inception, outpacing the S&P's growth of 16 percent. At first blush, these results appear to contradict the conclusion that screening has no impact, but the period under consideration is far too short for these numbers to have meaningful implications. See Authers (2007).

34 Teoh, Welch, and Wazzan (1999).

35 During the 1970s, as opposition against the apartheid government increased, social activists charged that companies investing in South Africa indirectly supported the government and its discrimination policies. In an initial effort to resolve the conflict, the Reverend Leon Sullivan in 1977 introduced a set of guidelines for companies doing business in South Africa, the so-called "Sullivan Principles." By 1987, 127 U.S. companies had signed on to the Sullivan principles (Auerbach, 1987).

36 For example, CalPERS divested itself of $9.5 billion worth of shares of companies holding a South African subsidiary. Pressure to divest and a worsening economic and political environment in South Africa led many companies (IBM, Exxon, Ford, GM and Chrysler) to sell their holdings. See Teoh, Welch, and Wazzan (1999).

37 An asset can be characterized by its expected return and the risk associated with that return, measured by the variance in returns. The risk of a specific asset can be broken down into two parts: risks that are unique to that stock (firm risk) and risks that stem from market-wide variations such as business cycle variation, inflation, and interest rate fluctuations

(market risk). When assets are combined in a portfolio, the return on the overall portfolio is given by the average return of the assets. And the risk associated with the portfolio is determined by the variance of the individual returns and the degree to which the individual returns vary together (covariance). Thus, by combining assets into a portfolio that have differing risk characteristics, an investor can create an efficient portfolio — a portfolio that is expected to achieve a given level of expected returns while minimizing risk.

38 Assume an investor plans to divide his money among *n* stocks selected from the entire market portfolio. The portfolio variance is given by:

$$\text{Portfolio variance} = 1/n * \text{average variance} + (1 - 1/n) * \text{average covariance}$$

As the number of securities in the portfolio increases, the contribution to total risk from the individual firm-specific risk decreases and the contribution from how the risks vary in relation to each other (covariance) increases. Thus, as the number of securities increases, the overall portfolio variance approaches the economy-wide risk, represented by the second term in the equation. With 2 stocks in the portfolio, half of the overall variance is due to firm specific risk and half to market risk. By the time a portfolio contains 10 securities, 90 percent of the portfolio's variance should be determined by the market risk. With a 20 stock portfolio, 95 percent of the variance should be determined by the overall market risk. See Brearley and Myers (1988).

39 Rudd (1981) and Grossman and Sharpe (1986) argue that the investor will not be able to exactly duplicate the market portfolio, because the screened portfolio will have relatively greater covariation in returns. Rudd also argued that social investing will introduce size and other biases into the portfolio, which will lead to a deterioration in long-run performance.

40 Guerard (1997); Hamilton, Jo, and Statman (1993); Statman (2000); Bauer, Koedijk, and Otten (2002); Dhrymes (1998); and Bello (2005). A similar result has been found for bond portfolios (D'Antonio, Johnsen and Hutton, 1997).

41 DiBartolomeo (2000). In the late 1980s and early 1990s, tobacco stocks performed slightly better than the S&P 500 but during the second half of the 1990s the tobacco stocks underperformed the S&P 500 on a risk-adjusted basis (Social Investment Forum, 1999; and Ferrari, 2000). However, the overall effect of divesting tobacco stocks should be small because they only account for about 1 percent of the S&P 500.

42 Kurtz and DiBartolomeo (1996); DiBartolomeo and Kurtz (1999); DiBartolomeo (1996); and Bello (2005). Some critics of these results contend that the comparable returns reflect the fact that the screened funds invest a higher proportion of their assets in small cap stocks. Small caps have out-performed large caps over the period 1995 to 2007 by more than 3 percentage points (10.9 percent versus 7.8 percent). The discrepancy since the trough in the market in 2002 has been even greater (20.0 percent versus 11.0 percent). Bello (2005) contends, however, that the sizes of the companies in the screened and unscreened portfolios are very similar.

43 Malkiel (1991).

44 Grossman and Sharpe (1986).

45 Munnell and Sundén (2001).

46 Romano (1993).

47 Hickey (2000).

48 A recent study (Karolyi, 2007) of terror-free investing concluded that there were no significant differences in risk or return of stock portfolios screened on the basis of their operations in countries designated as state sponsors of terrorism and the S&P 500. This study, however, focused exclusively on U.S. markets, where very few firms do business in terror-linked countries. The author notes that "Broadening the analysis to incorporate a global investment strategy may render different results and conclusions."

49 Two books were instrumental to broadening the social investing debate — Rifkin and Barber (1978) and Litvak (1981).

50 Munnell (1983).

51 Schwimmer (1992); and Langbein, Stabile, and Wolk (2006).

52 White (1991).

53 In their initial forays into economically targeted investments, public pension fund managers generally

did not appear to recognize the "Catch-22" nature of the exercise. For the most part, the goals of increasing in-state housing investment and maximizing returns are inconsistent in the United States' highly developed capital markets. Any housing investment that offers a competitive return at an appropriate level of risk, such as a GNMA, does not need special consideration by public pension plans nor would such consideration increase the long-run supply of mortgage loans. Investments by pension funds that would increase the supply of housing funds must by definition either produce lower returns or involve greater risk. Sophisticated advocates of targeted investments recognized the efficiency of the market for housing finance and argued that pension funds could make a contribution through innovative forms of housing finance. But that was not what was going on in 1983; the in-state mortgages purchased by public pension funds tended to be conventional fixed-rate 30-year mortgages. See Munnell (1983).

54 McKinley (2007) and also confirmed by a personal communication with CalPERS' Brad Pacheco.

55 Mishra (2006).

56 King (2007).

57 Ohio Retirement Study Council (2007).

58 King (2007).

59 Walsh (2004).

60 The comment is from Julie Gorte, director of social research at Calvert Investments (Fried, 2006).

61 Authers (2007).

62 Stern (2007).

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CENTER FOR
RETIREMENT
RESEARCH
AT BOSTON COLLEGE

About the Center

The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research and forge a strong link between the academic community and decision makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

Affiliated Institutions

American Enterprise Institute
The Brookings Institution
Center for Strategic and International Studies
Massachusetts Institute of Technology
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Urban Institute

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The Center for Retirement Research thanks AARP, AIM Investments, CitiStreet, Fidelity Investments, John Hancock, Nationwide Mutual Insurance Company, Prudential Financial, Standard & Poor's, State Street, and TIAA-CREF Institute for support of this project.

The research reported herein was supported by the Center's Partnership Program. The findings and conclusions expressed are solely those of the author and do not represent the views or policy of the partners or the Center for Retirement Research at Boston College.

Vacancy Announcement
Chief Investment Officer & Executive Director
North Dakota Retirement and Investment Office

Location: Bismarck, ND
Salary Range: $180,000 to $220,000 per year, plus benefits including: paid family health insurance, life insurance, and retirement plan
Closing Date: January 31, 2013
Position Number: 190-1197
Status: Full-time, Regular
Date Posted to Web: December 17, 2012

Minimum Qualifications:

- Bachelor's degree in business administration, finance, economics or a related field. Master's or other advanced degree in an appropriate specialized field of study is preferred. CFA certification is strongly preferred.
- Substantial progressively responsible work experience in investment related duties at a public pension fund, foundation, endowment, trust, investment consulting firm, bank, insurance company, or similar entity, including combined management / executive management experience.
- Knowledge of laws, rules, regulations and professional standards regarding pension fund assets and investments.
- Knowledge of modern portfolio theory and its application, investment analysis, accounting and pension plan management, and a broad understanding of all investment asset classes.
- Knowledge of principles of research, statistics, actuarial calculations, and accounting.
- Knowledge of Federal and State laws and regulations pertaining to the administration of benefit and investment programs and applicable compliance requirements.
- Experience and skill in gathering, researching and analyzing financial information and applying this information as appropriate.
- Experience in creating spreadsheets and using databases.
- Experience working with a board is strongly preferred.

Other Qualifications:

- Strong ethics and high degree of integrity.
- Highly effective communication and presentation skills; the ability to prepare and present clear and understandable written and oral reports; desire and ability to educate SIB members and others about the complexities of the investment portfolio.
- Ability to establish and maintain positive working relationships with a variety of constituents including staff, Board members, consultants, investment professionals, legislators, government officials and members.
- Excellent analytical skills.
- Must exhibit strong leadership, problem-solving, and decision-making abilities. Ability to effectively lead and influence others in a confident, positive and results-oriented manner.
- Demonstrated ability to effectively supervise, develop and direct the activities of a professional management staff.
- Proven ability to analyze, evaluate, and resolve major organizational issues, conflicts and challenges.
- Ability to think and plan on both a conceptual and strategic level.

- Ability to effectively promote and lead continuous process improvement efforts.

Application Procedures:

Applicants must submit a resume and cover letter by the closing date to:

Becky Sicble, Human Resource Officer
ND Human Resource Management Services
600 E. Boulevard Ave., Dept. 113
Bismarck ND 58505-0120
Fax: 701-328-1475
Email: blsicble@nd.gov

For more information or accommodation or assistance in the application or interview process, please contact Becky Sicble at 701-328-3299.

Veteran's preference does not apply to this position.

Summary of Work:

The North Dakota Retirement & Investment Office (RIO) was established in 1989 to coordinate the activities of the State Investment Board (SIB) and the Teachers' Fund for Retirement (TFFR) as stipulated by state statute. RIO fulfills the mission of the SIB to provide cost-effective investment service to its constituents, consistent with their respective investment policies and guided by the premises of the Prudent Investor Rule. In addition, the RIO administers the management and disbursement of retirement benefits to TFFR members. The RIO is based in Bismarck, the state capital of North Dakota, and employs a staff of 17.

The SIB has statutory responsibility for the administration of investment programs of several funds, including the TFFR, the Public Employees' Retirement System (PERS), the Workforce Safety and Insurance Fund, as well as contractual relationships for investment management for certain political subdivisions. The SIB is an 11 person board, chaired by the Lt. Governor, and also includes the State Treasurer, the State Insurance Commissioner, the Executive Director of the Workforce Safety & Insurance office designee, the Land Commissioner and three representatives each of PERS and TFFR, appointed by their respective boards. Professional investment managers, consultants and custodians are retained to assist in the implementation of the investment program.

The CIO/Executive Director is appointed by and serves at the pleasure of the SIB and is responsible for the planning, supervision and direction of RIO operations in accordance with all applicable governing statutes and Board governance policies.

Key areas of responsibility include:

Investment Administration/Policy

- Works with the TFFR and PERS boards, and other clients, to formulate investment policies pertaining to the kind or nature of investments and limitations, conditions and restrictions upon the methods, practices or procedures for investment, reinvestment, purchase, sale or exchange transactions that should govern the investment of funds.
- Monitors investment performance using both sophisticated software products and quantitative measurement methods based on performance benchmarks and risk characteristics to evaluate the performance of various funds, asset classes and individual external investment managers.

- Directs the preparation of all necessary reports to keep the SIB apprised of investment performance, managing compliance with stated investment policies and contractual guidelines.
- In conjunction with the external investment consultant, monitors and evaluates the various investment options and develops appropriate research and recommendations for the SIB to evaluate new investment vehicles and potential external investment managers.
- Subject to the limitations contained in the law and policies adopted by the SIB, the CIO/Executive Director may sign and execute all contracts and agreements to make purchases, sales, exchanges, investments and reinvestments relating to the funds under the management of the SIB.

Pension Administration

- Oversees the Deputy Executive Director/Chief Retirement Officer and subordinate staff responsible for administering accurate, prompt, and efficient pension benefits program to constituents and educational outreach initiatives, including pre-retirement seminars and individual benefits counseling sessions.

Office Administration

- Provides leadership, coaching and feedback to assigned staff, recommending measures to improve performance and increase efficiency.
- Directs the preparation and execution of the budget and legislative agenda. Assures follow through and evaluates results.
- Establishes and maintains working relationships across all organizational work units and levels.
- Represents the RIO and promotes its programs to various stakeholders, constituencies, political subdivisions and the state legislature.
- Assures accountability and compliance with all statutory and SIB prescribed policies and procedures.

Equal Opportunity Employer

The State of North Dakota and this hiring agency do not discriminate on the basis of race, color, national origin, sex, genetics, religion, age, or disability in employment or the provision of services, and complies with the provisions of the North Dakota Human Rights Act.

As an employer, the State of North Dakota prohibits smoking in all places of state employment.

DRAFT

STATE INVESTMENT BOARD SEARCH COMMITTEE
MINUTES OF THE
JANUARY 4, 2013, MEETING

BOARD MEMBERS PRESENT:	Drew Wrigley, Lt. Governor, Chair Mike Sandal, PERS Board Bob Toso, TFFR Board
BOARD MEMBERS ABSENT:	Lance Gaebe, Land Commissioner Kelly Schmidt, State Treasurer
STAFF PRESENT:	Bonnie Heit, Office Manager

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) Search Committee meeting to order at 11:20 a.m. on Friday, January 4, 2013, at the Governor's Conference Room, State Capitol, Bismarck, ND.

The SIB Search Committee meeting was held for the purposes of discussing the status of recruiting candidates for the position of ED/CIO of the Retirement and Investment Office (RIO).

The minutes of the December 12, 2012, meeting were considered.

MR. SANDAL MOVED AND MR. TOSO SECONDED TO ACCEPT THE MINUTES OF THE DECEMBER 12, 2012, MEETING.

AYES: MR. SANDAL, MR. TOSO, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED
ABSENT: TREASURER SCHMIDT, COMMISSIONER GAEBE

Mr. Sandal updated the Search Committee on the status of recruitment efforts. To date, 62 applications have been received. Mr. Sandal also provided the Search Committee with a list of the entities where the job announcement was posted.

Mr. Sandal also noted the assistance and expertise from the State Human Resource Management Services (HRMS) has been very good particularly from the individual that has been assigned, Ms. Becky Sicble.

The Search Committee discussed the evaluation criteria for the applications received. Traits or attributes would need to be identified that are highly regarded in the field over and above the minimum qualifications. Once those traits or attributes are identified, a ranking or value would then need to be placed.

The Search Committee is to submit their thoughts and ideas on the criteria and relative weights to Mr. Sandal by January 15, 2013. Mr. Sandal and Treasurer Schmidt will compile a draft matrix of the screening criteria. The draft will be presented to the SIB at their January 25, 2013, meeting for their review and input.

The Search Committee established the following tentative schedule; review applications received by mid February, decide how many applicants to interview by end of February, and conduct interviews in March.

ADJOURNMENT:

With no further issues to come before the Search Committee, Mr. Sandal moved and Mr. Toso seconded to adjourn the meeting at 11:45 a.m.

____
Lt. Governor Wrigley, Chair
State Investment Board

____
Bonnie Heit
Assistant to the Board

STATE INVESTMENT BOARD SEARCH COMMITTEE
MINUTES OF THE
DECEMBER 12, 2012, MEETING

BOARD MEMBERS PRESENT: Drew Wrigley, Lt. Governor, Chair
Mike Sandal, PERS Board
Lance Gaebe, Land Commissioner
Kelly Schmidt, State Treasurer
Bob Toso, TFFR Board

STAFF PRESENT: Bonnie Heit, Office Manager

OTHERS: Tricia Opp, State Procurement

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) Search Committee meeting to order at 11:10 a.m. on Wednesday, December 12, 2012, at the Governor's Conference Room, State Capitol, Bismarck, ND.

The SIB Search Committee meeting was held for the purposes of discussing the initial process of recruiting candidates for the position of ED/CIO of the Retirement and Investment Office (RIO).

The minutes of the May 29, 2012, and June 28, 2012, meetings were considered.

TREASURER SCHMIDT MOVED AND MR. SANDAL SECONDED TO ACCEPT THE MINUTES OF THE MAY 29, 2012, AND JUNE 28, 2012, MEETINGS.

AYES: COMMISSIONER GAEBE, TREASURER SCHMIDT, MR. SANDAL, MR. TOSO, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

After discussing their options for the recruitment of candidates, the following action was taken:

TREASURER SCHMIDT MOVED AND MR. SANDAL SECONDED TO NOT HIRE A HEAD HUNTING FIRM, PROCEED WITH UTILIZING ND STATE HUMAN RESOURCE MANAGEMENT SERVICES (HRMS,) AND TO FOLLOW THE PROCESS THAT WAS ESTABLISHED IN THE PREVIOUS HIRE TO RECRUIT CANDIDATES FOR THE ED/CIO POSITION OF RIO.

AYES: TREASURER SCHMIDT, COMMISSIONER GAEBE, MR. TOSO, MR. SANDAL, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Mr. Sandal and Treasurer Schmidt will work with HRMS to establish the process for the recruitment of candidates for the ED/CIO position.

The Search Committee discussed a salary range for the ED/CIO position. After discussion,

COMMISSIONER GAEBE MOVED AND LT. GOVERNOR WRIGLEY SECONDED TO ADVERTISE THE ED/CIO ANTICIPATED SALARY RANGE BETWEEN $180,000 - $220,000. THE FINAL SALARY WILL BE BASED ON LEVEL OF EXPERIENCE AND ASSETS MANAGED.

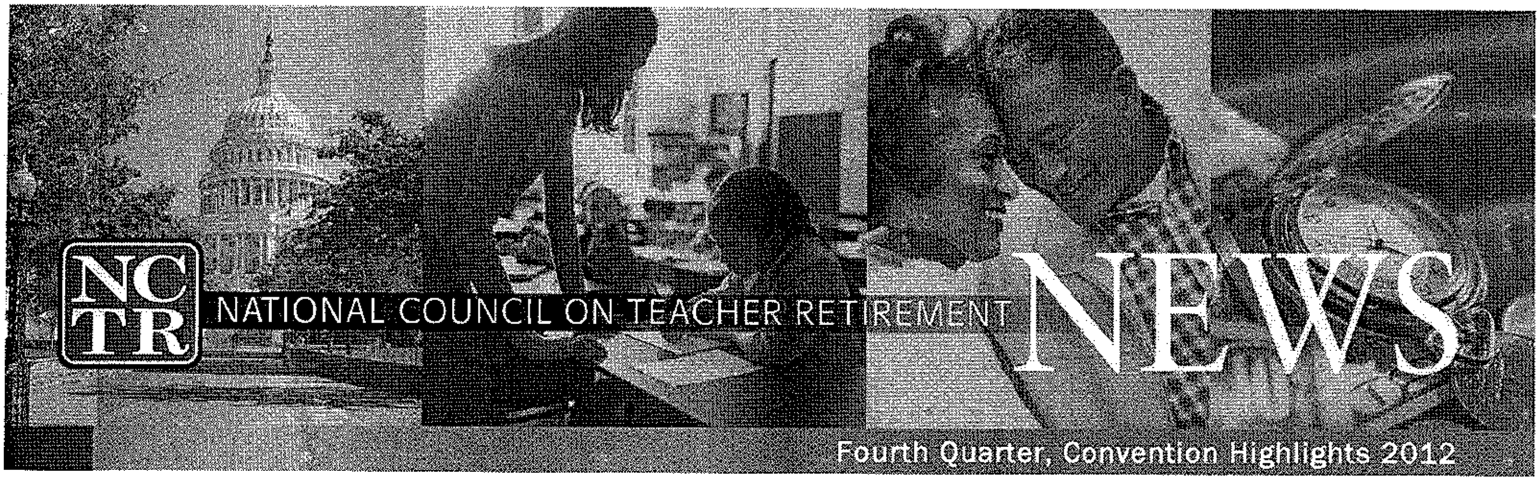
AYES: MR. SANDAL, COMMISSIONER GAEBE, MR. TOSO, AND LT. GOVERNOR WRIGLEY
NAYS: TREASURER SCHMIDT
MOTION CARRIED

ADJOURNMENT:

With no further issues to come before the Search Committee, Treasurer Schmidt moved and Mr. Sandal seconded to adjourn the meeting at 12:25 p.m.

Lt. Governor Wrigley, Chair
State Investment Board

Bonnie Heit
Assistant to the Board



NEW NCTR LEADERSHIP

FOURTH TRUSTEE PRESIDENT IN NCTR'S 90-YEAR HISTORY

WILLIAM BLAIS FINELLI, Trustee and Vice Chair of ERS Rhode Island (ERSRI), accepted the NCTR presidential gavel from outgoing President **DAVID A. STELLA** at the Annual Business Meeting, held October 10, 2012, in Tucson, Arizona, immediately following the NCTR 90th Annual Convention. He is the fourth trustee to accept a role typically filled, historically, by retirement system administrators. Bill, who stepped up from the President-Elect position, also served a year as Secretary/Treasurer, and has been a member of the Executive Committee, NCTR's governing body, since 2004. He first became involved in NCTR in 1997 and has been very active, first as a member, then as chair, of the Trustee Education Committee, which develops curriculum to educate public fund trustees on their roles as fiduciaries.

A retired school teacher, Bill worked 32 years as a Library-Media Specialist in the school district of East Providence, Rhode Island. His dedication to public service for state teachers is evidenced in his 20 years as a trustee on the ERSRI Retirement

Continued on page 6

RECAP

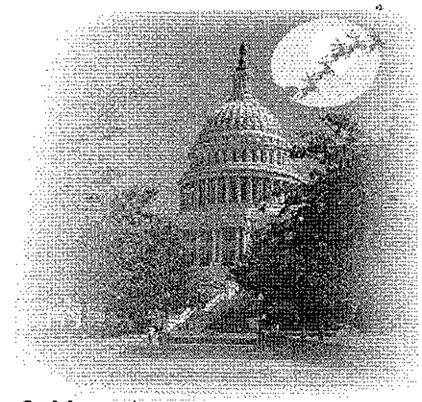
NCTR 90TH ANNUAL CONVENTION

Pathways to Retirement Security • TUCSON, ARIZONA • OCTOBER 2012

PAUL MATSON (upper right), Executive Director, Arizona State Retirement System, welcomed everyone to the Southwest. **HAZEL COLEMAN** (right), Trustee, Arkansas Retirement System, led the Pledge of Allegiance. Earlier, we heard from locally based, internationally renowned musical acts, the **TUCSON ARIZONA BOYS CHORUS**, followed by Native American Flutist and Storyteller, **MARY REDHOUSE**.

Worthless political speculation or terrific election analysis? Biased or balanced? Judging from the extreme range of attendee comments (and extraordinarily high ratings) on convention evaluations, **Monday Keynote Speaker**, NPR and FOX political insider **MARA LIASSON**, got everyone's attention, regardless of personal political bent!

NCTR NATIONAL COUNCIL ON TEACHER RETIREMENT
Supporting Retirement Security for America's Teachers



CAPITOL COMMENTARY

THE FISCAL CLIFF

'TWAS THE NIGHT BEFORE CHRISTMAS?!

By Leigh Snell, NCTR Federal Relations Director (with apologies to Clement C. Moore)

Twas the night before Christmas, and all through the House,
All the Members were squeaking, like many a mouse!
Their tickets for home had been purchased with care,
In hopes that a fiscal cliff deal would be there.

The Senate was gridlocked, all dug in, all said,
While visions of filibusters danced in their head.
With Harry so angry and Mitch in a flap,
It looked like they faced an unbridgeable gap.

When down at the White House there arose such a clatter,
John and Nancy stopped sparring to see what was the matter.
Away to the press room they flew in a flash,
With shutters a-snapping—was a deal done at last?

The looks on the face of the crest-fallen foes
Of a deal were as white as the new-fallen snow.
For what did the media mavens most fear?
No crisis to blow up?! No hot tips to hear?!

Their questions were rapid, their punditry quick.
They thought for a moment it must be a trick.
But then, swift as eagles, Barack's motorcade came,
And he whistled and shouted and called them by name.

"Now, Chuck Todd! Now, Bill Plante! Now, Malveaux, you vixen!
On, Wallace! On Henry! On Tapper and Blitzer!
Going over the cliff? Higher tax rates for all?
Now ask away! Ask away! Ask away, all!"

As dry leaves that before the wild hurricane fly,
When they meet with an obstacle, mount to the sky,
So up to the House floor the rumors they flew,
"He'll kick the can down the road! No new revenues, too."

And lo, in a twinkling, shouts lifted the roof,
Then the prancing and pawing of each little hoof
As toward the exits Congress turned with a bound.
Then suddenly everyone heard a sharp sound.

It was clear from the ringing there was trouble afoot!
Every cell phone and land line and mobile was put
To the ears of Hill staff who were taken aback
Being told that their bosses didn't know jack!

Members' eyes, how they twinkled! Were they happy? Not very!
Callers' cheeks might be rosy, but not from being merry!
Nancy's droll little mouth was drawn up like an "Oh,"
And the hair on John's head had turned white as the snow.

The stump of his foot held tight in his teeth,
Hot steam encircled Reid's head like a wreath.
McConnell might have had a little round belly,
But it shook from fear, not laughter, like a bowlful of jelly.

Even POTUS was fed up, a right grumpy old elf.
Who was to blame? The Tea Party? Himself?
And no wink of his eye, no tilt of his head,
Would make people think they had nothing to dread.

Will there be a happy ending? Can government work?
Stop trying to fill/empty everyone's stockings! Stop acting like jerks!
Can Americans stop holding their collective nose?
Can we come out of this mess smelling like a rose?

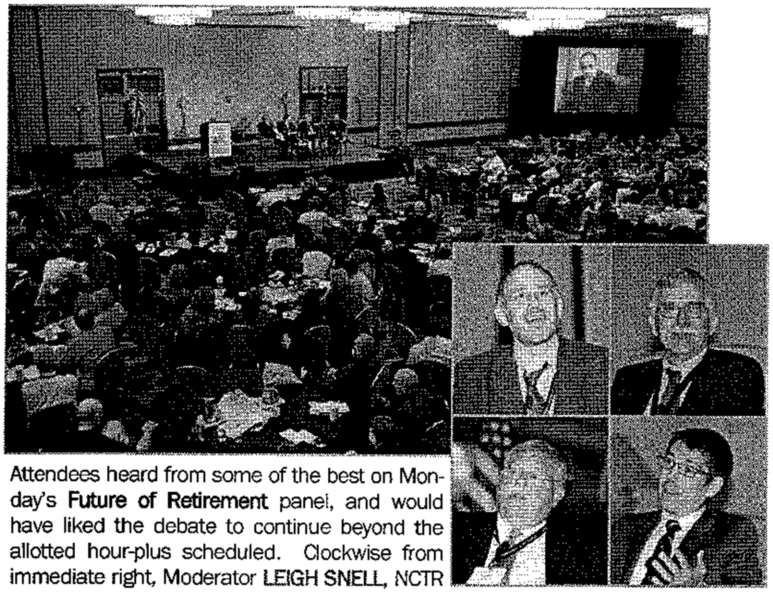
Congress, get going! To your leaders give a whistle.
Yes, the problems are big, and as prickly as thistle.
But please get them solved, ere you rush out of sight.
For a Happy Christmas to all, for once, get it right!

❖

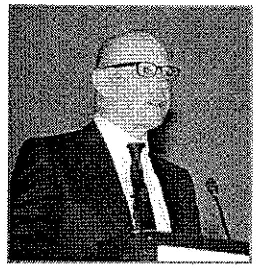
RECAP

PATHWAYS TO RETIREMENT SECURITY

TUCSON, ARIZONA • OCTOBER 2012



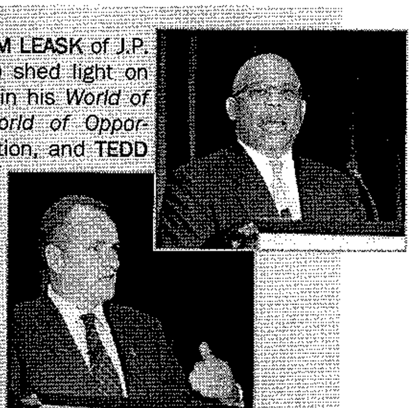
Attendees heard from some of the best on Monday's **Future of Retirement** panel, and would have liked the debate to continue beyond the allotted hour-plus scheduled. Clockwise from immediate right, Moderator **LEIGH SNELL**, NCTR Federal Relations Director; **DEAN BAKER** of the Center for Economic and Policy Research; **DAVID JOHN** of The Heritage Foundation; and **MICHAEL KREPS** of the Senate HELP Committee.

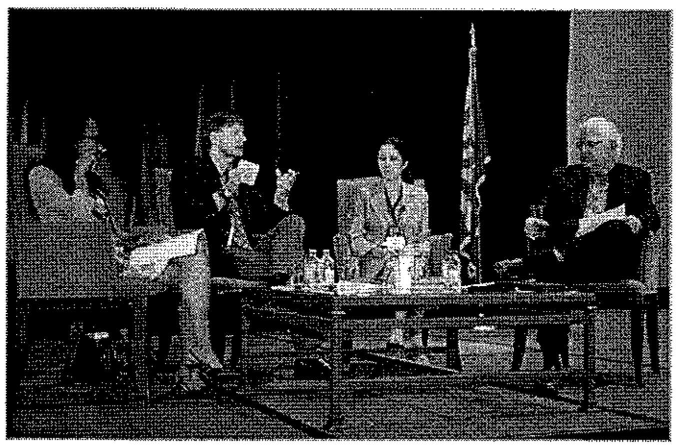


Taking the Long View Amidst Economic Uncertainty

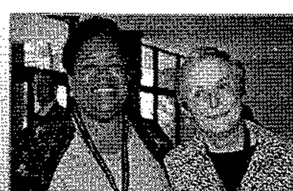
"Good insight on a tough topic" and "Critical presentation for trustees" were among the comments upon hearing from **GEORGE GREIG**, Chief Global Strategist at William Blair.

"Well done!" **TIM LEASK** of J.P. Morgan (below) shed light on global equities in his *World of Uncertainty, World of Opportunity* presentation, and **TEDD ALEXANDER** of Credo Capital Management (upper right), delved into the equity market here in the states.





The perennially-popular **CIO Panel** garnered praise for a good discussion of "useful take-home information" that "trustees needed to hear." Above, **PAUL MATSON** of Arizona SRS makes a point as Moderator **KRISTIN FINNEY-COOKE** of NEPC (left) and **JENNIFER PAQUETTE** of Colorado PERA, and **BOB MAYNARD** of PERSI follow along.



THE LATEST WORD

UPDATES FROM NCTR

WHAT CAN NCTR DO FOR YOU?

This is my first holiday season at NCTR. I thought it would be a relaxing time as the 90th Annual Convention is now behind us. I was wrong!

We had a great time in Tucson; a dynamic program, a wonderful facility, and a special NCTR crowd. Before the convention concluded, work was already underway for the next Annual Convention, October 5–9, in Washington, DC. The program is in its infancy right now. In February, the Trustee Education, Administrator Education, and Legislative committees weigh in with their thoughts on the important issues and topics that should form the basis for our Washington Convention.

Now, we need your help. What can NCTR do for you? Your input is absolutely essential if NCTR is going to meet your needs in face of the ever-evolving challenges within our public pension environment. I would sure like to hear from you. You can email me at mwilliams@nctr.org. Or give me a call at the NCTR office.

In the months ahead, I will continue my outreach efforts to share the NCTR experience with others. January finds me first at a CalPERS Board Workshop. The end of the month, I'll be on the other side of the country, participating in the annual "Outlook in the States & Localities Conference," sponsored by the publishers of *Governing* magazine.

NCTR takes great pride in supporting the trustees and administrators who work so hard to provide secure retirements for America's educators. We thank you for the opportunity to serve you. Seasons Greetings.

— MEREDITH WILLIAMS, NCTR EXECUTIVE DIRECTOR, COLORADO

NCTR MEMBER DUES AND MEETINGS

NCTR is excited for all that we have planned for our members in 2013! First of all, I'm delighted to report that dues have been held to 2012 rates. Invoices will be emailed by mid-December. Have a change in contact information? Please contact us and let us know.

We are also gearing up for member education. We will conduct our May Workshops (Administrative Assistant, Deputy Director, and Communication Specialist) the week of May 13. Our System Directors' Meeting will be held June 23–25. All events will be hosted at New York STRS in Albany, NY. Registration opens in March for the Workshops, and April for the System Directors' meeting.

We are working feverishly on details of our Trustee Workshop as well! NCTR will hold the workshop in late July in an Eastern U.S. location. Please continue to check our website for further details. Registration for this event opens in early May.

And, we can't forget about our 91st Annual Convention. We'll be in Washington, D.C., and have already begun working on developing a program that is both thought-provoking and educational for our members. Registration for this event opens in June.

As always, I am available to answer any questions you may have regarding your membership and our programs. We look forward to providing our members with information and education that supports the success of all those working to ensure retirement security for America's teachers!

— ROBYN GONZALES, NCTR ASSISTANT EXECUTIVE DIRECTOR, CALIFORNIA

NCTR ANNOUNCES A NEW STRATEGIC PLANNING EFFORT

NCTR began its Strategic Planning efforts in 1993. Since 1999, it has been the policy of NCTR to formulate a new Strategic Plan every three to five years in order to assure that the plan appropriately reflects the recent internal and external environments that NCTR operates in. The present Strategic Plan has been in place since 2009. All NCTR committees, staff, and consultants are charged with advancing the goals of the Strategic Plan.

At its November 2012 meeting, the Executive Committee authorized Executive Director Williams to begin planning and organizing the effort to develop a new Strategic Plan. After extensive examination and discussion of past procedures, the Executive Committee determined that it would be in NCTR's best interests to have all stakeholder groups represented among the ten members appointed to a Strategic Planning Work Group. The Executive Committee named Past President David Stella to serve as the group's Chairman. NCTR staff will assist with the organizational aspects of the project, the information gathering, and the drafting of the new Strategic Plan document.

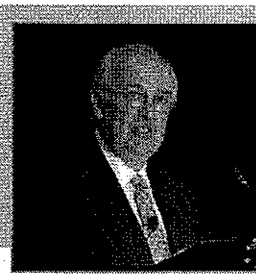
It is anticipated that a draft of the new Strategic Plan document will be presented to the Executive Committee for review and discussion by mid-2013.

— DON MILLER, NCTR CONSULTANT, NEW JERSEY

RECAP

PATHWAYS TO RETIREMENT SECURITY
TUCSON, ARIZONA • OCTOBER 2012

Tuesday afternoon offered a choice in workshops. **Fixed Income Opportunities** were discussed by (above, left to right) Moderator **EILEEN NEIL**, Wilshire; **CARL EICHSTAEDT**, Western Asset Management; **JARED GROSS**, PIMCO; and **KEVIN KEARNS**, Loomis, Sayles & Company. Meanwhile, a **Legal Update** was provided by **MARY BETH BRAITMAN**, Ice Miller, and **WAYNE SCHNEIDER**, NYSTRS.

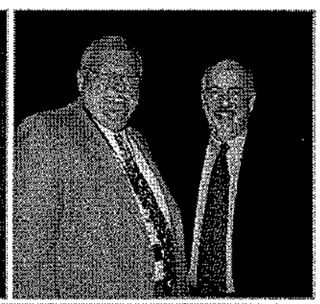


"Bring him back every year!" proposed one evaluation. With incisive Scottish wit, **Tuesday Keynote Speaker IAN MORRISON** projected what lies ahead in healthcare, particularly for retirees.

ANNUAL CONVENTION ARCHIVES

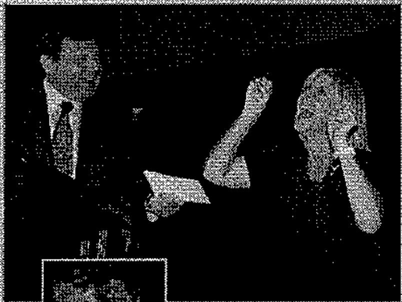
Visit www.nctr.org to review materials from the NCTR 90th Annual Convention

- Speaker Slides
- Committee Reports
- Program Book
- Resolutions



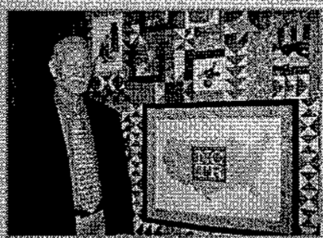
Wednesday opened with perspectives on **Implementing GASB**, presented by (above, left to right) **ROB WYLIE**, South Dakota RS; Moderator **PAT ROBERTSON**, Mississippi PERS; **LESLIE THOMPSON**, Gabriel Roeder Smith; and **DAVID POWELL**, Groom Law Firm. **Actuarial Issues** followed, with panelists (immediately above, left to right) **TODD GREEN**, Cavanaugh Macdonald; **JANET CRANNA**, Buck; and **KIM NICHOLL**, Segal; shown with NCTR Secretary/Treasurer **TOM LEE**, NYSTRS; and Moderator **JILL BACHUS**, Tennessee Consolidated RS. NCTR's Federal Relations Director **LEIGH SNELL** and Legislative Committee Chair **DEAN KENDERDINE**, Maryland SRPS, wrapped up the morning with the ever-relevant **Legislative Session**.

Two Nights, Two Honorees



2012 National Teacher of the Year, **REBECCA MIELIWOCKI** spontaneously broke into her happy dance upon hearing that the envelope handed to her by CalSTRS CEO **JACK EHNES** held an honorarium from NCTR for her to use in her exemplary efforts teaching 7th-grade English in Burbank, California. She also received a crystal bell, commemorating the launch of the James D. Mosman Teacher of the Year Award.

Monday evening paid tribute to **JIM MOSMAN**, who retired in 2012 after ten years as the Executive Director of NCTR. He was presented with a quilt featuring both NCTR and personal highlights created by Patti Finelli, wife of NCTR 2012–13 President Bill Finelli.



Welcome NEW NCTR MEMBERS

Commercial Associates

- AGF Investments America, Inc.
- Alternative Investments Forum (AIF)
- Baillie Gifford International LLC
- Cherion, Inc.
- Duff & Phelps Investment Management
- HarbourVest Partners, LLC
- Linea Solutions
- New York Life Capital Partners
- SecuredGrowth Quantitative Research, Inc.
- The Variable Annuity Life Insurance Company
- Tortoise Capital Advisors
- Van Eck Global

Public Systems

- Fulton County Schools Employees' Pension Fund (Georgia)

Continued from page 1

New NCTR Leadership

Board, 16 of those as Vice Chair. Prior to his retirement, he was a leader in state teacher unions. His work continues today with the NEA of Rhode Island, the Rhode Island Alliance for Retired Americans, and the Governor's Commission on Aging.

Previous trustees who have held the President position are **JOHN JENSEN**, Omaha SERS (2001–02), **CLARE BARNETT**, Connecticut TRB (2005–06), and **MEL VOGLER**, Pennsylvania PSERS (2007–08).

Dave Stella will follow his presidency with a one-year term as NCTR Past-President. Dave is Retired Secretary of the Wisconsin Department of Employee Trust Funds and currently serves as a Trustee on the State of Wisconsin Investment Board. Other officer positions were filled by **TOM LEE**, Executive Director and CIO of New York STRS, now serving as NCTR President-Elect; and **JIM SANDO**, Board Trustee with Pennsylvania PSERS, as NCTR Secretary/Treasurer. ❖

2012–2013 NCTR Executive Committee

Officers

WILLIAM BLAIS FINELLI, President
Board Vice-Chairperson, ERS Rhode Island

JIM SANDO, Secretary/Treasurer
Board Trustee, Pennsylvania PSERS

TOM LEE, President-Elect
Executive Director/CIO, New York STRS

DAVE STELLA, Past-President
Retired Secretary, Wisconsin DETF

Members

JILL BACHUS, Executive Director
Tennessee Consolidated RS

ROGER REA, Board Vice Chairman
Omaha SERS

LEONARD BUMBACA, Board Vice-Chairperson
ERFC–Fairfax County, Virginia

JAY STOFFEL, Executive Director
Duluth TRFA

JACK EHNES, Chief Executive Officer
CalSTRS

JAMES WILBANKS, Executive Director
Oklahoma TRS

NATIONAL COUNCIL ON TEACHER RETIREMENT
9370 Studio Court, Suite 100 E
Elk Grove, CA 95758

Phone: 916.897.9139
Fax: 916.897.9315

Visit us at: www.nctr.org

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.

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.

IN THIS ISSUE:

- GASB's New Accounting Standards Differ by Plan Type
- Divorce of Pension Accounting from Funding Measures
- Introduction of a New Measurement: Net Pension Liability
- Discount Rate for Calculating Total Pension Liability
- Recognition of Pension Expense by Employers
- Cost-Sharing Employers
- Measurement Timing and Frequency
- Implications

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

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[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.

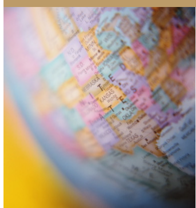
This confusion may lead to certain parties using the results for political and personal ends rather than focusing on the goals and objectives that are the reasons that the retirement systems were first created. This may lead to unintended consequences for taxpayers, plan participants and the users of 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*
  415.263.8273
  pangelo@segalco.com
- *Leon Joyner, Jr., ASA, FCA, MAAA, EA*
  678.306.3119
  ljoyner@segalco.com
- *Cathie Eitelberg*
  202.833.6437
  ceitelberg@segalco.com



CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

STATE AND LOCAL PENSION PLANS | NUMBER 27, NOVEMBER 2012

HOW RETIREMENT PROVISIONS AFFECT TENURE OF STATE AND LOCAL WORKERS

*By Alicia H. Munnell, Jean-Pierre Aubry, Joshua Hurwitz, and Laura Quinby**

Introduction

Public sector defined benefit pension plans are based on final earnings, so those with long careers receive substantial benefits and those who leave early receive little. This pattern of back-loading could reflect an optimal design whereby plan sponsors want to attract and retain workers who will stay with their employer for their entire career. But to the extent that state and local governments benefit from a diverse workforce comprised of both short and long-tenure workers, the current system may be poorly designed. A full career in the public sector may be optimal for both the employer and the employee in some situations, but in other instances shorter periods of employment may be more desirable for both parties. For example, social workers, who face burdensome caseloads and constant stress, are often exhausted long before retirement age. These workers need to move to new jobs in either the public or private sector. Therefore, a plan that disproportionately rewards long-service workers may lead some to stay who would be much better off elsewhere.

This *brief* uses a data set generated from actuarial valuations to see whether back-loading does indeed bind workers to their plans. The analysis exploits the fact that: 1) some public employees are covered by Social Security and some are not; and 2) some public employees are required to also participate in a defined contribution plan and others are not. The question is whether those who have these alternative sources of retirement income – which substantially reduce back-loading – are less likely to stay until the earliest age of eligibility for full benefits.

The discussion proceeds as follows. The first section reviews the nature of retirement arrangements in the state and local sector. The second section describes the derivation of the data used in the analysis.

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The third section reports how the probability of staying until the earliest full retirement age, once vested, is related to Social Security coverage and mandatory participation in a defined contribution plan. The final section concludes that, as in the private sector, the structure of benefits matters and that provisions that reduce the degree of back-loading reduce the likelihood of staying. In other words, when workers have the option to leave back-loaded plans, through retirement income from Social Security or a defined contribution component, they do. The main implication of this finding is that the recent trend towards adding a defined contribution component to state/local systems improves the benefit options for those who need to shift jobs.

Pension Design in the Public Sector

Retirement benefits in the public sector consist of three primary components: 1) a defined benefit plan based on final earnings; 2) Social Security for the 70 percent of state and local workers who are covered; and 3) a compulsory defined contribution plan for those participating in the few systems that have introduced a mandatory hybrid plan. The variation in the structure and level of total benefits among plans offers a unique opportunity to analyze the impact of plan design on participant behavior. The following describes each of the components.

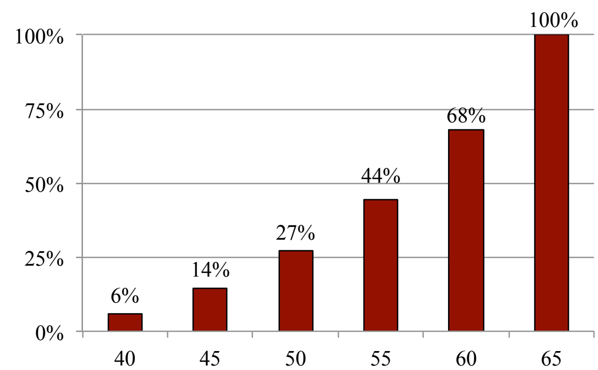
Final Earnings Defined Benefit Plans

Although state and local defined benefit plans vary enormously across states and between states and localities, they share a basic structure.[1] In almost all cases, they calculate the initial benefit at the full retirement age as the product of three elements: the plan's benefit factor (typically 2 percent), the number of years of employee service, and the employee's average earnings (generally based on the three to five years of highest earnings).

A simple model, which calculates the change (relative to the gross salary) in the present value of the promised pension benefit less the pension contribution, can illustrate the extent to which final pay plans are back-loaded.[2] This calculation, which is based on typical public plan characteristics, assumes a 2-percent benefit factor, a three-year averaging period, a full retirement age of 65, actuarially fair adjustments for early retirement, and a COLA that compensates for 1.5-percent inflation after the start of benefits. The calculation also assumes 4.5-percent nominal earnings growth (faster at young ages and then slowing) and 3-percent inflation.[3] Employees may claim a pension as early as age 55, provided they have accumulated at least 10 years of service. Those who leave prior to age 55 and have accumulated at least 10 years of service are assumed to claim a pension at the full retirement age. No cap is imposed on the replacement rate. Employee pension contributions are 5.5 percent of salary, the most typical rate in the Center's *Public Plans Database* (PPD).

The results of the calculation are shown in Figure 1. An employee starting at age 35 with a 30-year career will earn more than 30 percent of their lifetime pension benefits in the last five years of employment; those leaving with 10 years of service receive only about 14 percent of the possible lifetime benefits.[4] Thus, participants face a very strong incentive to keep working until full benefits are available.

Figure 1. Percent of Lifetime Pension Benefits Earned over an Employee's 30-year Career, Starting at Age 35



Source: Authors' calculations from the *Public Plans Database* (2010).

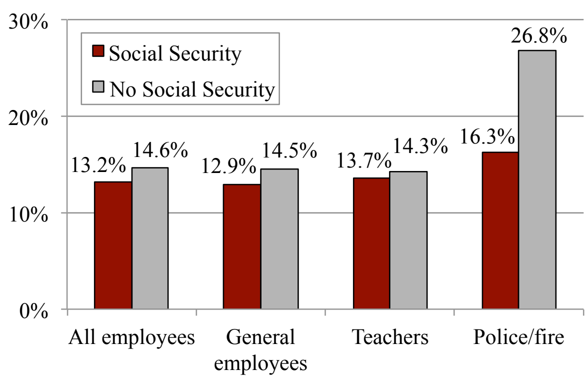
Social Security

The second component is Social Security, to which the employer and employee each contribute 6.2 percent of earnings toward an inflation-indexed lifetime benefit with actuarial adjustments for early and late claiming between age 62 and 70. When Congress enacted the Social Security Act in 1935, it excluded all state and local workers from mandatory coverage due to constitutional concerns about whether the federal government could impose taxes on state governments. As Congress expanded coverage to include virtually all private sector workers, it also passed legislation in the 1950s that allowed states to elect voluntary coverage for their employees.[5] Today, only 70 percent of state and local workers are covered by Social Security.

In those systems that participate, Social Security's more even accrual rate and portability changes the pattern of benefit accruals. The combined Social Security/defined benefit structure is significantly less back-loaded than the defined benefit pension alone, so the two plans together reduce the ratio of total accruals in later years relative to those earned in earlier years.

Interestingly, joining Social Security also substantially increases the total size of the retirement package. One would have thought that those sponsors opting for Social Security coverage would have cut back on their defined benefit plans, but the normal cost of covered plans is only slightly lower than that for non-covered plans (albeit a significant difference exists for the small sample of police and fire plans in the PPD) (see Figure 2). It appears that the decision to join or not to join the Social Security program was not based on benefit design considerations.

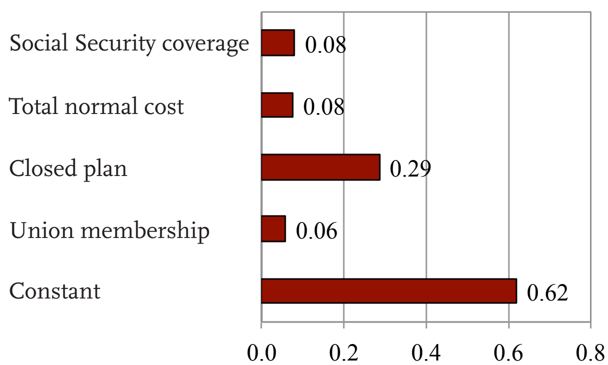
Figure 2. Total Normal Cost as a Percentage of Payroll, by Plan Type and Social Security Coverage, 2010



Sources: *Public Plans Database* (2010); and U.S. Government Accountability Office (2010).

The alternative to cutting back on the defined benefit plan would be a reduction in wages to offset the increase in benefits from joining Social Security. But a regression that relates the wages of public sector workers (relative to private sector workers) to both Social Security coverage and the total normal cost of the plan shows no offset. If anything, generous pension coverage appears to have a statistically significant positive relationship with wages (see Figure 3). (For full regressions and summary statistics, see Appendix Tables A1 and A2.)

Figure 3. Impact of Pension Provisions on Ratio of Average Plan Wage to Average State Private Sector Wage, Excluding Police/Fire Plans, 2010



Notes: All results are statistically significant at the 10-percent level or better. The bars represent a change from zero to one for dichotomous variables, and a one-standard-deviation change for continuous variables.
Sources: Authors' estimates from the *Current Population Survey* (2011); Hirsch and Macpherson (2010); and the *Public Plans Database* (2010).

Thus, the variation in Social Security coverage means that the public sector has two types of systems – those without Social Security in which the total retirement package is modest and extremely back-loaded and those with Social Security in which the package is much more generous and considerably less back-loaded.

Hybrid Defined Benefit/Defined Contribution Plans

The final component of the retirement package that affects the degree to which pension accruals are back-loaded is the existence of a mandatory hybrid plan, in which employees are required to participate in both a defined benefit and a defined contribution plan.[6] Sponsors of these plans generally reduce the accrual rate in their defined benefit plan to about 1 percent, so, unlike the case with Social Security, they do not add to the value of the package. But hybrid plans do make the package significantly less back-loaded in that participants accrue benefits in the defined contribution component at an even rate over their worklives.

The question under consideration is the extent to which the presence of alternative sources of retirement income and the reduction in back-loading affects the likelihood that participants will, once vested, stay until the age of earliest eligibility for full benefits.

The Data

To assess the likelihood of staying to retirement once vested, it would be lovely to have data on each individual in each plan in the PPD. Unfortunately, such data are not readily available. But it is possible, using each system's actuarial valuation, to engineer a representative population of plan participants and estimate the percentage of those who remain until retirement.

The valuations provide "decrement tables" that contain the rate at which plan members of a given age and tenure are expected to terminate or retire within the next year.[7] One minus these decrement rates is approximately the probability of an individual plan member of a given age and service remaining one additional year.

The probabilities of an individual remaining one additional year can be used to generate the probability of an individual staying in the plan for multiple years. For example, as shown in Table 1, an individual with a starting age of 25 and zero years of service has an 82-percent chance of staying for one year. In addition, the table shows that a year from now, when that individual is 26 with one year of service, he has an 88 percent chance of staying one more year. These 1-year probabilities can be multiplied to calculate the cumulative probability of the 25-year-old staying multiple years. That is, he has an 82.0 percent probability of remaining for one year, a 72.1 percent probability of remaining for two years, a 67.7 percent probability of remaining for three years and so on. This process is replicated for each age (roughly 30) and length of tenure (roughly 35) and for each plan in the PPD (roughly 120), producing about 126,600 probabilities.

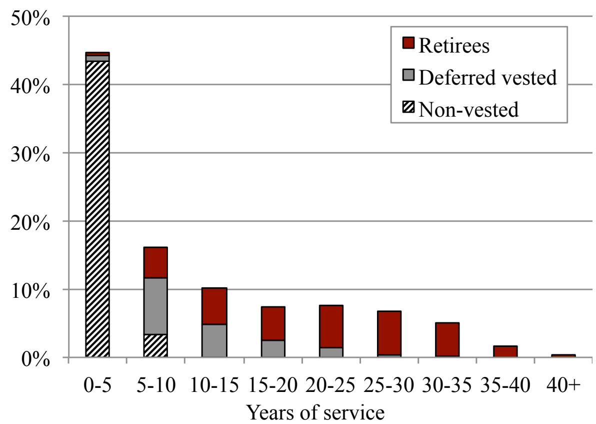
The projected distribution by tenure and benefit status of participants leaving the plan is shown in Figure 4. The important point for this analysis is that participants leave with various tenures. The question under consideration is how the structure of the plans' retirement program affects the decision to remain.

Table 1. Probability of Remaining in the Plan by Starting Age and Years of Service

Starting age	Years of service					
	0	1	2	3	4	5
25	**82.0**	87.0	92.0	93.0	94.0	94.2
26	83.0	**88.0** *72.1**	93.0	94.0	94.2	94.5
27	84.0	89.0	**94.0** *67.7 **	94.2	94.5	94.8
28	85.0	90.0	94.1	**94.5** *64.0 **	94.8	95.0
29	86.0	91.0	94.3	94.7	**95.0** *60.8 **	95.2
30	87.0	92.0	94.5	95.0	95.2	**95.5** *58.0 **

* Numbers in italics represent cumulative probabilities.
Source: Authors' calculations from actuarial valuation reports.

Figure 4. Distribution of Leavers in *Public Plans Database,* by Tenure and Benefit Status, 2011



Source: Authors' estimates from various actuarial reports.

Impact of Alternative Benefit Structures

The synthetic data are used to analyze the probability of staying with the plan long enough to be eligible for full benefits, once vested.[8] The analysis involves estimating an equation of the following form:

$$P_i\,(v|a) = \beta_0 + \beta_1 SS_i + \beta_3 DC_i + \beta_2 V_i + \beta_4 W_i + \mathbf{\beta X} + \boldsymbol{\varepsilon}$$

where the probability of staying for a member of a given starting age is related to whether the plan has Social Security coverage, SS_i, and mandatory participation in a defined contribution plan, DC_i.[9] Additional variables include the number of years required for vesting V_i, the ratio of average annual salaries in the plan divided by the average annual private sector salary in the state, W_i; and a vector of eight dichotomous variables, $\boldsymbol{X}$, that captures the member's age at hire, broken into five-year brackets, from 20 to 54.

The coefficients of particular interest are those for Social Security coverage and a mandatory defined contribution plan. Social Security coverage means that the combined Social Security/public plan benefit structure is less back-loaded than the public plan alone, because Social Security benefits accrue at a more even pace over the employee's work life. Thus, Social Security coverage would be expected to be associated with a lower likelihood of staying until earliest eligibility for full benefits.[10] A similar rationale applies to mandatory defined contribution participation.

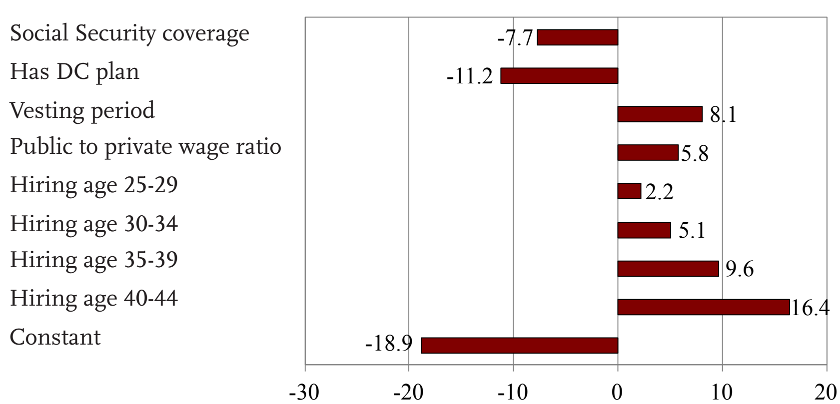
In terms of vesting, a longer vesting period is likely to increase the probability, once vested, of staying until eligible for full retirement benefits, because the longer the vesting period, the older the participant will be and, therefore, the closer to retirement eligibility. The ratio of public to private wages should also be related positively to remaining on the job. Finally, the probability of staying should increase with age.

The regression results are shown in Figure 5. (For full regressions and summary statistics, see Appendix Tables A3 and A4.) Both Social Security coverage and mandatory participation in a defined contribution plan have negative coefficients that are statistically significant. The obvious interpretation is that these alternative sources of retirement income moderate the back-loading of the plan and reduce the likelihood that people will remain. That is, despite the fact that plans with Social Security are significantly more generous, when participants have the opportunity to leave, they take it.

Conclusion

It is not news that benefit design affects retirement patterns; numerous studies of private sector pensions have documented such a relationship. Much less is known, however, about patterns in the public sector. This analysis shows that final earnings defined benefit plans keep workers longer than plans with less back-loaded pension benefits. Career employment might be the right answer for some public employees, but is unlikely the right answer for all. Therefore, the movement toward hybrid arrangements is likely to improve outcomes for state and local workers who need to change jobs.

Figure 5. Impact of Selected Factors on Probability of Remaining in Plan until Earliest Normal Retirement Eligibility Once Vested, Excluding Police and Fire Plans, 2010



Notes: All results are statistically significant at the 10-percent level or better. The bars represent a change from zero to one for dichotomous variables, and a one-standard-deviation change for continuous variables.
Sources: Authors' estimates from the *Current Population Survey* (2011); and the *Public Plans Database* (2010).

Endnotes

1 Nebraska is an exception to this generalization since it has a cash balance plan for general state employees. Nebraska still provides a traditional pension benefit for its public school teachers and state police. The Texas Municipal Retirement System, Texas County and District Retirement System, and California State Teachers' Retirement System (for part-time employees of community colleges) also provide a cash balance plan.

2 This model is based on Diamond et al. (2010).

3 Salary increases average 4.5 percent annually over the course of the worker's career, declining from 6 percent at age 25 to 3 percent at age 65. This pattern is consistent with the graded salary scales provided in most actuarial valuations.

4 Present values are computed using a real interest rate of 3 percent, similar to the 2.9 percent rate used in the 2012 *Social Security Trustees Report*. Mortality rates are formed as a 50-50 gender mix of the RP-2000 combined healthy tables, projected to 2012 using Scale AA. The calculation is pre-tax; it ignores the role of both income and payroll taxes, as well as promised Social Security benefits, in determining the level of compensation.

5 Specifically, amendments to the Social Security Act in 1950, 1954, and 1956 allowed states, with the consent of employees in the pension plan, to elect Social Security coverage through agreements with the Social Security Administration (making their taxation voluntary). The amendments also allowed states to withdraw from the program after meeting certain conditions, although this option was eliminated in 1983.

6 Georgia ERS, Indiana PERF, Indiana Teachers, Michigan Public Schools, and Oregon PERS all have mandatory hybrid plans. Washington PERS 2/3, Washington School Employees' Plan 2/3, and Washington Teachers 2/3 each have a hybrid tier and a defined contribution tier. Alaska PERS and Alaska Teachers defined benefit plans were considered hybrids because both these plans have a mandatory supplemental defined contribution component. Florida RS was considered a hybrid because defined benefit members are permitted to switch to the optional defined contribution system at any point in their career. Finally, South Dakota PERS was also categorized as a hybrid because terminating members receive not only their own contributions back, but 85 percent of employer contributions on their behalf. This feature makes South Dakota PERS more portable than traditional defined benefit plans.

7 Within a given plan, benefit generosity and plan design often vary by occupation and date of hire, creating "tiers." Whenever possible, demographic tables were collected by plan tier and gender, and the relevant decrement rates applied to each group. When detailed demographic information was not available, the rates of the largest demographic subgroup were applied to the whole population; for example, female rates were often applied to the entire membership of teachers' plans. The rates presented in the decrement tables are based on the plan's actual experience over some length of time and are typically updated by the plan's actuaries every five years, when the plan performs an experience study.

8 This analysis builds on a recent brief (Munnell et al. 2012b) that examined the factors associated with staying until vested. A key finding is that the longer the vesting period, the less likely an employee will remain long enough to vest.

9 Social Security coverage is a dichotomous variable equal to one if a majority of plan members are covered by Social Security, and zero otherwise.

10 On the other hand, Social Security coverage means that the accruing retirement income is much more substantial than under a public plan alone. More substantial accruals create both an income and substitution effect. The income effect means that the participant has more purchasing power and, therefore, the ability to buy leisure at older ages and to be more mobile at younger ages. That is, the variable would be expected to have a negative coefficient. However, the large accruals also raise the price of leisure and, perhaps, moving jobs, which suggests that coverage might encourage staying until eligibility and would have a positive coefficient.

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APPENDIX

Table A1. Regression Results for Ratio of Average Plan Wage to Average State Private Sector Wage, Excluding Police and Fire Plans, 2010

Variable	Coefficient
Social Security coverage	0.0795 *
	(0.045)
Total normal cost	0.0170 ***
	(0.004)
Closed plan	0.2856 ***
	(0.091)
Union membership	0.0029 ***
	(0.009)
Constant	0.6190 ***
	(0.074)
R-Squared	0.2963
Number of observations	113

Notes: Robust standard errors are in parentheses. Coefficients are significant at the 10-percent (*) or 1-percent (***) levels.
Sources: Authors' estimates from the *Current Population Survey* (2011); Hirsch and Macpherson (2010); and the *Public Plans Database* (2010).

Table A2. Summary Statistics for the Regression on Ratio of Average Plan Wage to Average State Private Sector Wage, Excluding Police and Fire Plans, 2010

Variable	Mean	Standard deviation	Minimum	Maximum
Dependent variable	1.015	0.221	0.508	1.706
Social Security coverage	0.761	0.428	0	1
Total normal cost	12.444	4.404	5.850	32.844
Closed plan	0.053	0.225	0	1
Union membership	36.889	19.438	6.200	72.400

Sources: Authors' calculations from the *Current Population Survey* (2011); Hirsch and Macpherson (2010); and the *Public Plans Database* (2010).

Table A3. Regression Results on Probability of Remaining in Plan until Earliest Normal Retirement Eligibility Once Vested, Excluding Police and Fire Plans, 2010

Variable	Coefficient	
Social Security coverage	-7.6890	*
	(3.900)	
Has DC plan	-11.1948	**
	(4.432)	
Vesting period	3.5384	***
	(0.718)	
Public to private wage ratio	26.9642	***
	(8.826)	
Hiring age 25-29	2.1849	***
	(0.705)	
Hiring age 30-34	5.0819	***
	(1.374)	
Hiring age 35-39	9.6116	***
	(1.697)	
Hiring age 40-44	16.4492	***
	(1.982)	
Constant	-18.8669	**
	(9.143)	
R-Squared	0.2925	
Number of observations	2,550	

Notes: Robust standard errors are in parentheses. Coefficients are significant at the 10-percent (*), 5-percent (**), or 1-percent (***) levels.
Sources: Authors' estimates from the *Current Population Survey* (2011); and the *Public Plans Database* (2010).

Table A4. Summary Statistics for the Regression on Probability of Remaining in Plan until Earliest Normal Retirement Eligibility Once Vested, Excluding Police and Fire Plans, 2010

Variable	Mean	Standard deviation	Minimum	Maximum
Dependent variable	29.404	21.816	0	95.296
Social Security coverage	0.725	0.446	0	1
Has DC plan	0.137	0.344	0	1
Vesting period	6.054	2.283	0	10
Public to private wage ratio	1.012	0.216	0.508	1.706
Hiring age 25-29	0.200	0.400	0	1
Hiring age 30-34	0.200	0.400	0	1
Hiring age 35-39	0.200	0.400	0	1
Hiring age 40-44	0.200	0.400	0	1

Sources: Authors' calculations from the *Current Population Survey* (2011); and the *Public Plans Database* (2010).

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The Center for Retirement Research thanks AARP, Advisory Research, Inc. (an affiliate of Piper Jaffray & Co.), Citigroup, Invesco^{SM}, Mercer, MetLife, National Reverse Mortgage Lenders Association, Prudential Financial, State Street, TIAA-CREF Institute, T. Rowe Price, and USAA for support of this project.

The research reported herein was supported by the Center's Partnership Program. The findings and conclusions expressed are solely those of the authors and do not represent the views or policy of the partners or the Center for Retirement Research at Boston College.

CENTER *for* RETIREMENT RESEARCH *at* BOSTON COLLEGE

STATE AND LOCAL PENSION PLANS

NUMBER 26, NOVEMBER 2012

THE IMPACT OF LONG VESTING PERIODS ON STATE AND LOCAL WORKERS

*By Alicia H. Munnell, Jean-Pierre Aubry, Joshua Hurwitz, and Laura Quinby**

Introduction

Stories abound regarding the generous pension benefits provided to state and local government workers, but two aspects of plan design leave many of these workers with little or no accrued benefits. First, state/local plans are based on final earnings, under which those who leave early receive little. Second, employee vesting – the period of service needed to qualify for any pension benefit – takes five or ten years. In most cases, participants who leave before vesting receive only their own contributions plus some low rate of interest. Even once vested, benefits under the final earnings plan are trivial for many years. This arrangement raises a basic question of fairness, since it is not possible to identify early leavers and compensate them with higher wages. Fairness is a particularly important issue in states like California, Connecticut, Massachusetts, Illinois, Louisiana, and Ohio, where one or more of the large retirement systems do not participate in Social Security. With no Social Security and long vesting periods, short-service workers can leave with no benefits of any kind for their time spent in public employment. This *brief* explores how long vesting periods reinforce the adverse effects of a back-loaded benefits structure on state/local workers.

The discussion proceeds as follows. The first section describes the typical state and local plan and documents the extent of back-loading and vesting provisions. The second section explains the construction of the data used in the analysis, which reveal that nearly half of workers leaving state and local employment depart without any promise of future benefits. The third section presents an equation that relates the probability of vesting to the length of the vesting period. The final section concludes that back-loaded

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benefits and long vesting periods deprive short-term workers of retirement protection. The finding suggests that the recent trend towards the introduction of a defined contribution component in state/local systems provides for a more equitable distribution of benefits between short-term and career employees.

The Design of Public Sector Defined Benefit Plans

Public defined benefit plans vary enormously across states and between states and localities, because these plans cover three different sets of workers – general government employees, teachers, and public safety personnel – each of whom have different career paths (see Table 1).

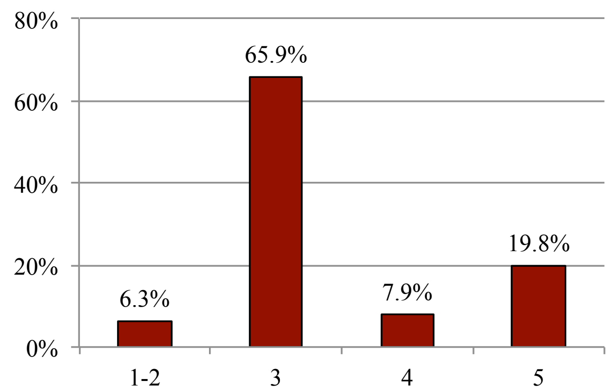
Table 1. State and Local Full-time Equivalent Employees by Function, 2010, in Millions

Activity	State	Local	Total
Education	1.8	7.1	8.9
Elementary and secondary	0.1	6.8	6.9
Higher education	1.7	0.3	2.0
Protective services	0.8	1.7	2.4
Health	0.6	0.8	1.4
Community development*	0.6	0.8	1.4
Transportation	0.3	0.5	0.8
Administration	0.2	0.5	0.7
Public welfare	0.2	0.3	0.5
Public utilities and waste management	0.0	0.5	0.5
Total	4.4	12.2	16.6

* Includes Libraries, Housing, Community Development, Environment, Recreation, and All Other.
Source: U.S. Census Bureau, *Annual Public Employment Survey*, 2011.

Nevertheless, the defined benefit plans share a basic structure. In almost all cases, they calculate the initial benefit at the full retirement age as the product of three elements: 1) the plan's benefit factor, 2) the number of years of employee service, and 3) the employee's average earnings, which are generally based on the three to five years of highest earnings (see Figure 1).[1] As a result, a worker in a plan with a 2-percent benefit factor retiring after 25 years with a $50,000 final salary would receive a pension benefit of $25,000.

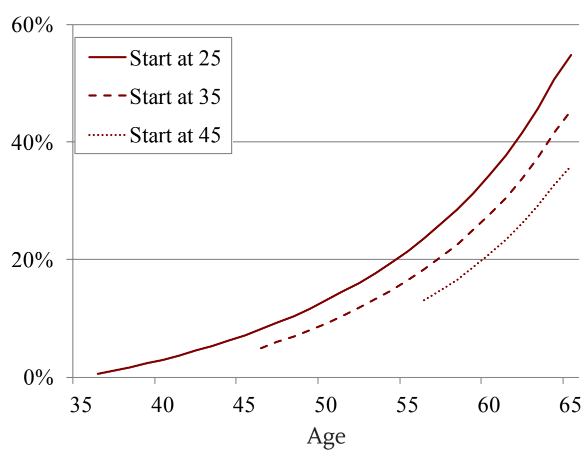
Figure 1. Distribution of State and Local Plans, by Years in Averaging Period, 2009



Source: *Public Plans Database* (2009).

A simple model based on typical public plan characteristics can illustrate the extent to which final pay provisions produce back-loaded benefits.[2] The measure used to calibrate the degree of back-loading is the change (relative to the gross salary) in the present value of the promised pension benefit less the pension contribution at each age.[3] This measure increases markedly throughout a worker's career and particularly at older ages (see Figure 2).

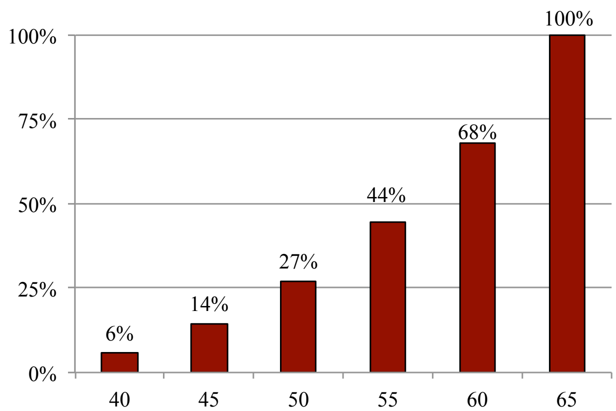
Figure 2. Increase in Lifetime Pension Benefit as a Percentage of Annual Earnings



Source: Authors' calculations.

As a result, an employee starting at 35 with a 30-year career will earn more than 30 percent of lifetime pension benefits in the last five years of employment; those leaving with 10 years of service receive about 14 percent of the possible lifetime benefits (see Figure 3). Thus, participants face minimal benefits if they leave early and a very strong incentive to keep working until full benefits are available.[4]

Figure 3. Percent of Lifetime Pension Benefits Earned over an Employee's 30-year Career, Starting at Age 35



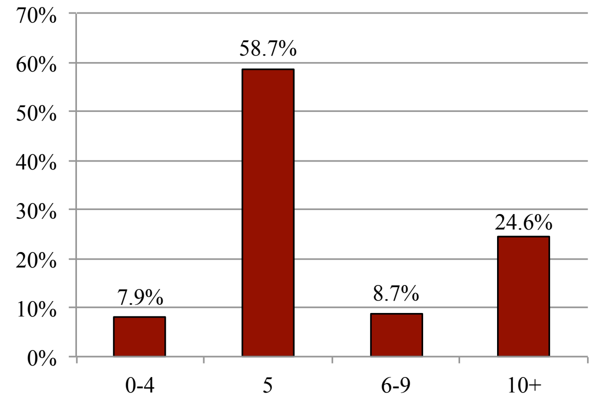
Source: Authors' calculations from the *Public Plans Database* (2010).

In addition to back-loaded benefits, public plans have very long vesting periods (see Figure 4). Nearly a quarter of plans require 10 years of work for full vesting. In contrast, in the private sector, the Employee Retirement Income Security Act (ERISA) requires either graduated vesting beginning after 3 years of service or cliff vesting after 5 years for defined benefit plans.[5] In the public sector, those who leave before they are vested generally receive back only their own contributions plus some low rate of interest. The question is whether delayed vesting increases the likelihood that people leave with nothing or whether they remain with the plan until vested.

The Data

To assess the impact of vesting on public employees, it would be lovely to have data on each individual in each plan in the *Public Plans Database* (PPD). Unfortunately, such data are not readily available. But it is possible, using each system's actuarial valuation, to engineer a representative population of plan participants and estimate the percentage of those who vest.

Figure 4. Distribution of State and Local Plans, by Years in Vesting Period, 2010



Source: *Public Plans Database* (2010).

The valuations provide "decrement tables" that contain the rate at which plan members of a given age and tenure are expected to terminate or retire within the next year.[6] One minus these decrement rates is approximately the probability of an individual plan member of a given age and service remaining one additional year.

The probabilities of an individual remaining one additional year can be used to generate the probability of an individual staying in the plan for multiple years. For example, as shown in Table 2, an individual with a starting age of 25 and zero years of service has an

Table 2. Probability of Remaining in the Plan by Starting Age and Years of Service

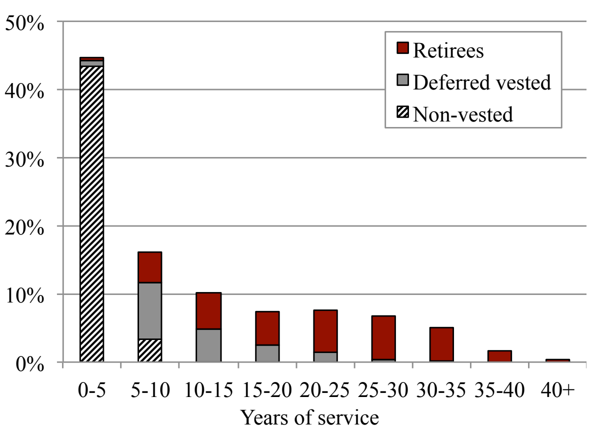
Starting age	Years of service					
	0	1	2	3	4	5
25	**82.0**	87.0	92.0	93.0	94.0	94.2
26	83.0	**88.0** *72.1**	93.0	94.0	94.2	94.5
27	84.0	89.0	**94.0** *67.7 **	94.2	94.5	94.8
28	85.0	90.0	94.1	**94.5** *64.0 **	94.8	95.0
29	86.0	91.0	94.3	94.7	**95.0** *60.8 **	95.2
30	87.0	92.0	94.5	95.0	95.2	**95.5** *58.0 **

* Numbers in italics represent cumulative probabilities.
Source: Authors' calculations from actuarial valuation reports.

82-percent chance of staying for one year. In addition, the table shows that a year from now when that individual is 26 with one year of service, he has an 88 percent chance of staying one more year. These 1-year probabilities can be multiplied to calculate the cumulative probability of the 25-year-old staying multiple years. That is, he has an 82.0 percent probability of remaining for one year, a 72.1 percent probability of remaining for two years, a 67.7 percent probability of remaining for three years and so on. This process is replicated for each age (roughly 30) and length of tenure (roughly 35) and for each plan in the PPD (roughly 120), producing about 126,600 probabilities.

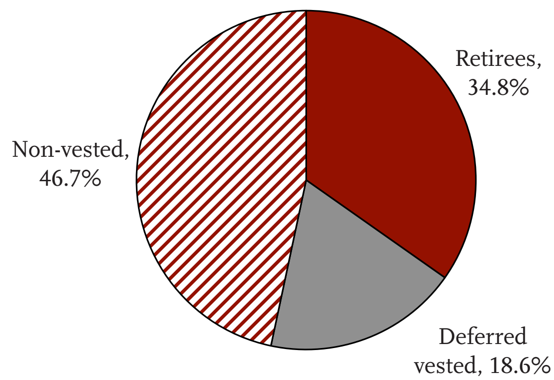
Applying the probabilities to a representative population of plan members generates a distribution of leavers by age and tenure. Figure 5 shows the projected distribution, by tenure and benefit status, of participants leaving the plan. The important point for this analysis is that, of those who leave state and local pension plans, 47 percent depart without any promise of future benefits (see Figure 6).[7] The probability data were then used to estimate how the length of the vesting period affects the likelihood of becoming vested.

Figure 5. Distribution of Leavers in *Public Plans Database*, by Tenure and Benefit Status, 2011



Source: Authors' estimates from various actuarial reports.

Figure 6. Percent of Leavers in *Public Plans Database*, by Benefit Status, 2011



Source: Authors' estimates from various actuarial reports.

The Impact of Vesting

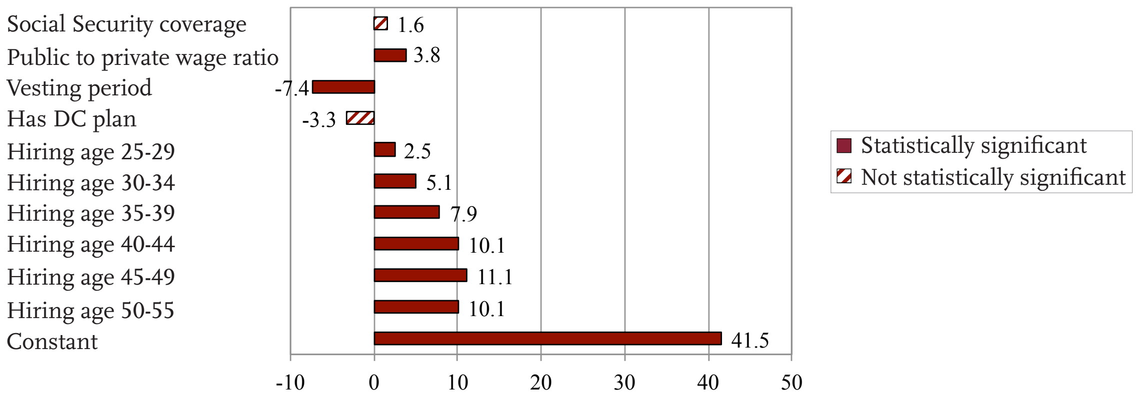
The analysis on the probability of staying with the plan long enough to vest involves estimating an equation of the following form:

$$P_i\,(v|a) = ß_0 + ß_1 SS_i + ß_2 V_i + ß_3 DC_i + ß_4 W_i + \mathbf{ß}\boldsymbol{X} + \boldsymbol{\varepsilon}$$

where the probability of staying in the plan long enough to vest, for a member at a given starting age, is related to whether the plan has Social Security coverage, SS_i, the number of years required for vesting, V_i, and participation in a defined contribution plan, DC_i.[8] An additional variable is the ratio of average annual salaries in the plan divided by the average annual private sector salary in the state, W_i.[9] Finally, a vector of eight dichotomous variables, $\boldsymbol{X}$, captures the member's age at hire, broken into five-year brackets, from 20 to 54.

The coefficient of interest is that for the vesting period. The intuition here is that the longer the plan's vesting period, the less likely the participant is to vest. The impact of Social Security coverage could have either a positive or negative effect on tenure, while the presence of a defined contribution plan should reduce the incentive to stay until vesting since participants have something to take with them should they leave. Higher wages should encourage people to stay, as should age.

Figure 7. Impact of Selected Factors on Probability of Vesting, Excluding Police and Fire Plans, 2010



Notes: Solid bars indicate significance at the 10-percent level or better. The bars represent a change from zero to one for dichotomous variables, and a one-standard-deviation change for continuous variables.
Sources: Authors' estimates from the U.S. Department of Labor, *Current Population Survey* (2011) and the *Public Plans Database* (2010).

The results are shown in Figure 7. (Full regressions and summary statistics appear in the Appendix.) As expected, the probability of vesting is negatively related to the vesting period, and has a statistically significant coefficient. A one-standard-deviation increase in the vesting period (2.3 years) reduces the probability of an employee remaining until vested by 7.4 percentage points. This result implies that a vesting period of 10 years instead of five reduces the probability of staying until vested by about 16 percentage points. The results also show that a higher average wage in the plan relative to wages in the private sector is associated with staying and the later the age at which people are hired, the more likely they are to remain until vesting. Neither Social Security nor participation in a defined contribution plan has a statistically significant effect. The main message from the vesting equation is that long vesting periods are likely to lead to participants leaving with no accrued benefits.

Conclusion

Sole reliance on final earnings defined benefit plans raises human resource and equity issues. Final earnings plans produce strongly back-loaded benefits and, when combined with delayed vesting, deprive short-term employees of retirement protection, especially for those systems that do not participate in Social Security. Therefore, some mixture of defined benefit and defined contribution plans will produce a better balance between the benefits provided to short- and long-tenure workers.

Endnotes

1 Nebraska is an exception to this generalization since it has a cash balance plan for general state employees. Nebraska still provides a traditional pension benefit for its public school teachers and state police. The Texas Municipal Retirement System, Texas County and District Retirement System, and California State Teachers' Retirement System (for part-time employees of community colleges) also provide a cash balance plan.

2 This exercise, based on Diamond et al. (2010), uses a plan with a constant 2-percent benefit factor, a three-year averaging period, a full retirement age of 65, actuarially fair adjustments for early retirement, and a COLA that compensates for 1.5 percent inflation after the start of benefits, the average COLA in the *Public Plans Database* (PPD). The calculation also assumes 4.5 percent nominal earnings growth (faster at young ages and then slowing) and 3 percent inflation. Employees may claim a pension as early as 55, provided they have accumulated at least 10 years of service. Those who leave prior to age 55 and have accumulated at least 10 years of service are assumed to claim a pension at the full retirement age. No cap is imposed on the replacement rate. Employee pension contributions are 5.5 percent of salary, the most typical rate found among our PPD sample of plans.

3 Present values are computed using a real interest rate of 3 percent, similar to the 2.9 percent rate used in the 2012 Social Security Trustees Report. Mortality rates are formed as a 50-50 gender mix of the RP-2000 combined healthy tables, projected to 2012 using Scale AA. The calculation is pre-tax; it ignores the role of both income and payroll taxes, as well as promised Social Security benefits, in determining the level of compensation.

4 If the plan caps the replacement rate, the strong incentive to continue working stops when the cap is reached.

5 For 401(k) plans, the predominant retirement plan offering for private sector workers, ERISA requires either graduated vesting beginning after two years of service or cliff vesting after three years.

6 Within a given plan, benefit generosity and plan design often vary by occupation and date of hire, creating "tiers." Whenever possible, demographic tables were collected by plan tier and gender, and the relevant decrement rates applied to each group. When detailed demographic information was not available, the rates of the largest demographic subgroup were applied to the whole population; for example, female rates were often applied to the entire membership of teachers' plans. The rates presented in the decrement tables are based on the plan's actual experience over some length of time and are typically updated by the plan's actuaries every five years, when the plan performs an experience study.

7 This pattern is similar to that found by the State of Maine Unified Retirement Plan Task Force (2010).

8 Social Security coverage is a dichotomous variable equal to one if a majority of plan members are covered by Social Security, and zero otherwise.

9 The average plan wage was obtained by dividing total payroll in the PPD by the number of active members in the PPD. The average private sector wage was produced by the March Supplement of the 2011 *Current Population Survey*. The private sample was limited to non-military workers between the ages of 16 and 75 who earn more than $9,000 per year.

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APPENDIX

Table A1. Regression Results on Probability of Vesting, Excluding Police and Fire Plans, 2010

Variable	Coefficient	
Social Security coverage	1.5870	
	(3.205)	
Public to private wage ratio	17.5768	***
	(6.548)	
Vesting period	-3.2257	***
	(0.642)	
Has DC plan	-3.2853	
	(3.325)	
Hiring age 25-29	2.4542	***
	(0.438)	
Hiring age 30-34	5.0787	***
	(0.693)	
Hiring age 35-39	7.8640	***
	(0.965)	
Hiring age 40-44	10.1072	***
	(1.213)	
Hiring age 45-49	11.1162	***
	(1.374)	
Hiring age 50-55	10.0817	***
	(1.444)	
Constant	41.54995	***
	(8.748)	
R-Squared	0.2746	
Number of observations	3,570	

Notes: Robust standard errors are in parentheses. Coefficients are significant at the 10-percent (*), 5-percent (**), or 1-percent (***) levels.
Sources: Authors' estimates from the *Current Population Survey* (2011) and the *Public Plans Database* (2010).

Table A2. Summary Statistics for Regression on Probability of Vesting, Excluding Police and Fire Plans, 2010

Variable	Mean	Standard deviation	Minimum	Maximum
Probability of vesting	47.19	17.94	3.629	96.04
Social Security coverage	0.725	0.446	0	1
Public to private wage ratio	1.012	0.216	0.508	1.706
Vesting period	6.054	2.283	0	10
Has DC plan	0.137	0.344	0	1
Hiring age 25-29	0.143	0.350	0	1
Hiring age 30-34	0.143	0.350	0	1
Hiring age 35-39	0.143	0.350	0	1
Hiring age 40-44	0.143	0.350	0	1
Hiring age 45-49	0.143	0.350	0	1
Hiring age 50-55	0.143	0.350	0	1

Sources: Authors' calculations from the *Current Population Survey* (2011) and the *Public Plans Database* (2010).

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The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research and educational tools and forge a strong link between the academic community and decision-makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

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The Center for Retirement Research thanks AARP, Advisory Research, Inc. (an affiliate of Piper Jaffray & Co.), Citigroup, Invesco℠, Mercer, MetLife, National Reverse Mortgage Lenders Association, Prudential Financial, State Street, TIAA-CREF Institute, T. Rowe Price, and USAA for support of this project.

The research reported herein was supported by the Center's Partnership Program. The findings and conclusions expressed are solely those of the authors and do not represent the views or policy of the partners or the Center for Retirement Research at Boston College.

Issue Brief

The Great Recession: Pressures on Public Pensions, Employment Relations and Reforms

By Ilana Boivie and Christian E. Weller

November 2012

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Acknowledgements

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Executive Summary

The financial crisis of 2007–2009 presented financial challenges to state and local defined benefit (DB) pensions. Like all investors, these large institutional funds were hurt in the stock market decline because large shares of pension assets are invested in the stock market. This led to a drop in plans' funded ratios and an increase in governments' unfunded pension liabilities and costs.[1]

Thus, the Great Recession also has led to financial and political pressures on DB pensions. Some observers have argued that states should alter their retirement benefits by switching from DB pension plans to individual defined contribution (DC) or cash balance plans. But from a human resource management perspective, pension plans are recognized as strong recruitment and retention tools in both the public and private sectors. Additionally, virtually every state across the country has enacted large-scale pension reforms since the financial crisis to ensure the long-term sustainability of the plans.

In this paper, we review the evidence on the labor relations effects of existing DB pension plans to assess the likely effects of a switch to DC or cash balance design. We find that the literature and the empirical evidence are unambiguous on a number of key effects. Specifically:

- Public employers would attract a different labor force if they switched retirement benefits away from DB pensions. Public employees would be less committed to their employers and thus less likely to invest in nontransferable skills that are critical to effective government.
- Employee turnover would increase under DC and cash balance plans. These types of retirement benefits no longer defer compensation into the future and thus offer fewer economic incentives for employees to stay with public employers.
- Public employers and employees overwhelmingly choose to stay with DB pensions rather than to move to alternative benefits when faced with a choice—illustrating the high value of DB pensions to public sector labor relations.
- Public employers and public employees would face higher costs, both as a result of ending the existing DB pensions and because of higher investment and administrative costs for alternative retirement plans.

In light of these facts, it is not surprising that while the majority of states have undergone revisions to their DB pensions between 2007 and 2012—some even adding DC features and components—the vast majority has maintained the DB pension model for its employees.

DB pension plans have a track record of simultaneously meeting the goals of employers through their recruitment and retention effects, and the goals of employees through the economic security they offer. The Great Recession has presented some funding challenges to public pensions. Yet, states and localities are willing to address these challenges so that they can effectively compete for skilled employees in the future.

Introduction

The states' fiscal crisis that started in 2008 has focused attention on tax and spending priorities. Following the Wall Street near meltdown, pensions for firefighters, police officers, and teachers, among others, have come under unprecedented scrutiny because states have had to raise the employer contribution to pension plans. These rates have increased to compensate for pension funds losses from the financial markets.

Some observers have argued that states should take the crisis as an opportunity to alter their retirement benefits. Some have specifically proposed changing the nature of public employee retirement benefits by switching from existing DB pension plans to individual DC retirement savings plans or to cash balance plans. Proponents who favor such a change in public employee retirement benefits assert that alternative retirement benefits will provide incentives for more effective public employees to join the public labor force, thus raising overall public sector productivity. DC and cash balance plans supposedly increase employee mobility, which some suggest may make it easier for states to attract highly skilled employees and to let go of ineffective employees.

In the private sector, the shift from pensions to alternative benefits has occurred simultaneously with increased labor force mobility. However, the argument that increased mobility leads to a more effective workforce ignores the fact that public and private employers typically need to offer some form of deferred compensation to attract and retain highly skilled employees. Many private firms, for instance, use stock options and stock grants instead of DB pensions to attract and retain skilled employees. Obviously, stock options and grants are not available in the public sector.

Public employers therefore may experience higher employee turn over absent the pension retention effect. When highly skilled employees turnover, they are less likely to make a substantial contribution to public sector productivity. In fact, a switch from DB pensions to alternative retirement benefits can actually reduce public employee productivity, because increased employee turnover can lead to public employers hiring less experienced employees. Employers also face increased recruitment and training costs.

When faced with financial challenges from 2007 to 2011, states in fact did not move away from their DB pensions. Instead, virtually every state has changed its pension plan in some way during to ensure its long term sustainability. This suggests that states value the many features of DB pensions, including their efficiency, which in part stems from their effectiveness as a recruitment and retention tool.

Defined Benefit Pensions are a Powerful Labor Management Tool

Retirement benefits are a critical part of public employee compensation. Schmitt reports that total public sector benefits amounted to 31.5% of total compensation in December 2009.[2] Bender and Heywood show that benefits amounted to an average of 32.7% for the public sector between 2004 and 2008 and that 6.5% of compensation is retirement benefits.[3]

Public employees typically are covered by DB pensions, in which employees receive lifetime retirement benefits based on years of service, age, and final earnings. They often work for at least five or more years before they become vested—that is, before they earn a nonforfeitable and generally legally protected right to their benefits.[4] Future benefits are financed by employee and employer contributions in addition to investment earnings on accumulated assets. Employee contributions are made at a fixed rate, regardless of whether the pension plan is underfunded or overfunded. Employers bear the risk if plans have too few assets to pay all promised benefits and more contributions are necessary. They have substantial discretion, however, with regard to the timing and amount of funding.

Public employee benefits make up a smaller share of total compensation earlier in employees' careers than in later years. [5] Figure 1 below illustrates the annual benefit accrual under a sample teacher DB pension. The x axis shows the years of service, and the y axis shows the annual amount of retirement benefits relative to the annual salary that a teacher earns under a DB pension, cash balance plan, or DC plan.[6] Employees earn an increasing amount of retirement benefits relative to earnings until they reach early retirement (e.g., after 35 years of service). Teachers still earn additional benefits after the early retirement incentive expires, but the annual accrual is less than during the years leading up to the early retirement age. A teacher, for instance, may work for 35 years in a school until she reaches age 58, assuming she started when she was 23 years of age, and she may earn 2% of her final salary annually as a benefit. If she retired at age 58 after 35 years of service with a final salary of $90,000, she would receive an annual DB pension until her death of $63,000 (equal to 35 times 2.0% times $90,000). (This example is for illustrative purposes only. Many public sector DB plans provide a lower benefit, while some may be higher.)

Figure 1:
Annual Wealth Changes of Teacher Entering in 2011 Relative to Earnings, Under DB Plan, Cash Balance Plan, and DC Plan, Constant Normal Cost

It should be noted that as many as 30% of all state and local employees are not covered under Social Security, with the degree of coverage varying widely by state and by occupation. [7] For employees not covered by Social Security, their DB pension benefit may be all the more important, as it is likely their only source of guaranteed income in retirement. As a result, DB pension benefits tend to be more generous for those public employees who do not have Social Security coverage than for those who do.[8]

Alternative Retirement Plan Designs

Although DB pensions remain prominent in the public sector, there are several proposals to replace DB pensions with DC or cash balance plans.[9] Table 1 summarizes the characteristics of each retirement benefit type. DC plans are retirement savings accounts, which are more common in the private sector than in the public sector as the primary retirement benefit. Under a typical private sector DC plan, employees and employers contribute a fixed percentage of earnings each year. The money is allocated to an individual account, with employees deciding on the investments and shouldering the risks associated with these decisions.

Table 1: Characteristics of Typical Pension Plans, by Plan Type

Characteristics	Defined Benefit Plan		Defined Contribution Plan
	Traditional	Cash Balance	401(k)/403(b) plans
Participation	Automatic	Automatic	Voluntary
Contribution	Employer and employee	Employer and employee	Employee with occasional employer matches
Investments	Determined by employer	Determined by employer	Typically determined by employee
Withdrawals	Annuity	Annuity or lump sum	Lump sum
Rollovers Before Age 65	Not permitted	Permitted if lump sum option exists	Permitted
Benefit Guarantee	Often Constitutionally guaranteed	Often Constitutionally guaranteed	None
Early Retirement Benefits	Common	Uncommon	Unavailable
Vesting	Up to a decade Or more	Typically shorter than in traditional pension plans	Typically immediate for employee contributions and often immediate for employer Contributions

Note: Cash balance plans typically do not exist in the public sector. The description thus relies on typical characteristics of private sector cash balance plans. Also, defined contribution plans are generally supplemental retirement savings plans in the public sector and thus tend to be voluntary.

Individuals face more risk under DC plans than under DB plans. In economic terms, risk poses a cost to individuals, so they should save more to compensate for the greater risk.[10] However recent research in behavioral economics finds that many individuals do not save more as a result of this greater risk.[11] Many individuals may not fully understand complex risks, nor do they completely understand how to protect themselves from these risks. Alternatively, individuals may not have a full appreciation of all of the complexities, and even when they do, they do not necessarily act on that knowledge. Studies show that greater risk exposure in DC plans has resulted in more savings, but not enough to compensate for the full increase in individual risk exposure.[12]

Cash balance plans technically are considered DB pensions, but resemble DC accounts in key aspects. All funds are invested as one large pension pool, as is the case with a DB pension, but each employee receives a notional (hypothetical) account, similar to a DC account balance. In other words, the notional account makes the cash balance plan look like a DC plan to the employee, since the employee sees an account balance that changes from year to year, but the cash balance plan looks like a DB pension to the employer, who is responsible for investing the money and for making sure that the amount that is promised to the employee will be available upon retirement. An employee's notional pension account is credited with an amount equal to a fixed share of an employee's earnings each year, and the account balance increases annually at a predetermined interest rate or credit. The contribution and the interest rate are predetermined, so the employer is responsible for investing the pension plan assets to generate at least this rate of return; otherwise the employer will have to make additional contributions, as in a traditional DB pension. In the public sector, the plan is financed by employer and employee contributions and investment earnings. Employers bear the risk of too low assets. Notional account balances can be rolled over into other retirement plans when an employee switches jobs.[13]

The annual benefit earned with a cash balance or DC plan typically equals a fixed earnings share, which is usually higher during earlier years of employment and lower during later years of employment than under a DB plan. (See Figure 1.) DC and cash balance plans hence may change the recruitment and retention incentives compared to the effects of the DB pension plan.

DB Pensions Increase Employee Productivity

DB pensions serve as an effective human resource management tool, largely because of their recruitment and retention effects. Employers in all sectors have used DB pension plans to reduce attrition of skilled employees.

Employers that have maintained DB pensions have been rewarded by easier employee recruitment and retention.[14] Ippolito, for instance, found that employees seem to value pensions so highly that they would willingly forego higher wages for guaranteed retirement income, possibly reducing the costs of recruiting skilled employees.[15] Nyce found that employees of firms with DB pensions had twice the probability of citing the retirement plan as an important factor in choosing their employer compared to employees at firms with only DC plans. The survey further found that DB plans have a stronger retention effect as well; 69% of employees with DB pensions said that their retirement plan gives them an important reason to stay with their employer, as compared with just 37% of employees with DC plans.[16] MetLife similarly found that 72% of employees cited retirement benefits as an important factor in their loyalty to their employer.[17] And a survey of employers from Diversified Investment Advisors found that 84% of DB pension sponsors—typically employers—believed that their DB pensions has some impact on employee retention, with 31% stating that the impact is major. The survey further found that 58% of plan sponsors with more than 25,000 employees believed that their DB pension has a major impact on employee retention.[18] The value that employees put on DB pensions allows employers to recruit and retain skilled employees.

The retention effect of DB pensions is evident in economic research as lower employee turnover. Allen, Clark, and McDermed offered evidence that employee tenure is greater at firms that offer DB pensions than at firms that do not.[19] Even and MacPherson similarly concluded that firms without DB pensions experience substantially higher turnover rates, ranging from an increase of about 20% in employee turnover to more than 200%.[20] The effect of DB pensions on employee turnover tends to be greater at smaller firms than at larger ones. Research from Boston College quantified the reduced attrition associated with DB pensions, which suggested that lower DB pension coverage and higher DC plan coverage beginning in the 1990s correlated with higher turnover rates. DB pension coverage increases tenure with a single employer by four years compared to having no retirement system in place, while DB coverage increases tenure with an employer by 1.3 years compared to DC plan coverage. And the combination of a DB pension and DC plan increases tenure by 3.1 years, relative to DC-only coverage.[21]

Employers with DB pensions also may better attract desirable skilled employees due to a self-selection effect. Employees who are more likely to stick with a job also tend to be more apt to accept employment that offers a DB pension in the first place.[22] Boston College research found that public employees, who have relatively longer tenure than their private sector counterparts, seem to prefer DB pensions over DC plans, because DB pensions tend to favor long-term service.[23] Similarly, Dulebohn, Murray, and Sun found that longer-term employees tended to prefer DB pensions to DC and cash balance plans.[24] This could be because employees who are looking for a career, rather than a short-term job, seek out employers who offer DB pensions. Ippolito, for example, focused on the attraction effect of DB pensions and considered how employers use retirement plans to attract employees interested in making a long-term commitment to their employers. Employees who delay gratification and are less focused on immediate rewards are more attractive employees for these employers.[25]

DB pensions, which offer larger compensation to employees with greater tenure, are more attractive to these employees than to those who are more focused on current rewards. Employers with DB pensions thus may use retirement benefits to select the kind of employees who best fit their needs.[26] In the same vein, Nyce found that DB pensions had a much larger retention effect than DC plans, and that DB pension plans raised employees' commitment to their employer, while no such effect existed for DC plans. These results were strongest among younger employees, suggesting that DB pensions can play a crucial role in retaining employees who are willing to make a long-term contribution to their employer's success.[27]

Better recruitment of targeted employees, increased retention of skilled employees, and greater commitment to the employer translate into higher productivity with DB pensions. Dorsey, for example, found that some labor productivity gains can be attributed to DB pension coverage.[28] Hall found that those firms moving from a DB to a DC plan between 1995 and 2000 experienced loss of productivity relative to firms that retained their DB pensions. This loss of productivity may be due to greater turnover after the switch to a DC plan. As more experienced and higher skilled employees leave more quickly, they are replaced with less experienced, less skilled employees, thus suppressing average labor productivity growth below its previous trend.[29]

Additionally, DB pensions offer additional productivity benefits to employers by influencing employees' decisions on when to retire. DB pensions can encourage "efficient retirement," such that employees withdraw from the labor force when their productivity decreases. Lazear, for instance, argues that DB pensions can function similarly to severance pay in encouraging retirement as employees age and their productivity starts to level off or even decrease.[30] Nalebluff and Zeckhauser studied the effect that DB pensions have on individuals' retirement decisions, and found that the features of most U.S. DB pensions can be designed to facilitate appropriate and optimal retirement decisions among employees.[31] Luchak, Pohler, and Gellattly found that among employees with a DB pension, those with higher levels of affective commitment to their employer planned to retire, on average, about two years later than those with low levels of affective commitment.[32] DB pensions hence set an early retirement age in order to target the average age when employee productivity starts to soften.

The ability of DB pensions to encourage efficient retirement is especially crucial during financial and economic crises.[33] Employers can reasonably predict whether employees will leave during a crisis based on their DB pension. Employers with DC plans, in comparison, encounter a phenomenon known as job lock, whereby employees become more likely to stay on the job as a financial crisis and economic recession unfolds. Financial markets generally decline in tandem with deteriorating economic conditions. Employees who may have been inclined to consider retirement before a crisis may decide to work longer to make up for losses in their DC plans.

Financial market losses also systematically correlate with high unemployment rates; thus, finding another job becomes more difficult at the same time that labor demand decreases. Employees who want to work longer in this circumstance will have to try to stay with their existing employer.[34] This problem is further exacerbated by the fact that employers tend to lower contributions to their employees' DC accounts during an economic downturn.[35] In a 2008 survey of recent retirees, 76% reported that their ability to afford retirement was an extremely or very important factor in their decision to retire; and 81% of those with a DB pension reported that the pension itself either was extremely or very important in determining retirement affordability.[36] This also implies an opposite logic during an economic expansion, when skilled employees become more likely to retire exactly when employers need them. DC plans thus can exacerbate labor market swings while pensions tend to generate more stable employment relations over the course of the business cycle. Employers consequently may incur larger employment-related costs to manage their workforce with DC accounts than with DB pensions.

The Role of DB Pensions in the Public Sector

Many of these effects of DB pensions show up especially in the public sector, where DB pensions are the primary and occasionally the only retirement system available to public employees. Boston College research found that public employees largely prefer DB pensions to other forms of retirement income.[37] Similarly, public employees consistently expressed strong preferences in favor DB pensions according to national public opinion polls.[38] Several states offer employees a choice between DB pensions and DC plans. Olleman and Boivie found that when public employees are given such a choice, they overwhelmingly choose the DB pension.

For example, in 2010, a mere 4% of public employees in Ohio elected the DC plan over the DB pension when offered, a result that has been consistent since the option was put in place in 2004. Additionally, between 2002 and 2011, 68% of Washington state employees chose an all-DB pension over the default of a combined DB pension and DC plan.[39] Finally, West Virginia presented a unique case in which the Teachers Retirement System (TRS), a DB pension, was frozen—new hires were no longer admitted into the plan—in 1991.[40] All newly hired teachers after 1991 were put into the Teachers Defined Contribution Retirement System (TDC). The TDC was closed in 2005 by the state and all newly hired teachers were switched back into TRS. The teachers who had been enrolled in the TDC between 1991 and 2005 were given the option of choosing which plan they would prefer. On July 1, 2008, the state legislature certified a teachers' vote in which 78% of teachers voted in favor of having the option to switch back into the DB pension. The Charleston Gazette reports that an overwhelming number of younger teachers, more than 75%, decided to make the switch back to the TRS.[41]

DB pensions have proven to be substantial recruitment and retention tools for public employers. Gabriel, Roeder, Smith, and Company (GRS) found that DB pensions boosted state and local governments' ability to recruit highly qualified and skilled employees and to retain them throughout their career.[42]

Public employment is indeed more stable than employment in the private sector. Greenfield found that layoffs and resignations in the private sector were three to four times higher than in the public sector.[43] Public employees tend to be more attached than private sector employees to their jobs. Munnell, Haverstick, and Soto found that the tenure of public employees increased between 1973 and 2004, while that of private sector employees decreased. The median job tenure was 7.7 years for public employees by 2004 compared to 5.0 years for private employees. Additionally, public sector employees tend to be older than private sector employees.[44]

The longer tenure tends to go along with other employee features that likely raise public employee productivity. Public employees, for instance, are more likely than private sector employees to value their work, suggesting that DB pensions may serve as a device for employers to select employees who are a good fit for them. Houston showed that public employees are more likely than private employees to place a higher value on the intrinsic reward of important work that provides a feeling of accomplishment. Private sector employees, in comparison, place a higher value on pay and on working fewer hours.[45] Wright similarly found that public employees valued their work more than private sector employees because of the inherent nature of public sector organizations that address complex social functions—supplying goods and services that cannot necessarily be bought and sold in a private market. Those who enter public service may place a higher value than their private sector counterparts on carrying out acts for the good of their community and the resulting internal satisfaction that these acts provide.[46] DB pensions again may serve as a tool for employers to select these employees.

Public employees tend to invest more in their skills than private sector employees, possibly because of the long-term economic commitment function of DB pensions. DB pensions may provide incentives for highly skilled employees like researchers, computer programmers, and lawyers to stick with public service instead of seeking better-paid positions in the private sector. Moreover, because many occupations in the public sector have few private sector counterparts (e.g. public safety, criminal justice), DB pensions provide incentives for employees to seek nontransferable skills and apply them over long periods to public service careers. In the teaching profession, for example, public school teachers who work under strict certification requirements also tend to turn over far less frequently than their private sector counterparts.[47] DB pensions can thus raise public sector efficiency.

A move to DC accounts from DB pensions therefore could make it more difficult for public human resource managers to recruit, retain, and manage skilled employees. The Center for State and Local Government Excellence surveyed government hiring managers in 2011, and found strong indications that even in the weak labor market that prevailed at that time, state and local government employers struggled to fill vacancies for highly skilled occupations such as engineering, environmental sciences, information technology, and health care professionals.[48] These difficulties likely stem from a persistent pay gap between public and private employment.[49] Compensation is necessarily different since governments do not have the same tools at their disposal as private employers, such as performance bonuses, stock options, or other profit-sharing plans.[50] DB pensions offer public employers a way to remain competitive in the market for skilled employees. State and local governments without DB pensions may find it even more difficult to attract skilled employees.

In a cost-benefit analysis of a switch from a DB pension to a DC plan for the state of New Mexico, the actuarial consulting firm GRS concluded that such a change would either result in a decrease in retirement benefits, an increase in total costs, or some combination of these. In turn, the switch could severely hinder state and local governments' ability to recruit and retain a qualified workforce. The result could be higher turnover, labor shortages, greater training costs due to higher turnover, and lower productivity caused by a larger share of inexperienced employees than would be the case under a DB pension.[51]

The Economics and Politics of Public Pensions After the Great Recession

The literature suggests that DB pensions efficiently meet the labor and employment needs of public sector employers. However, states and localities have had to address a variety of financial challenges in the wake of the financial and economic crisis of 2007–2009, including increased demands from public DB pensions. This debate was influenced by states' and localities' fiscal constraints, and also by the politics surrounding public employees, their pay, and their benefits.

States Have Faced Considerable Budgetary Challenges

States faced large general budgetary constraints in the wake of the financial crisis; even after 2009, the economy remained relatively weak, and states continued to struggle. The economic downturn had a negative effect on state revenues. General revenue, which states collect from income, sales, and property taxes, declined by $54 billion and $70 billion in 2009 and 2010, respectively.[52] In the first quarter of 2012, state revenues remained 5.5% below pre-recession levels.[53] The Center on Budget and Policy Priorities (CBPP) found that states had a cumulative budget gap of $191 billion, $130 billion, and $107 billion, respectively, in their 2010-2012 budgets. States cut $425 billion from their budgets between December 2007 and January 2011, followed by even more severe cuts for 2012.[54] In fiscal year 2013, the budget gap totaled $55 billion across 33 states, which they have managed to close.[55] States implemented various changes to balance their budgets through this period, including furloughs and layoffs for state employees.[56]

The budgetary constraints coincided with increasing demands from public DB pension plans. The stock market decline of 2008 and 2009 hit all investors, and public pension plans were not immune. The aggregate funding ratio of the nation's largest public pension plans fell from 85% in 2008 to 77% in 2010.[57] The funding ratio of public pension plans likely decreased further after 2009 because financial market losses can linger on the books of DB pension plans using an actuarial practice called asset smoothing. (It should be noted that, starting in 2014, many public DB pensions will report a lower funded level—even if their ratio of assets to liabilities has not changed—due to updated accounting guidelines set by the Governmental Accounting Standards Board.[58]) To put these numbers in perspective, the U.S. Government Accountability Office concluded that most experts believe a funding level of 80% or more—the ratio of a DB pension plan's assets relative to its liabilities, or promised benefits—is adequate for most public DB pension plans.[59]

Researchers at Boston College estimate that public pension plans held 75% of their future promised benefits in assets in 2011 and that, under the most likely investment market scenario, this ratio could rebound to 82% by 2015.[60] Others put public employee underfunding at higher levels, based on more adverse economic assumptions.[61]

The additional contributions necessary to cover the estimated underfunding tend to be nontrivial but manageable. The Center for Retirement Research estimated that an additional 2.2% of payroll over 30 years will cover the estimated underfunding.[62] Munnell and colleagues showed that while there is substantial variation in funding and contribution levels among states, the required contributions to address the underfunding remain manageable for most states.[63]

States began addressing pension underfunding in the middle of several years of severe budget shortfalls. Between 2009 and July 2012, for example, 44 states either increased contributions or lowered benefits under the DB pensions,[64] as we discuss in greater detail below.

The Political Environment for Public Pension Changes

The political environment presents additional challenges to public DB pensions. At the same time that states are trying to manage the existing pension underfunding, they are facing pressures from some groups to change retirement benefits from DB pensions to DC plans or cash balance plans. There is evidence to suggest that these challenges are often more based in ideology than financial concern.

National and state interest groups have become key players challenging the continuation of public DB pensions in recent decades, with the primary goal of terminating state and local DB pensions. Almeida, Kenneally, and Madland found that these groups often did not consider the economic efficiency of DB pensions and instead based their challenges on ideological positions of general opposition to public social insurance arrangements.[65] Madland concludes that ideological orientation, rather than party affiliation, leads individuals to support DC plans over DB pensions,[66] while Munnell and colleagues demonstrated that states with Republican governorships and Republican-dominated legislatures were more likely to introduce DC plans in addition to or instead of DB pensions.[67]

Although many of these groups believe that there will be cost savings associated with such a switch, public employees will likely receive some form of alternative compensation as a replacement for the DB pension. For example, in 2005 the state of Alaska froze its DB pension plan, but new hires are still offered DC accounts in lieu of the old DB pension.[68]

In addition, several anti-tax movements have gained increased popularity nationwide, according to the New York Times, which could further increase opposition to public DB pensions.[69]

The "tea party" movement—a comparatively large, but disparate, anti-tax movement—has typically called for drastic cuts in public spending. It lists among its beliefs that "government must be downsized," "reduce[d] personal income taxes [are] a must," and "intrusive government [must be] stopped."[70] A 2010 Washington Post survey found that almost half of tea party members listed public operations as their primary concern.[71] Regional tea party groups consequently have targeted local issues, including public pensions. A spokesman for the York (Pennsylvania) 912 Patriots, told the Wall Street Journal in 2010, "A lot of our members are upset that we have to pay for raises and fund pensions for teachers." And, the Troy (Michigan) Area Tea Party has proposed to cut municipal employees' compensation—pay and benefits—to address the city's budget challenges.[72]

Other anti-tax groups have championed the cause of lower benefits in the public sector. The Free Enterprise Nation, a self-proclaimed "voice of the private sector," took out full-page advertisements in 2009 in national media outlets like the Wall Street Journal specifically criticizing public pension benefits as overly generous compared to private sector retirement benefits.[73] California Pension Reform, a state-level group specifically targeting DB pensions in California, published an online database of individual retired Californian public employees and their annual pension benefits in 2009, and they continue to update the site.[74]

The agenda pursued by these groups is perhaps best summed up by Americans for Tax Reform's (ATR) Grover Norquist. He said of public DB pension plans in 2001 that "just 115 people control $1 trillion in these funds. We want to take that power and destroy it."[75] Norquist and others attacking public DB pensions actively planned and supported state-by-state campaigns to dismantle public DB pensions from 2005 through 2011. For example, ATR was a supporter of former California Governor Schwarzenegger's 2005 push to move that state's public employees into a DC plan.[76] In 2010 Norquist issued a press statement urging federal legislation that would "unburden" employees with DB pensions by replacing these benefits with DC plans.[77] ATR is also an official member of Floridians for Sustainable Pensions, a coalition whose stated goal is to replace public employee DB pensions with DC plans.[78]

Alongside tea party growth, there is also some evidence at the federal and state levels that the results of the 2010 elections raised political pressures at the state level to alter retirement benefits. The Republican Party gained 61 seats in the U.S. House of Representatives and 6 seats in the U.S. Senate, 7 governorships, and achieved more majorities in state legislatures than any time since 1928.[79] Many analysts attributed the Republican Party's successes in the 2010 election to the combination of the ideological motivation of the tea party and other anti-tax groups with Republican Party affiliation.[80]

In state capitols, pressure to alter retirement benefits from DB pensions to alternative benefits heightened. Stateline reported, for example, that six newly-elected Republican governors came out in favor of moving all public employees out of DB pension plans and into DC retirement accounts after their election.[81] This agenda for advancing alternative benefits also picked up support from some Democrat officials, such as Rhode Island State Treasurer Gina Raimondo. Shortly after taking office in 2011, she steered pension proposals along a tight timeline that culminated in changes that the Wall Street Journal described as "the boldest pension reform of the last decade."[82]

In addition to these political challenges, public DB pensions for teachers in particular have come under attack from some education policy experts who have proposed to replace DB pensions for teachers with alternative retirement benefits.

Robert M. Costrell, an education economist at the University of Arkansas, and Michael Podgursky, an education economist at the University of Missouri at Columbia, have published several papers since 2008.[83] They assert that DB pensions create adverse economic incentives for ineffective teachers to stay on the job too long and for effective teachers to leave earlier than they would under other retirement systems. It is important to note that the opposite logic also holds—that DB pensions create incentives for effective teachers to stay longer on the job than they otherwise would. Also, ineffective teachers would leave earlier—typically upon reaching early retirement age—than they otherwise would.[84] In fact, DB pensions may help to recruit high quality teachers, and to retain highly productive teachers longer, as compared with DC plans.[85]

The National Council on Teacher Quality,[86] an education reform advocacy group, similarly proposed their preferred ways to retain effective teachers. Their recommendations include replacing DB pensions with DC or cash balance plans for public school teachers. NCTQ based its recommendation on the assertion that young teachers do not appreciate DB pensions. However, Almeida and Boivie reported that young employees value DB pensions as much, if not more, than their older peers. That teachers in particular highly value DB pensions is borne out by actual experience in states where teachers were given the option of choosing their retirement plan, and overwhelmingly chose the DB pension.[87]

The momentum at the state level to change public sector retirement benefits also garnered legislative proposals at the federal level in U.S. House of Representatives. Representatives Devin Nunes (R-CA) and Darrell Issa (R-CA) introduced the Public Employee Pension Transparency Act of 2010. The act "provides enhanced transparency for state and local pensions, [and] also establishes a clear federal prohibition on any future public pension bailouts by the federal government."[88] Analyses of the legislation found that the disclosure requirements of the bill would present a distorted picture of public pension funding; these distortions would confuse policymakers and would offer a more negative view of public DB pensions. Finally, this confusion could well lead to abandonment of DB pensions in the public sector.[89]

In September 2012, Senator Jim DeMint (R-SC) joined a "No Pension Bailout" campaign sponsored by the conservative-leaning Illinois Policy Institute.[90] The campaign's stated goal is to "prevent the federal government from bailing out" Illinois' DB pension liabilities. Yet, the backers themselves admit that no legislator in Illinois or elsewhere has requested such a bailout.[91]

Government Responses to Fiscal and Political Challenges

The environment facing public DB pensions has been financially and politically challenging. Many states have taken steps to change the retirement benefits for their employees, even as they continue to make progress toward funding their pensions.

The Pew Center on the States estimated the cumulative unfunded public pension liability was $757 billion in 2010.[92] Munnell and colleagues projected more current funding levels for the 126 state and local plans and estimated that the aggregate funded level fell to 75% in 2011.[93] However, by the first quarter of 2012, state and local DB pensions also saw their cumulative assets increase to $3 trillion, a gain of 28% since June 2009,[94] largely due to investment gains; the median investment return for large public pension plans in 2010 was 13.1%.[95]

While facing the previously mentioned short-term cash flow deficit in revenues and higher recommended contributions to fund long-term pension obligations, states in aggregate still contributed $73 billion to pension trusts in 2009, an increase of $1 billion from 2008.[96] Public plan sponsors paid an average of 88% of the annual required contribution (ARC) in 2010. While the percentage of plans receiving 90% or more of their ARC has fallen since 2000, six in ten plans received 90% or more of their ARC in 2010.[97] Since 2001 in fact, a substantial portion of ARCs were consistently paid, despite two economic downturns; on average, 92% of ARCs were paid between 2001 and 2010.[98]

In terms of changing retirement benefits, the uniqueness in plan design, benefit levels including Social Security coverage, funding levels, and pension plan governance may dictate different responses across states and localities.[99] Many states, though, have implemented some form of lower benefits and higher contributions for their DB pension plans since 2001.[100] According to the National Conference on State Legislatures, the actions taken by states to ensure their pensions' long-term sustainability have been quite substantive and varied—and many reforms began well before the stock market drop in 2008.[101] Reforms have included increased employee contribution rates, reduced benefits for new employees, and greater restrictions on early retirement and on retirees returning to service.

In all, 8 states enacted significant pension reforms in 2012, 32 states enacted reforms in 2011, and 21 did in 2010.[102] Most 2012 reforms took the form of new DB pension plan tiers with lower benefits moving forward. For example, in South Carolina, age and service requirements are increased, future cost-of-living increases are capped, the period for final average salary calculation is increased, and a deferred retirement option is eliminated. Wyoming's new benefit tier includes higher age and service requirements, a longer period for calculation of final average salary, and a lower benefit multiplier. Similar types of pension reforms were enacted in New York and Alabama, along with additional unique provisions. New York's new tier includes employee contribution rates that are progressive based on annual salary. In Alabama, while benefits were reduced in several ways, employee contribution rates were actually reduced.[103]

Between 2009 and 2011, 28 states increased employee contribution rates; 7 states increased employee contributions on new hires only, and 21 states increased contributions on at least some current members as well.[104] Missouri, Utah, Virginia, and Wyoming had previously been noncontributory, but they required employee contributions for the first time after the crisis. And 28 states have increased the retirement age and service requirements for full benefits between 2009 and 2011.[105] In 2010 and 2011 a total of 18 states reduced post-retirement benefit increases, 13 imposed a longer period for calculation of final average salary, and 12 increased vesting requirements, delaying the period until public employees may receive any benefits.[106]

Thus continues a trend as 29 states enacted major retirement benefit changes between 2005 and 2009,[107] primarily to DB pensions. In that timeframe, 12 states increased employee contributions to their pension funds; 11 changed the benefit multiplier or final average pay calculation; 10 increased the age and service requirements; 7 implemented anti-spiking provisions; 9 changed post-retirement increases; and 6 increased the vesting time period.[108]

Benefits promised under public DB plans are considered highly protected because under the laws of most states, the sponsor cannot close down the plan for current participants. In many states, employees hired under a particular benefit have the right to continue earning that benefit for the length of their employment.[109] The legal and regulatory protections of public pension benefits, however, vary widely by state.[110] For example, although 21 states have successfully increased current employees' pension contributions, three other states that had attempted to increase employee contributions rates saw these provisions subsequently overturned in court.[111]

For that reason, it has been considered much easier to reduce the benefits of newly hired workers than to do so for current employees or active retirees; however, pension reforms of 2010 through 2012 have proven otherwise. For example, the increases in employee contribution rates noted above, while not a direct benefit cut, do represent a decrease in total compensation to fund the pension benefit—and 21 states to date have successfully done this. Additionally, legislation was adopted in Colorado, South Carolina, and Minnesota to reduce cost of living adjustments for current retirees.[112] Although states loosened constitutional protections moving forward in this way, there is no evidence that they have ever defaulted on their past pension obligations to employees.

A small number of states, such as Michigan, Rhode Island, and Utah, moved to restructure retirement benefits entirely. The Michigan School Employees Retirement System replaced the DB pension with a hybrid plan for all new employees hired after July 2010. The hybrid plan includes both a DB pension and a DC plan. The DB portion includes higher age and service requirements, a lower final average salary calculation, and a lower pension benefit than the previous DB pension system. Also, the DB component will not include any post-retirement cost of living adjustments (COLA).[113] Employer contribution rates to DC plans will be negotiable within limits by individual school districts. Employer contributions vest after four years, and participants have an opt-out option—that is, they do not have to contribute to their DC plan.[114]

Employer costs under Michigan's hybrid plan are expected to decline, because the hybrid plan offers a less generous benefit than the DB pension.[115] Initial analyses of Michigan's switch estimated that the hybrid will save the public school system between $2 and $4 million in 2011 and between $200 and $400 million over ten years.[116] Projections were that as many as 17,000 newly hired teachers would be covered under the new hybrid plan by the end of 2011; however, due to an early retirement incentive that was offered to older teachers,[117] as of February 2011, just over 11,600 teachers were yet covered by the hybrid plan.[118] Despite the anticipated cost savings, in September 2012 additional legislation was passed that gives employees a choice between paying a higher contribution rate in the new hybrid plan, or switching to a new DC-only plan.[119] Yet later that same month, a 2011 law that mandated additional employee contributions to the Michigan state workers' pension was found unconstitutional by the state court, as it represented a reduction in employee pay, which is beyond the authority of the legislature.[120] Thus, it remains to be seen how these provisions will fare in the future. Meanwhile, as the new hybrid plan remains in effect in years to come, the full effects of the switch on both employer costs and recruitment and retention concerns can be more fully examined.

In Utah, employees hired after January 2011 will have an option of either a hybrid plan, with both a DB pension and a DC plan, or only a DC plan. Employers will contribute 10% of salary for the DB pension of the hybrid plan, and employees will have to make up the difference if this contribution is insufficient to fully fund the benefits. The excess will be deposited into employees' DC accounts, however, if the DB pension is overfunded. Employees can also voluntarily contribute more to their DC plan under the hybrid plan. Alternatively, employers will contribute 10% of salary to the employees' DC plan, if they choose the DC-only plan.[121]

The Utah design gives employees a unique decision: to get the advantages of a DB pension—including a guaranteed benefit for life, professional investment management, and the larger benefits provided by longevity pooling—they must also take on the investment risk. If the employee chooses the DC plan, the employer will contribute 10% of pay to the DC account. If the employee chooses the hybrid plan, the employer will contribute 10% of pay. Thus, regardless of each employee's decision and investment returns, the employer contribution remains a flat 10% of pay.[122]

Rhode Island and Virginia recently adopted hybrid plans as well, while Louisiana and Kansas have adopted cash balance designs. Rhode Island passed legislation in 2011 to replace its DB pension with a hybrid plan for all members, except judges and public safety, in 2012. The Virginia hybrid plan will only be for new members, and will go into effect in January 2014. The new Kansas cash balance plan will only be for new members as of January 2015. Similarly, the Louisiana plan will only be for new members, effective July 2013; it will be mandatory for non-hazardous state employees and higher education members, but optional for other educational employees.[123]

This survey of the widespread efforts that states undertook to address the financial challenges and to operate within the confines of emerging political pressures shows that the vast majority of states decided to keep their DB pensions as the only or at least one of the primary retirement benefits for their employees. Although many states and municipalities have conducted feasibility studies of switching from the DB pension to a DC plan, those studies found that the move would save little to no money in the long term, and could actually increase retirement plan costs in the near term.[124]

The Segal Group, an actuarial consulting firm, conducted individual feasibility studies for the city of Los Angeles and the state of Nevada in 2010. In Los Angeles, Segal found that a lower DB benefit would bring significantly more cost savings than would a DC or hybrid switch;[125] in Nevada, Segal concluded that if the DB pension were frozen in favor of a DC plan, DB costs would increase dramatically.[126] In 2009, the Kansas Public Employee Retirement System found that of three different DC options, none would save money compared with the baseline DB pension—and in fact, one would be more expensive.[127] Perhaps not surprisingly, none of these states or municipalities opted in favor of the DC switch. This decision to stay with DB pensions may well reflect an employer appreciation for the efficiency of DB pensions, particularly in light of the increasing political pressures that states have faced to change their retirement systems.

Other Rationales for Changing Retirement Benefits

Labor management arguments are not the only ones surrounding public employee retirement benefits. Two additional arguments that have been made in favor of switching from DB pensions to DC plans deserve further consideration. It has been argued that DC plans are fairer than DB pensions to a more mobile workforce[128] and that the demands of DC plans are easier to manage than DB pensions for employers.[129]

The assertion that DC plans are fairer than DB pensions depends on a limited definition of fairness. Public employees who leave public service quickly presumably lose some of their compensation because they are not vested in a DB pension, which makes the entire DB pension, in this view, unfair to short-term employees because it creates an annual wealth distribution that favors long-term employees over shorter-term ones.

The opposite conclusion emerges when a lifetime wealth distribution is considered, rather than an annual wealth effect. Since DB pensions are primarily retirement benefits, such a longer-term view is appropriate. Porell and Oakley found that DB pensions in fact reduced the chance of experiencing economic hardships in retirement, particularly for groups of employees such as nonwhites, who are typically disadvantaged in their wealth distribution.[130] DB pensions, in other words, help somewhat to equalize retirement income inequities that otherwise would exist. Similarly, Wolff showed that DB pensions equalized retirement wealth by race, education, and marital status, but that this effect has worn off over time as DC plans increasingly took the place of DB pensions in the private sector.[131] Thus, looking at retirement wealth effects over a lifetime, DB pensions shows more of an equalizing effect than DC plans.

The fairness argument also overstates its case. Most public DB pension systems are contributory—that is, employees contribute a share of their earnings to help fund the benefit.[132] Employees are generally allowed to withdraw those funds, plus some nominal interest earned on the funds, when they leave service, although the employer contributions stay with the DB pension plan.[133] In addition, shorter vesting periods could overcome any potential adverse distributional effects because short-term employees would more quickly gain a right to retirement benefits. However, shortening vesting periods would have to be weighed against the potential adverse consequences for labor-management practices, because shorter vesting could lead to increased turnover. The bottom line is that to the extent that DB pensions have any adverse short-run distributional effects, they can easily be addressed within the DB context.

The second argument in favor of DC plans as replacement to DB pensions is more straightforward. The costs of DC plans are by definition more predictable because the employer promises to contribute only a fixed share of earnings annually—a contemporaneous increase in compensation—compared to a promised amount of benefits in the future under a DB pension, which can carry uncertain employer contributions in the present.

There are ways to make the employer costs of DB pensions more predictable. One policy tool would be to set a contribution floor so that employer contributions cannot drop during good economic times when asset values are high due to good financial market performance.[134] This would necessitate that policymakers set a maximum funding ratio since states could otherwise potentially contribute more than necessary, resulting in too many public funds being tied up in public DB pension plans. Weller and Baker suggested a funding ratio of 120% for private sector plans.[135] States could also change the actuarial valuation of their DB pension plans, such that their funding ratios would fluctuate less and employers would have to contribute more during good economic times and less during bad economic times than is currently the case.[136] Thus, states that are worried about the unpredictability of the employer contribution to DB pension plans can take reasonable steps to make the contributions more predictable.

Conclusion

The financial crisis of 2008–2009 presented financial challenges to state and local DB pensions. They were hurt in the stock market crash because large shares of DB pension assets are typically invested in the stock market. This led to a drop in plans' funded ratios and an increase in governments' unfunded pension liabilities and costs.

Some observers have argued that states should alter their retirement benefits by switching from DB pension plans to DC or cash balance plans. This paper reviewed the evidence on the labor relations effects of existing DB pension plans to see what the likely effects of such a switch would be. The literature and the empirical evidence are unambiguous on a number of key effects.

First, public employers would attract a different labor force if they switched retirement benefits away from DB pensions. Public employees would become less committed to their employers and thus invest less in nontransferable skills that are critical to effective government.

Second, employee turnover would increase under alternative benefits. Alternative benefits no longer defer compensation into the future and thus offer fewer economic incentives for employees to stay with public employers.

Third, public employers would face higher costs, both as a result of ending the existing DB pensions and because of higher investment and administrative costs for alternative retirement plans.

The value of DB pensions in the public sector is probably best illustrated by the fact that when faced with a benefits choice, employers and employees overwhelmingly choose to stay with DB pensions rather than to move to alternative benefits. The majority of states have undergone revisions to their DB pensions between 2007 and 2012—some even adding DC account features—but the overwhelming majority have maintained the DB pension model for its employees.

DB pension plans have a track record of simultaneously meeting the goals of employers due to their recruitment and retention effects, and the goals of employees due to the economic security they offer.

The Great Recession has presented some funding challenges to public pensions. States and localities are willing to address these challenges so that they can effectively compete for skilled employees in the future.

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Issue Brief

On the Right Track?
Public Pension Reforms in the Wake of the Financial Crisis

By Nari Rhee, PhD and Diane Oakley

December 2012



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Acknowledgements

We are grateful for the comments, advice, and assistance provided by a number of individuals, including Keith Brainard, Cathie Eitelberg, William Fornia, Rocky Joyner, and Thomas Lee. The views in this report and any errors and omissions are those of the authors alone.

About NIRS

The National Institute on Retirement Security is a non-profit research institute established to contribute to informed policy making by fostering a deep understanding of the value of retirement security to employees, employers, and the economy as a whole. NIRS works to fulfill this mission through research, education, and outreach programs that are national in scope.

Executive Summary

This brief builds upon the 2008 National Institute on Retirement Security (NIRS) analysis, entitled "Look Before You Leap," which documented the transition and other costs associated with closing a pension plan to newly hired employees. As the economy slowly recovers from the Great Recession, state and local governments continue to face pressure to follow the private sector's lead in closing defined benefit (DB) pensions and freezing benefits. This brief further examines key factors that have contributed to private and public employers' decisions regarding whether to keep or freeze their DB pensions; and policy changes that have been implemented to address public pension plan sustainability since 2008.

We find that public employers face a different organizational context than private employers, and consequently have pursued different labor market strategies. By and large, state and local policy makers have evaluated plans with an eye to affordability, sustainability, and human resource goals and have generally found that a wholesale shift to defined contribution (DC) plans for new hires is not optimal. We also highlight key implications of switching to DC-only plans for worker retirement security and public sector employment relations that warrant public consideration. The following outlines our key findings:

1) Distinct business and labor market dynamics and regulatory pressures led to the decline of pensions in the private sector that do not necessarily apply to governments.

- In the private sector, industry and labor market restructuring led new core industries, especially information technology, to pursue flexible labor strategies, while low-wage, low-benefit jobs proliferated in the service sector. Public employers have remained committed to stable employment relations and use pensions to reward long tenure.
- Onerous regulations and accounting rules governing private pensions have made required pension contributions unpredictable and volatile, creating significant financial uncertainty for employers. Public sector pensions have been able to smooth out the effects of business cycles on funding requirements to a much greater degree.
- Corporate focus on maximizing shareholder value often conflicts with workers' need for retirement security in the context of retirement plan sustainability issues. State and local governments use DB pensions to serve the public interest by providing public services in a high quality and cost effective manner, while also providing workforce retirement security.

2) A policy of closing or freezing pensions and switching to DC accounts is not necessarily the best approach for government employers and taxpayers. Recognizing this, states are modifying their pensions to ensure long-term sustainability.

- Since 2008, 45 states have enacted pension reforms. The vast majority of these states have modified their existing pension plans. The most common plan modifications are increased employee contributions; reduced DB benefits for new hires including changes to retirement ages; and Cost of Living Adjustment (COLA) reductions for retirees and existing workers.
- While a number of states have, for many years, offered DC accounts as an option in lieu of a DB pension, no state has shifted to a DC-only plan since 2005. Some legislative changes in this period involve a mandatory hybrid arrangement consisting of a reduced DB pension benefit or cash balance plan with a DC plan.
- Closing pensions and shifting to DC accounts for new hires is less cost-efficient compared to adjusting DB benefits or switching to a hybrid plan in which limited contributions continue to flow into the existing DB plan.

- Providing the same retirement income from a traditional pension costs nearly twice as much (83 percent more) when funded through a 401(k)-style account, representing an inefficient use of tax dollars.
- For plan sponsors that comply with generally accepted accounting principles, freezing a pension compresses the cost of amortizing existing unfunded liabilities, increasing the cost of the plan until the unfunded liabilities are eliminated. It can also increase unfunded liabilities when changed cash flow and liquidity needs translate to lower investment earnings.

3) Freezing or closing DB plans and shifting to DC-only accounts threatens workers' retirement security, with mid-career employees being the hardest hit.

- Experience with frozen pensions indicates that long-tenured, mid-career employees are the most likely to see the greatest reduction in anticipated income when they retire.
- While younger workers theoretically have time to make up ground, evidence indicates that in reality, they face substantial risk of falling short.

4) Because pensions play an important role in public sector compensation, freezing or closing DB plans and shifting to DC accounts may negatively affect the ability of public employers to recruit and retain qualified workers.

- If retirement benefits consisted only of DC accounts, the public sector would likely risk decreased productivity and worker commitment and face increased recruitment costs.
- Studies have found that public sector workers' compensation—including benefits—is about the same or slightly lower than that of their peers in the private sector with the same education and experience. Government employers that stop DB benefits or substantially scale them back for new hires are likely to become less competitive for skilled workers over the long run unless they increase other forms of compensation.

Introduction

Since the collapse of the housing bubble in 2007-2008 and the ensuing financial crisis, workers' and households' anxiety about future retirement security has increased dramatically. Eighty-four (84) percent of Americans are concerned that current economic conditions are undermining their ability to achieve a secure retirement. [1] Two-thirds of Americans are very worried or somewhat worried they will not have enough money for retirement, with a significant increase in concern among those in their late 30's and early 40's. [2]

At the same time, the share of workers covered by defined benefit (DB) pensions—one of the key pillars of middle class retirement income security alongside Social Security and private savings—has rapidly declined in the private workplace and been replaced with defined contribution (DC) accounts, such as 401(k)s, in which individual workers bear all the risk.[3] While DB pensions are still widespread in the public sector, financial fallout from the Great Recession prompted extensive changes to public pension systems around the country over the last 4 years.[4] State employers have largely adjusted their existing DB pensions, while some local agencies have closed DB pensions to new employees and directed them into DC accounts.[5]

Public pensions at all levels continue to face political pressure to follow in the footsteps of the private sector by shifting to DC plans. However, such a move entails significant transition costs and other serious ramifications in both the short and long term that warrant serious evaluation.

This brief builds upon the 2008 National Institute on Retirement Security (NIRS) analysis, entitled "Look Before You Leap," which documented the transition and other costs associated with closing a pension plan to newly hired employees. Drawing on recent research, this issue brief explores key trends in private pension freezes and public pension plan closures, highlighting the factors that have influenced employers' and policymakers' decisions regarding whether to reduce or eliminate benefits. This brief also offers additional considerations regarding the impact of retirement benefit changes on worker retirement security and public employers' ability to recruit and retain skilled workers that warrant public consideration.

Since the 1980s, corporate business practices and the combined effect of regulations and stock market volatility on pension accounting and funding have made private DB pensions vulnerable to being frozen, at the same time that increasing reliance on flexible labor markets has made employment less secure. In contrast, government employers have continued to pursue stable employment and reward long tenure by using pension benefits. Additionally, in the aftermath of the 2007-2008 financial crisis, state policy makers have consistently and carefully evaluated existing pensions and alternative proposals with a focus on affordability, sustainability, and human resource goals.

If public employers were to abandon DB pensions en masse like private employers, workers would face decreased retirement security, but they would not be the only ones affected. Employers and the taxpayers would cease to gain from DB pension cost efficiencies and labor market benefits, as well as face increased costs for paying down existing pension liabilities. Significantly, where states have evaluated alternative retirement benefits, they have found that freezing or closing the DB pension and switching to a DC-only plan for new hires is an expensive proposition.

The remainder of this introduction briefly outlines common types of pension freezes and regulations protecting accrued pension benefits in the private and public sectors.

Pension Freeze Types and the Legal Status of Pension Benefits

When an employer takes action to prevent new employees from earning benefits under their DB pension, this is called "closing" the plan. When they also limit future benefit accrual for existing participants, this is generally referred to as "freezing" the plan.[6] Some pension data sources count all closed plans as "frozen" regardless of the status of future benefit accruals; however, frozen pensions are more commonly understood to entail the reduction or elimination of future benefit accruals for some or all existing workers. A closed or frozen DB pension continues to pay retirement benefits to current retirees and to existing workers when they reach the plan's retirement age. The employer remains responsible for providing the funding required to meet these obligations.

Pension freezes vary in the extent to which workers' retirement benefits are affected. The term hard freeze is generally associated with plans in which there are no further benefit accruals for any of their members. In hard-frozen plans, benefits are calculated based on the years of service and pay levels on record as of the date of the freeze. The term "partial freeze" is often used to refer to frozen plans in which full benefit accrual continues for some but not all employees. The term "soft freeze" is less clearly defined, but generally applies to plans in which future benefit accruals continue on a limited basis, with either the years of service or the pay level used to calculate pension benefits frozen as of the date of the freeze. Plan-level distinctions notwithstanding, workers for whom future benefit accrual is eliminated face the most significant impact on their retirement security.

The degree of legal protection for workers' pension benefits varies between private and public sectors and among states. The federal Employee Retirement Income Security Act of 1974 (ERISA) regulates the operation of private sector single employer DB pensions. It protects workers' benefits—up to a limit—which are insured through the Pension Benefit Guaranty Corporation (PBGC) should a pension plan be terminated due to the employer declaring bankruptcy. ERISA protects the retirement benefit workers have already earned or accrued, based on their current salary and years of service, from being reduced. However, corporations have wide latitude to change or eliminate future benefit accrual for existing employees.

In the public sector, benefit protections in DB pensions are determined by state law. Accrued benefits are generally protected. While the sanctity of future benefit accruals for current employees varies by state, laws in most states protect these benefits to a much greater degree than does ERISA, whether through the state constitution or under the "contracts clause" which prohibits the government from impairing a contractual arrangement, such as employment.[7]

Due in part to the above differences in the legal status of pension benefits, freezes are much more common in the private sector than in the public sector.[8] In the private sector, DB plans are not only closed to new workers, but often reduce or eliminate benefit accruals. Nearly all employees hired after a freeze are provided an alternative retirement plan, with almost 84 percent of private sector employees switched to a DC–only retirement benefit.[9]

Because of the generally greater legal protection for benefits promised to public employees under state law, most public pension plan changes only affect new employees. The public sector has largely retained DB pensions, changing pension formulas for new hires rather than excluding them altogether. When this occurs, the retirement system closes one "tier" and puts new participants into a different tier. One retirement system could have multiple tiers. Thus, 95 percent of the new public employees hired after closing the plan remain covered by a DB pension, albeit with less generous benefits.[10] Among the few states that have closed DB pensions to new employees, the vast majority of existing workers have continued to accrue benefits, generally with no reduction in their pension benefit formula. A small number of public plans are actually frozen; that is, they have reduced DB benefit accruals among existing workers.

I. Private Sector Pension Freezes and Shift to DC Plans

Today, workers newly hired by most corporate employers have only a DC plan as their retirement benefit. This is because the majority of single employers who sponsor DB pensions have frozen them, and the vast majority of firms that have emerged in the last generation have chosen DC plans. However, it is important to understand the dynamics behind the private employers' retirement plan choices and how such forces differ from those facing public sector employers. This section begins by presenting recent data on private pension freezes and the proliferation of DC accounts. We then briefly outline key historical explanations for why private employers moved from DB pensions starting in the late 1970s, and then focus on the role of regulations in making private pensions less sustainable during the past decade. The conclusion of this section draws out differences between these dynamics and those reflected in public employers' continued commitment to DB pensions during the same time frame.

Distinct business and labor market dynamics led to the decline of pensions in the United States (U.S.) private sector. Industry and labor market restructuring led new core industries, especially information technology, to pursue flexible labor strategies—characterized by weak attachment between firms and employees and reliance on spot labor markets in lieu of internal labor markets—while low-wage, low-benefit jobs proliferated in the service economy. Onerous regulations and accounting rules created significant financial uncertainty and cost volatility. Finally, outcomes of private sector retirement benefit practices often have not been optimal from a human resource and a social policy perspective. In designing compensation structure, private employers significantly underestimate the value of pensions to workers, and the resulting inadequacies in retirement wealth among workers today poses a major public policy challenge.

Recent History of Private Pension Freezes

Prior to the Great Recession, a significant share of private sector DB pension sponsors had frozen plans. An analysis of PBGC data by the Government Accountability Office (GAO) found that in 2005, 14 percent of private pensions were under a hard freeze. The GAO analysis also found that the combined number of freezes and closures had increased by 50 percent between 2003 and 2005.[11] The GAO's own survey of single-employer DB plan sponsors found that in 2008, slightly more than half of private DB pension sponsors had at least one frozen or closed plan, and 23.3 percent of all plans were under a hard freeze.[12] However, larger plans sponsored by employers with 10,000 participants or more, which accounted for two-thirds of participants in the study universe, were less likely to have a hard frozen plan. Just 9.4 percent of such large employers stopped all employees from earning new benefits.[13] Among Fortune 1000 companies, Towers Watson reported that of the 638 corporations that offered DB pensions, 500 had no frozen plans in 2007.[14]

The share of active participants affected by plan freezes, while significant, is mitigated by the fact that the largest sponsors have been less likely to freeze their plans. GAO estimated that 21 percent of active participants in DB plans—or 3.3 million workers—were affected by a freeze.[15] Among these, 1.7 million were affected by a hard freeze, and 1.6 million were affected by a soft, partial, or other freeze.

Pension freezes and the shift to DC plans accelerated during the Great Recession and leveled off somewhat as the economic recovery continued slowly. The Bureau of Labor Statistics' National Compensation Survey (NCS) confirms this trend; the share of private sector DB pension participants covered in frozen plans increased from 19 percent in 2009 to 25 percent in 2012. The share in hard-frozen plans, in which no participants continued to accrue benefits, increased from roughly 4 percent to approximately 8 percent.[16] In contrast, only 10 percent of state and local workers were covered by frozen DB plans in 2009, the latest year

As of 2009, two-thirds (67 percent) of private sector workers in frozen DB pensions were in plans that were frozen within the 5 years prior to the survey.[18] (By way of contrast, 94 percent of public employees in closed or frozen plans were in DB pensions that were closed or frozen more than 5 years prior to the 2009 NCS survey.[19]) As of 2012, however, 58 percent of private sector workers affected by freezes are in plans that were frozen in the past 5 years, and only 1 percent is in plans frozen in the past 1 year, indicating that the pace of pension plan freezes have leveled off as the economy has stabilized.[20]

The slow-down in private sector pension freezes is confirmed by a recent Towers Watson survey of DB plan sponsors at mid-size and large corporations that found that a majority of sponsors, including a large majority of large sponsors, had no plans to change their pensions in the next few years.[21] Similarly, another recent survey by AonHewitt reports that the post-crash wave of freezes appears to have tapered off, and that three–quarters of the sponsors of active DB pensions indicated that one of the reasons for keeping their plan open was that the "DB plan aligns with our total rewards philosophy."[22]

Forces behind the Long-Term Shift from DB to DC

The recent history of pension freezes is just the latest chapter in the historical shift from DB pensions to DC accounts in the private sector that began in the late 1970s and accelerated during the 1980s. This shift can be explained in large part by the interplay between structural changes in the industrial makeup of the economy, business strategies pursued by U.S. corporations in the context of economic restructuring, and ensuing changes in employment relations including the weakening of attachments between employers and employees.

The changing industrial mix of employment over the past three decades is a significant factor in the decline of DB pensions. This includes the decline of older manufacturing industries that were unionized and promised career employment; the emergence of new industries that pursued flexible employment strategies; and the growth of industries in lower wage segments of the labor market, including the service sector, where employers traditionally have not offered retirement benefits. Gustman and Steinmeier found that at least half of the trend toward DC plans and away from DB plans between 1977 and 1985 was due to "a shifting employment mix toward firms with industry, size, and union status characteristics which have historically been associated with lower defined benefit plan rates."[23] Aaronson and Coronado found that "industries with a shift in demographic and firm characteristics that tend to favor more flexible employment contracts experienced a significantly larger increase in DC pension coverage and decline in DB pension coverage" during the 1980s and 1990s.[24]

Another related factor is comprised by the specific technological strategies and associated employment relations pursued by U.S. corporations since the 1980s. For example, Lazonick argues that as technology-driven industries shifted from proprietary knowledge to industry-wide standards, firms abandoned the idea of lifetime employment and created a mobile labor force. Older technology firms froze DB pensions as they sought to shed older workers and recruit younger workers with new technical skills.[25] New technology firms also pioneered flexible labor practices—including the growing use of contract, temporary, and other forms of insecure employment in routine production—that became the model for other industries.[26] However, firms still wanted to recruit and retain skilled workers and have utilized stock options as a form of deferred compensation[27], something that is not available in the public sector.

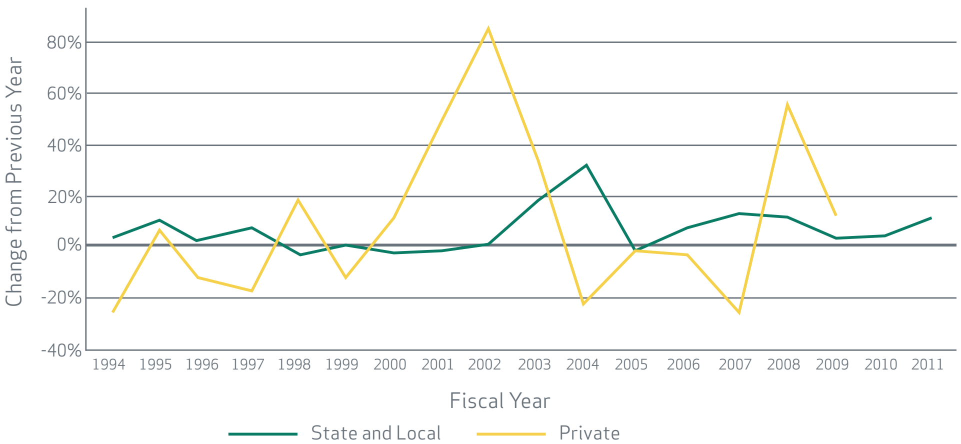
While industry restructuring and new business models left corporations less committed to DB pensions and their value as a human resource tool, accounting standards issued by the Financial Accounting Standards Board made DB pensions vulnerable to financial exploitation. Pension fund assets and liabilities are reported on corporate balance sheets. When stock prices fall on the assets held in the plan, firms report larger unfunded liabilities. Conversely, when the stock market is booming, firms appear flush with financial wealth.

According to Schultz, this has prompted many corporations to raid assets during bull markets, and when unfunded liabilities soared during bear markets, they often chose to freeze their pension funds.[28]

The Impact of the Pension Protection Act on Corporate DB Pensions

Since 2001, DB pension sponsors in both the private and public sectors have contended with two periods in which stock values plummeted concurrently with interest rates. These forces present inherent difficulties for any pension, but regulations governing private sector pensions magnified the financial impact on private sponsors. A comparison of changes in year-to-year employer contributions illustrates the large difference in the magnitude volatility for corporate and public DB plans (Figure 1). Due in large part to this impact, healthy employers started freezing their pensions at startling rates in the early 2000s.[29] This trend intensified after the Pension Protection Act of 2006 (PPA).

Figure 1:
Annual Change in DB Pension Contributions, 1994-2011



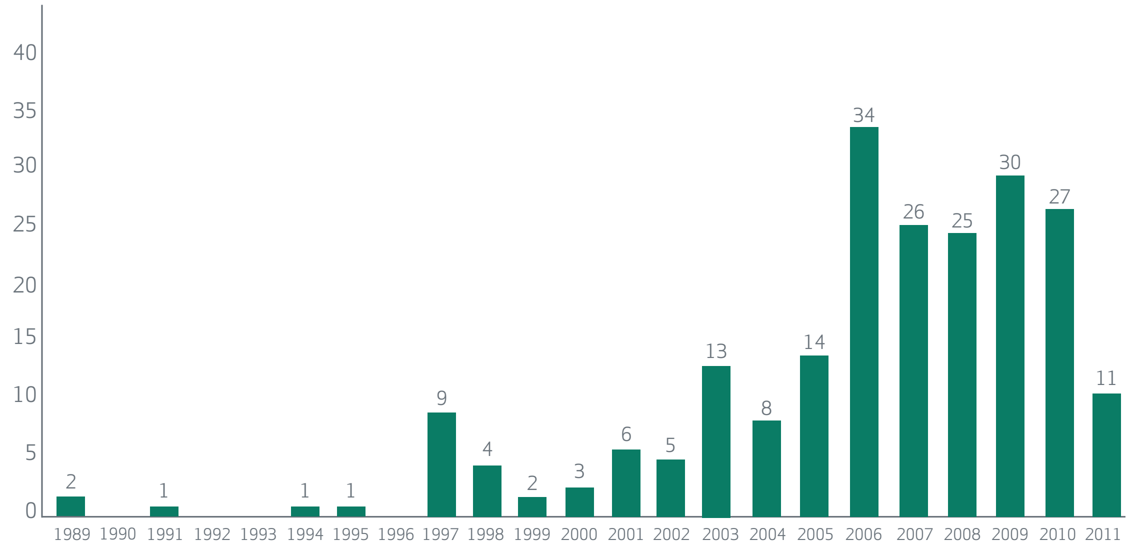
Source: Munnell et al. 2006; Annual Survey of State and Local Pensions; and Department of Labor Form 5500.
Note: Private sector data nor available for 2010 and 2011.

Boivie and others have found that onerous laws and regulations enacted since the 1970s, including the PPA, have created complicated funding rules and increased contribution volatility.[30] The PPA increased DB plan funding requirements in several ways. The legislation increased the plan funding target to 100 percent (from 90 percent), accelerated the amortization of funding shortfalls to just 7 years (from 30 years), required more conservative funding assumptions, and shortened the period over which employer could average the interest rates used to calculate assets and liabilities to just 2 years (from 4-5 years).

As a result, many experts believe that the PPA legislation made it even more difficult for plan sponsors to continue their DB pensions, as it increased funding volatility just as the economy and interest rates went in negative directions during the stock market downturn of 2008.[31] Munnell, Haverstick, and Soto found that the PPA specifically caused pension funding to be much more volatile and contributions to be much less predictable.[32]

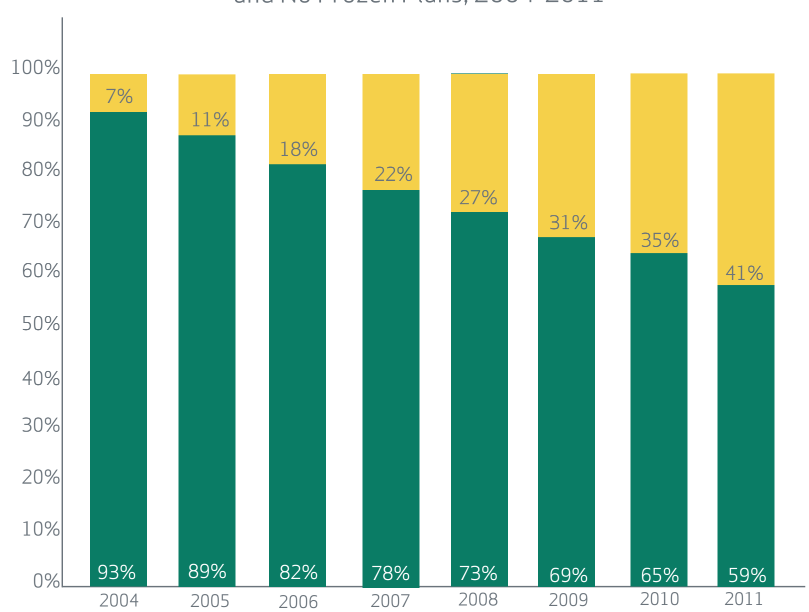
The impact of the PPA is clear. Among the Fortune 1000 companies, pension freezes accelerated rapidly after the law was passed (Figure 2): 127 incidents of DB pension freezes occurred after 2006, accounting for 70 percent of freezes since 2004.[33] Overall DB sponsorship among these firms dropped from 59 percent in 2004 to 35 percent in 2011. These DB pension sponsors faced significant funding increases under the stringent PPA funding policies due to the low interest rates and 7-year amortization period to address the sizeable drop in asset values from the 2008-2009 market crash. Thus, 237 of the Fortune 1000 companies had one or more frozen DB pensions by 2011.[34] While these large companies understood the value of DB pensions for their human resource goals, by 2011 the percent of Fortune 1000 companies that had no frozen plan fell to 59 percent, a stark decline from the 93 percent in 2004 (Figure 3).[35]

Figure 2:
Pension Freezes among Fortune 1000 Companies, 1989-211



Source: Adapted from McFarland 2011, Figure 2.

Figure 3:
Share of Fortune 1000 DB Pension Sponsors with Frozen Plans and No Frozen Plans, 2004-2011



Source: Authors' calculations based on data from McFarland 2011.

Sponsor with one of more frozen plans
Sponsor with no frozen plans

In a GAO survey conducted shortly after the enactment of the PPA, respondents rated "unpredictability/volatility of funding requirements" and "annual contributions/impact on cash flow" as the top two major reasons for deciding to freeze DB pensions.[36] They reported that they were uncertain about future plans for further freezes of DB pensions.[37] Sponsors of frozen DB pensions among the Fortune 1000 companies also reported similar concerns about cash flow and contribution volatility.[38] Notably, DB pension sponsors have been more concerned about cash flow demands from spiking contribution requirements than about the general cost of their plans.

The Public Sector Difference

Public employers have not faced the kinds of business dynamics and regulatory pressures described above, nor have they pursued similar labor strategies. They also serve a different mission than do private corporations, which bears on how they might view retirement benefit policy.

First, unlike most private employers, public employers have continued to favor internal labor markets as a strategy to foster human capital formation—in other words, lower turnover, job ladders, and firm-specific skill development. This is reflected in compensation policies that reward long tenure, including the use of DB pensions. This strategy is linked to public employers' greater recognition of employee preferences. Boivie finds that the choice of switching from a DB pension to a DC plan appears to rest exclusively with the employer among private sector plan sponsors, and that private sector employers may not understand worker preferences.[39] In contrast, public employers' choice of remaining committed to their DB pensions seems to reflect a stronger recognition of, and responsiveness to, employee preferences for a secure pension compared to private employers.[40] The role of pensions in public employee compensation and their relationship to human resource management are addressed in more detail later in this brief.

Second, as Figure 1 illustrated, public pension funding has historically been much more stable. This is due to regulations that make it easier for public pensions to smooth out the effects of normal business cycles on required contributions. While some advocate that public sector pension requirements become aligned with the same private sector regulations that made corporate pensions financially volatile and unsustainable, others argue that key features of government make such changes ill-advised.[41] For example, while corporations might go out of business or be bought and sold, government is a more stable entity.

Finally, while corporate focus on maximizing short-term shareholder value often conflicts with the goal of providing retirement income security to employees, state and local government serve a different mission: the public good. In this regard, public employee retirement policy provides an opportunity for policy makers to achieve multiple objectives by facilitating the ability of public employers to attract and retain skilled workers and provide public services in a high-quality and cost-effective manner, while also promoting the retirement security of the sizeable workforce that is employed by state and local government.

II. Is Closing DB Pensions and Switching to DC Plans a Good Deal for Public Employers?

DB pensions are the primary and occasionally the only retirement system available to public employees. However, faced with declining tax revenues, pressure for growing services due to the prolonged downturn and increase in plan contributions to make up for investment losses, 45 states and many local governments have adopted an unprecedented amount of changes to pension benefits since 2008.[42] Nonetheless, there is mounting pressure for governments to offer only DC plans to new hires—and some would even reduce or eliminate future benefits for existing workers. This section outlines the reasons why public employers have, by and large, refrained from moving in this direction. Few states have closed or frozen their DB pensions, and none have chosen to enact a hard freeze. Public employers have been responsive to employee preferences for DB pensions, and also seem to have carefully evaluated their decisions in terms of human resource goals and realistic estimates of the cost of different retirement benefit models.

Few States Have Closed or Frozen Their Pensions

According to the 2009 NCS, when a public pension closure or freeze occurs at the state and local government level, 99 percent of existing employees continue to accrue benefits in the DB pension. As of 2009, only Michigan and Alaska required new public employees to join a DC plan.[43] Michigan has operated a DC plan for some of its general employees since 1997 and Alaska made a similar switch in 2005. West Virginia took a different step in 2005, closing the Teachers Defined Contribution Retirement and switching all newly hired teachers back into the Teachers Retirement System, a DB pension plan the state had closed in 1991.[44]

State governments are using various strategies to manage their increasing DB pension costs due to the financial condition they encountered after the financial crisis, but they have generally continued to adopt pension reforms prospectively and have not adopted freezes.

- In 2008, Georgia adopted a hybrid approach that combines a lower DB pension benefit with a matching contribution to a 401(k) plan for employees hired after January 1, 2009.
- Utah made plan changes for new employees hired after June 30, 2011 that offers new employees a choice between a 10 percent employer contribution to a 401(k) plan, or a 10 percent employer contribution that is split between a lower DB pension benefit and a 401(k) plan.
- Michigan adopted a cash balance plan for its new public school employees in 2010.
- Louisiana adopted such a plan for new employees in 2013 (the legality of which is currently being contested).
- Kansas acted to put employees hired after 2014 into a cash balance plan.

Hybrid and DC-only systems, where implemented, have led to reduced benefits for affected workers. The Teacher Retirement System of Texas measured the pre- and post-reform benefit levels of six state pension systems that moved to a hybrid or DC-only plan. They found that benefits for those participating in the new system were reduced by an average of 30 percent compared to the old system.[45]

In a few cases, public DB pensions have not just been closed, but frozen; that is, future benefit accruals have been reduced for existing workers. Most recently, Rhode Island reduced benefits for existing pension plan participants by moving existing and future employees into a new hybrid plan, with existing employees subject to lower DB pension benefits and a mandatory DC plan. Oregon also did this in 2003. Given that other states are facing pressure to enact pension freezes that reduce the benefits of existing employees as well as new hires, it is important to understand the impact of such measures on retirement income for employees at various stages of their careers, considered later in this paper.

In order to make the best possible decisions about how to make retirement benefits sustainable, policy makers and the public need comprehensive information about the costs and benefits of pension reform, and to what extent savings generated in one place are offset by increased costs in another. Such extra costs can come from freezing pensions and from DC plans.

Closing a DB Pension Increases Unfunded Liabilities

Establishing a DC plan for new hires, or even a hybrid plan, does nothing to reduce existing unfunded liabilities. For example, the federal government still faces massive unfunded liabilities from its frozen DB plan, which remain decades after it created a hybrid system for new hires.[46] The application of actuarially sound accounting, investment, and funding policies may compress the cost of amortizing existing unfunded liabilities, increasing the cost of the plan until the unfunded liabilities are eliminated. In addition, freezing a pension is likely to substantially increase unfunded liabilities, regardless of how they are amortized and funded. Inappropriately deferring these costs would be contrary to the rationale for pension reform.

A mature, open DB plan has a mixture of early-, mid-, and late-career members, enabling the pension portfolio to be diversified over a long investment horizon. It is a widely understood fact among pension experts that cutting off new entrants and their associated contributions shortens the investment horizon and increases the liquidity needs of the pension fund. For pension funds following accepted accounting practices, one potential consequence of closing a plan to new entrants is that the amortization period for paying down existing unfunded liabilities may have to be shortened, depending on the demographic makeup of the plan.

Another consequence is that closed plans will have to shift assets towards stable, more liquid investments and correspondingly reduce investment return assumptions, which in turn will raise the cost of funding promised benefits.[47] For this reason, state-level studies detailed later in this brief have found that closing off a DB pension plan could increase its unfunded liabilities by as much as one-half.

Exacerbating the matter, recently revised GASB regulations impose new requirements that will significantly increase calculated unfunded liabilities for some public pension plans. Unlike in the past, when total pension liabilities were discounted using the long-term expected rate of return on investments, the new rules require certain plans that are not well-funded to discount the unfunded portion of liabilities using a much lower rate derived from the yield on tax-exempt general obligation municipal bonds.[48]

Costrell suggests that because GASB's Actuarially Required Contribution (ARC) (which is being eliminated from current accounting rules) was not intended to be a funding policy standard, state and local governments have wide latitude in how they amortize and pay off unfunded liabilities.[49] The issue of whether or not the ARC was appropriately understood as a legal funding policy standard may be up for debate. However, such a debate misses the real point, which is that the pension funds with the lowest funding ratios became poorly funded because sponsors did not consistently fund the ARC every year, while the sponsors of the healthiest pensions exercised strong funding discipline.[50]

The bottom line is that while new GASB rules give no guidance on funding requirements, it would be irresponsible not to follow rigorous actuarial funding standards. A consortium of respected national associations of state and local government leaders, convened by the Center for State and Local Government Excellence, is currently drafting principles for an actuarially sound pension funding policy that emphasizes timely and responsible funding of pension obligations as well as accountability and transparency. Another integral part of these principles is that annual contributions should be reasonably related to the expected and actual cost of each year of service so that the cost of employee benefits is paid by the generation of taxpayers who receives services from those employees.[52] Pension funding is always a policy decision. This decision should appropriately reflect sound, rigorous actuarial standards; otherwise, policymakers risk incurring negative consequence for long-term government finances and for retirees' pension security.

Substituting DB Pensions with DC Accounts Is Inefficient

Proponents of 401(k) style accounts for public sector employees argue that they are both less risky for employers *and* less costly. DC accounts do indeed shift investment risk and market risk from employers to employees. In addition, where employers in DB plans bear aggregate longevity risk—the risk that pensioners will, on average, live to collect benefits longer than expected—DC accounts require each employee to bear the risk of outliving their savings. However, DC accounts also entail fundamentally greater overall risk and marked inefficiencies compared to DB pensions. These risks and inefficiencies translate to significantly higher funding costs for a given level of retirement benefit, and a high level of risk for individual employees. This means that for each taxpayer dollar spent on retirement benefits, a DC system yields substantially lower value compared to a DB system.

In general, 401(k) accounts generate lower investment returns than do DB pensions, which can diversify their investment portfolios across a wider array of asset classes and invest over a much longer time horizon. Differences in asset allocation account for about 1 percentage point lower average annual returns in DC accounts than in DB pension funds during the 14 years ending in 2010, according to CEM Benchmarking.[53] This is consistent with a number of other studies on comparative returns in DB pensions and 401(k) accounts over the long term. At the same time, averages do not tell the whole story for 401(k)s. An examination of disaggregated data on individual portfolio composition reveals that a majority of 401(k) accounts are not properly diversified, either being invested almost entirely in stocks or having no equity position at all.[54] Furthermore, research in behavioral finance has found that most individuals do not invest in a way that is appropriate for their risk tolerance and age.[55]

Retirement benefits that rely heavily on 401(k)s also require prudent workers to accumulate assets that will last beyond their average life expectancy, while DB plans pool longevity risk and thus need to be funded only for the group's average life expectancy. In order to attain 90 percent certainty that workers will not run out of their retirement funds, and assuming that they are willing to lower their standard of living if and when they attain advanced age, a DC account requires a contribution rate 28 percent higher than a DB plan.[56]

Because of these and other factors, providing comparable benefits through a DB pension costs 46 percent less than through a 401(k).[57] Conversely, providing the same retirement income through a 401(k) plan costs 83 percent more than it does through a DB pension.

Transitioning to DC Plans May Reduce Risk for Public Employers, But May Also Cost More

In light of the above realities, public retirement systems that have seriously examined the cost of alternative plans have consistently found DC-centered arrangements to be significantly more costly than DB-centered arrangements for a given level of benefit. It is telling that states that have carefully examined the complexities of pension reform have not concluded that shifting to DC plans is the best course of action. Studies indicate that incrementally modifying DB pension benefits to lower long-term costs and increasing contributions is the usually the most cost-efficient option.

The Employee Retirement System of Texas (ERS) completed a comprehensive report in 2012 that considered multiple factors in designing pension reform, including the role of DB pensions in employee recruitment and retention, the value that pooled investing brings to both workers and the state, and the cost of freezing DB plans.[58] The ERS report noted that in many cases, the increased cost of freezing a DB plan, combined with the inefficiencies of DC plans described earlier in this brief, made it sensible to "modify the existing plan design instead of switching all employees to an alternative plan structure."[59]

The Teacher Retirement System of Texas (TRS) also completed a detailed analysis of the costs and benefits of alternative retirement systems, noting that TRS members already receive relatively low benefits compared to their peers. The study included Monte Carlo simulations of probable outcomes for an individually directed DC plan, which illustrated the risks that would be faced by workers. The study concluded that even if contributions remained the same as in the current DB plan, participants in an individually directed DC plan would have only a 50 percent chance of earning investment returns high enough to get 60 percent or more of the DB plan benefit. Conversely, the study found that it would cost 12 to 138 percent more to fund a target benefit through alternative retirement systems. Individually directed DC accounts were found to be the most costly, and a DB system the least costly. Finally, the study estimated that freezing the DB pension could cause the liability to grow by nearly an estimated $11.7 billion—49 percent higher than the current liability—due to lower investment returns resulting from a transition to a more liquid asset allocation.[60]

In Minnesota, a 2011 study on switching to a DC plan for new hires found that it would decrease costs over the medium term and that it would dramatically increase costs in the short term. And over the long term, the DC plan would be less efficient than the existing DB system in cost-benefit terms.[61] The study estimated transition costs of $2.8 billion for the state, due in large part to accelerated amortization of unfunded liabilities in the closed pension. It also found that the state would face increased risk of future retirees relying on public assistance if they do not accumulate high enough account balances— due not just to market risk, but also to higher fees and lower returns in individual investment accounts compared to DB funds—and lower overall efficiency due to individualized longevity and investment risk.

Another example is in California, where the California Public Employees Retirement System (CalPERS) calculated the cost of the hybrid retirement plan proposed by Governor Brown in March 2012. The proposal called for public employees' target retirement incomes to be evenly split across Social Security, a (substantially reduced) DB pension, and DC accounts. The agency assumed that the DC component would earn an investment return that was 1 percent lower than the DB component, consistent with recent research on comparative returns between DB pensions and 401(k)s. The analysis concluded that while a hybrid system would reduce the risk of future volatility in required employer contributions, it would not generate any significant cost savings for the state—despite the fact employees would contribute more funding and receive less benefit under the proposal. The report did estimate that savings would be greater for local government, but most of this savings was attributable to assumptions about the magnitude of increased employee contributions at the local level rather than plan design.[62] The state Legislative Analyst Office supported reform because it would reduce financial risk to the state and questioned some of CalPERS' assumptions, but acknowledged that a closed or frozen pension with reduced income would require changes in investment asset mix, increasing expenses in the short and medium term.[63]

It is up to policy makers to continue to weigh the pros and cons of different pension reform strategies, including how much risk and cost are acceptable. If public employers choose to reduce risk without providing sufficient funding for an adequate retirement benefit, the value of deferred compensation lost to employees will significantly exceed the value of employer savings, with consequences for both workers' retirement security and employers' ability to recruit and retain desirable workers, as will be discussed in the next section.

III. Impact on Recruitment, Retention, and Productivity in the Public and Private Sectors

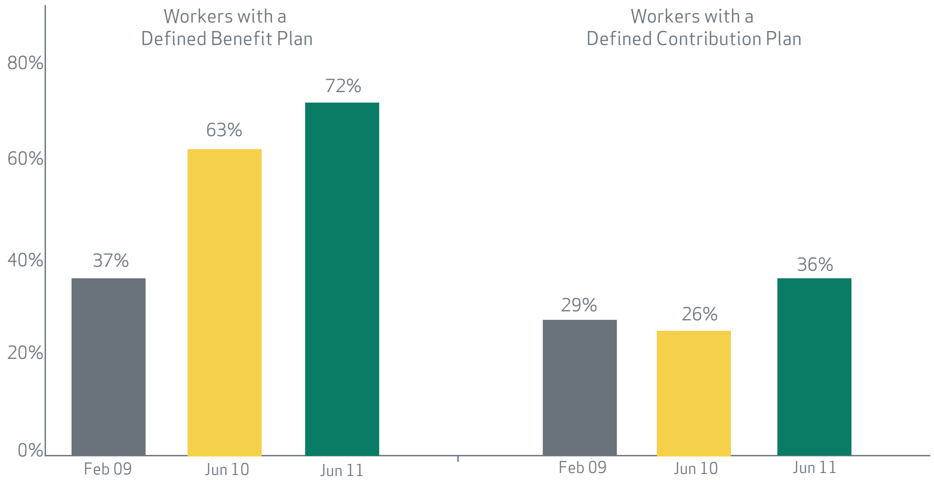
Shifting from DB pensions to DC accounts as the primary retirement benefit can negatively affect employers' recruitment and retention of skilled workers. DB pensions are proven to help employers recruit and retain qualified employees, including those who are focused on long-term rewards, and to help manage the exit of older employees according to employer needs. Consequently, closing or freezing DB pensions and substituting them with DC accounts can negatively affect the ability of firms to meet recruitment and retention goals. This can lead to lower workforce productivity overall.[64] Finally, because DB pensions play a critical important role in the balancing public sector compensation in relation to the private sector, pension cuts are likely to cause upward pressure over the long run for other forms of compensation to be increased for high-skilled workers.

Value of DB Plans to Employees

The benefits of DB pensions as a tool to recruit and retain valuable skilled workers are well documented.[65] Because employees place a high value on the guaranteed income provided by DB pensions, they willingly accept lower wages.[66] Furthermore, the latest Towers Watson Retirement Attitudes Survey of employees in large private firms found that the value of DB pensions to workers is growing. First, the share of workers who reported that they were willing to trade pay for guaranteed lifelong retirement benefits increased from 46 percent in 2008-2009 to 55 percent in 2010-2011. Second, young workers place a much higher value on retirement income security in the aftermath of the last financial crisis (Figure 4): "Nearly three-fourths (72 percent) of young employees whose employer offers a DB plan cited the retirement plan as a strong incentive to stay with their employer—nearly double the percentage (37 percent) in 2009 and twice the retention value reported by young workers whose employers offer only a DC plan."[67]

The above survey also found that workers who have had their accrual of benefits sharply reduced in a pension freeze value their company's retirement program even less than workers at companies with only DC plans.[68]

Figure 4:
Importance of Retirement Plans to Retain Workers under Age 40
Share of Workers Reporting that Retirement Program Is Important Reason for Staying with Employer



Source: Adapted from Nyce 2012, Figure 6.

An employee benefit survey conducted in 2011 by MetLife found a similar shift in young workers' attitudes towards retirement benefits: more than half of employees aged 21-30 reported being very concerned about their long term financial security, compared to one-third in 2003. Additionally, younger workers are significantly more likely than older workers to report that benefits played a large role in choosing and staying with their current employer.[69]

Studies focused on public sector workers have also found strong preference for DB pensions. Munnell, Haverstick and Soto found that public employees largely prefer DB pensions to other forms of retirement income.[70] Similarly, public employees consistently expressed strong preferences in favor of DB pensions according to national public opinion polls.[71] Olleman and Boivie found that when public employees are given the choice between a DC plan in lieu of a DB pension, they overwhelmingly choose the latter. For example, in 2010, a mere 4 percent of public employees in Ohio elected the DC plan over the DB pension when offered, a result that has been consistent since the option was put in place in 2004. Additionally, between 2002 and 2011, 68 percent of Washington state employees chose an all-DB pension over the default of a combined DB pension and DC plan.[72]

DB Pensions Help Regulate Turnover and Tenure

Because of their value to employees, retirement benefits are an important determinant of their loyalty to their employer. DB pension plans tend to have lower turnover and longer average tenure compared to those with DC plans. Consequently, Boivie and Weller found, switching from DB pensions to DC accounts is likely to negatively affect the ability of public employers to attract and retain desirable skilled workers.[73]

Annual surveys conducted by MetLife have consistently found that retirement benefits are the third most important factor—after pay and health benefits—in employees' loyalty to their employer.[74] Earlier studies found strong evidence that firms with DB pensions have significantly less turnover and longer employee tenure than firms without DB pensions.[75] More recently, a study by the Center for Retirement Research at Boston College (CRR) found that DB pension coverage is associated with longer job tenure; specifically, 4 more years compared to having no retirement benefit, and 1.3 more years compared to DC plan coverage.[76] And while private employers in general tend to underestimate the value of retirement benefits to employees[77], the vast majority of DB pension sponsors (84 percent) believe that their DB pensions positively impact employee retention.[78] In other words, employers that offer DB plans correctly understand the value of retirement income security to workers, and are rewarded by employee commitment.

Moreover, traditional DB pensions, which weigh benefits towards employees with longer tenures, help recruit employees with characteristics that may be valuable to employers through self-selection. Longer-term employees prefer traditional DB pensions to DC accounts or cash balance plans.[79] Employers use DB pensions to attract employees who are able to delay gratification and focus on long-term rewards.[80]

Additionally, DB pensions help employers influence employee decisions on when to retire, in particular by encouraging employees to retire when their productivity levels off or decreases.[81] Among workers with DB pensions, those who have higher levels of "affective commitment" to their jobs retire about two years later on average than those with low levels commitment.[82] DB pensions can encourage older and less productive workers to leave the labor force.

Federal employee retirement systems provide an interesting opportunity to study the different impacts that DB pensions and hybrid plans can have on an employee's decision to retire. The Federal Employee Retirement System (FERS) integrates Social Security, a modest DB pension, and a DC component (the Thrift Savings Plan, or TSP). The FERS system was created for new employees when the Civil Service

Retirement System (CSRS), the federal government's DB plan, was closed to new employees. One study found that FERS employees lowered their retirement rate by 30 percent during the 2008-2009 financial crisis—a 50 percent higher reduction in retirement than occurred among retirees covered by the CSRS plan. The trend to delay retirement was especially pronounced among FERS employees earning $100,000 or more, who as a group were more heavily invested in stocks than lower wage workers.

The above dynamics translate into higher productivity with DB pensions.[83] The takeaway lesson for employers considering pension restructuring is that reduced security in retirement benefits leads to declining employee commitment and an increase in turnover and associated costs, as well as potentially decreased productivity growth. Macro-level evidence for this can be found in a CRR study cited above, that examined the timing of the shift from DB to DC benefits in the U.S. economy alongside turnover rates, and suggested that increased turnover *followed* this change in retirement benefits, not vice versa as some suggest.[84] There is strong evidence that cutting DB pension benefits leads to declining employee loyalty and motivation. A broad indicator is found in a recent MetLife survey finding of decreased employee loyalty in the context of stagnant wages relative to productivity, benefit cuts, and job insecurity.[85] Ultimately, moving from a DB to a DC plan has been found to result in loss of productivity compared to firms that kept their DB plans.[86] This may be due to increased turnover, as experienced and higher skilled employees are replaced with less experienced, less skilled employees.

DB Pensions Play an Important Role in Balancing Public Sector Compensation with the Private Sector

DB pension benefits must be understood in the context of total compensation. There has been a great deal of debate about public-private pay differentials, with studies producing divergent outcomes because of methodological differences. Studies that simply compare average compensation are fundamentally flawed in light of big differences in the makeup of private and public sector employment. Studies based on job descriptions tend to find a public sector advantage in pay, but raise key methodological problems given the lack of apples-to-apples private sector comparisons for many common public sector jobs. Rigorous studies that focus on worker characteristics such as education and skill level are particularly germane for considering impacts on labor force quality, recruitment, and retention. Those studies find that, as a group, the public sector workforce is paid less than their private sector counterparts given their education and skill level.

For instance, a CRR study found that total compensation—including wages and benefits—for public sector workers is 4 percent less than private sector workers.[87] Bender and Heywood found that "Over the last 20 years, the earnings for state and local employees have generally declined relative to comparable private sector employees, and that their total compensation including benefits is about 7 percent less.[88] Moreover, a larger share of public compensation is deferred through retirement benefits.

In particular, professional workers with advanced training take a substantial pay cut compared to private sector counterparts of equivalent education and skill. Not only are salaries higher in private firms, there are opportunities for additional compensation through bonuses, profit-sharing, and other perks that are not available in the public sector. Because DB pension benefits help offset this loss, pension cuts are likely to cause upward pressure on base pay for this group of workers over the long run if public employers wish to remain competitive.[89]

IV. Impact of Pension Freezes on Workers' Retirement Security

Employees experiencing a hard freeze of their DB pensions face a possible reduction in anticipated retirement incomes. Almeida and Fornia calculated that a DB pension could provide a given level of lifetime income in retirement for just over half the amount that one would need to save in a DC plan to generate the same benefit.[90] Thus, while a majority of workers who cease to earn future DB benefits start participating in an alternative program, often a DC plan such as a 401(k), the DC plan does not provide enough increased savings to make the employee whole. It is also important to consider the ramifications of reform for the 27.5 percent of public employees who are not covered by Social Security.[91] For most of these workers, a public sector DB pension is the only significant source of guaranteed income that they will have in retirement.

The consequences will vary for employees based on their age, years of service, and market returns.[92] Older workers near retirement are generally affected the least because they have already accrued most of their benefits and face just a few years of lower benefits after a pension freeze. Younger employees at an earlier stage in their careers have many decades for DC savings to accumulate, assuming adequate and consistent contributions; however, they still face significant risk of not meeting their retirement income goals. Mid-career employees generally have fewer years to allow their DC account savings to offset the losses due to a frozen DB pension.[93] Thus long-tenured, mid-career employees are the most likely to see the greatest reduction in anticipated income.

DC plans where employer contributions are contingent on employees making a contribution to the plan pose additional challenges for younger and mid-career employees. This may impair low-wage workers from restoring their projected income to the levels of the earlier plans since many not be able to afford additional savings.[94]

Munnell et al. illustrate that early-career employees can theoretically achieve the same retirement income through a 401(k) plan as a DB pension, assuming a given rate of investment return and adequate contributions, while mid-career employees face substantial losses. Theoretically, a newly hired 35-year-old worker can achieve similar retirement income replacement levels at age 62 through a DB pension or a DC plan. DB pension benefits based on a 27-year career with a 1.5 percent multiplier would replace 43 percent of pre-retirement earnings, and a typical 401(k) plan with a 50 percent matching employer contribution based on an employee contributing 6 percent of salary over the same length career would replace 44 percent of pre-retirement earnings.[95]

The study found that in contrast to the younger employees, a mid-career employee who sees his or her DB pension freeze at age 50 after 15 years of service faces a substantial reduction in total retirement income. Their now frozen DB pension will only replace 13 percent of their pre-retirement earnings while the total 9 percent of earnings contributed to the 401(k) account would accumulate to a nest egg that could only produce 15 percent of their pre-retirement pay. The 28 percent combined income replacement from the frozen DB plan and new DC account is more than one-third lower than the original full career DB pension benefit. Even if employees could more than double on their contributions to the 401(k) plan, they could not make up the difference in lost benefits.[96]

In addition, these calculations do not take into account the cost of the DB pension—which would likely be substantially lower than the 401(k) contributions in the above scenario—or the impact of market volatility on 401(k) retirement incomes on both early and mid-career employees.

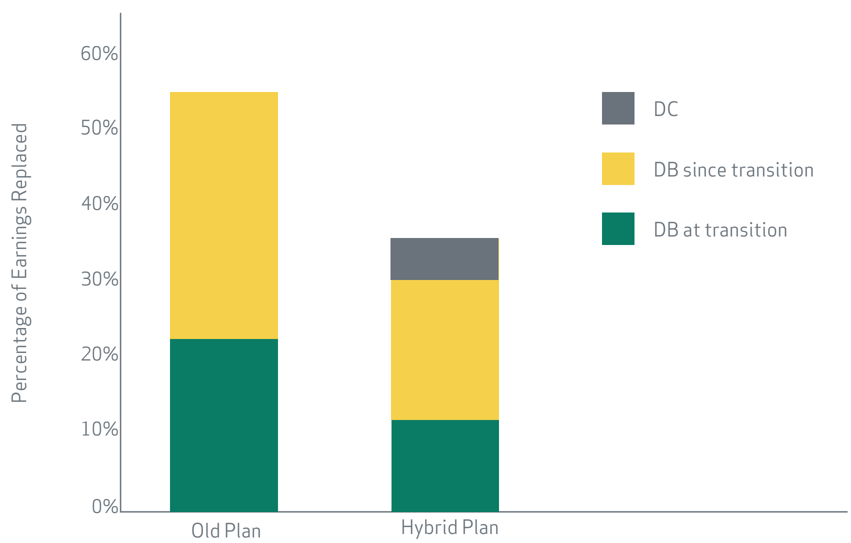
When retirement plan sponsors move from DB to DC plans, short service and younger employees may theoretically fare better under the new plan, but long service, mid-career employees will likely be the losers. Butrica et al. constructed a micro-simulation model to understand the potential magnitude on the retirement income of baby boomers under a worst case scenario. They assumed that over a 5-year period all private sector pensions and one-third of public sector pensions stop future accruals for all employees, and all employees are in the DC plan only.[97] Because many of the first baby boomers are now over age 60, the most significant impact would fall on the late wave boomers. The simulations indicated that 26 percent of the late wave boomers would have lower retirement incomes while 11 percent would likely see higher incomes.[98]

The case of Rhode Island illustrates how the above dynamics play out in a real-world pension freeze and the ramifications of benefit changes for workers at different stages of their careers. The state imposed a soft freeze on its DB pension for state employees and teachers in the context of a hybrid plan that took effect on July 1, 2012, reducing DB pension benefits for all current employees and retirees. Accrued benefits are fixed based on the current salary, while future benefits are based on a multiplier that is about half that of the old plan.

The Rhode Island treasurer's office released *An Employees Guide to Understanding the Rhode Island Retirement Security Act* (Guide), which outlines the changes in the state retirement systems but leaves many unanswered questions for mid-career employees. For example, the Guide's sample calculation of the "proportional downward adjustment" is for an older employee within two years of retirement. Publications issued by Treasurer Raimondo during the legislative consideration also focused on the less impacted employee groups of young and older workers.[99]

In testimony before the Rhode Island Assembly Joint Fiscal Committee, actuarial consultant William Fornia illustrated the impact of the plan design changes on the active group most likely to see the largest negative impact (Figure 5). For example, a 45-year-old teacher who anticipated retiring at age 62 with 30 years of service under the old plan would have been eligible for a retirement benefit that would replace 56.3 percent of pre-retirement income. Under the new hybrid plan's DB component, she would only replace only 31.1 percent of pre-retirement income, or about 45 percent less than the old plan. The amount accumulating in her new DC plan would be able to provide a lifetime income of just 5.6 percent of pre-retirement earnings.[100] Thus, the teacher would receive 35 percent less in retirement income, which would be similar to a 20 percent cut in pay.[101]

Figure 5:
Defined Benefit vs. Hybrid Plan Benefits
Typical Rhode Island Teacher, Age 45 with 13 Years of Service, Planning to Retire at 62



Source: Adapted from Fornia 2011.

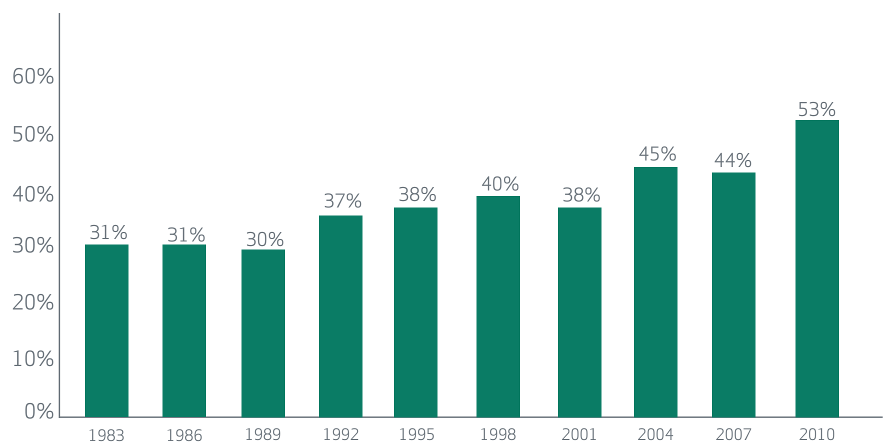
Conclusion

Both private and public employers face short-term pressure to consider closing or freezing their DB plans. However, there is no one-size-fits-all solution. In general, there are distinct regulatory, labor market, and business dynamics linked to the decline of pensions in the private sector that do not necessarily apply to state and local governments. Moreover, closing a pension and shifting to a DC plan for new hires is less cost-efficient compared to adjusting DB benefits or switching to a hybrid plan in which limited contributions continue to flow into the existing DB plan. Closing or freezing a plan is likely to lead to many unintended consequences that need to be considered. Indeed, many state level studies have found that closing a DB plan could cost substantially more than modifying it.[102]

There is a notable disconnect in policy debate about pensions for private and public employees. On the one hand, critics are calling for retirement benefits in the public sector to be brought in line with those in the private sector, where employers usually offer only a 401(k) plan if they offer a retirement plan at all. On the other hand, the press abounds with stories of inadequate 401(k) balances and the fact that a majority of American workers are projected to retire without enough income to meet basic expenses.

The shift from DB pensions to DC plans has factored into the dramatic increase in the share of households that are not on track to have adequate retirement income. Over the past two decades, the National Retirement Risk Index, which measures the ability of workers to maintain their standard of living in retirement, increased from 31 percent in 1983 to 53 percent in 2010 (Figure 6).[103] Employers are also worried; AonHewitt has found that only 4 percent of employers are "very confident" that their employees are on track to retire with sufficient assets.[104] Future demands on public assistance for the elderly could increase as more retirees without DB pensions are at risk of falling into poverty.[105]

Figure 6:
The National Retirement Risk Index, 1983-2010



Source: Munnell, Webb, and Golub-Sass 2012, Figure 2.

In addition to the direct financial impact of significantly scaling back DB pensions on employees, stakeholders need to consider the broader impact on state and local economies. Guaranteed retirement income streams, including DB pension benefits and Social Security, help stabilize consumption during economic downturns. In contrast, retirement income from DC accounts is pro-cyclical, increasing during growth periods and decreasing during economic downturns. This can have a destabilizing effect on the national and local economies.

A NIRS study on the economic impact of DB pension payments found large multiplier effects: every dollar paid out in pension benefits supports $2.37 in national economic output. In 2010, DB pension income supported 6.5 million jobs in the U.S., with the largest employment impact in the localized sectors of food services, real estate, health care, and retail trade.[106] A recent study by Ghilarducci, Saad-Lessler, and Fischer demonstrated that Social Security, especially the Old-Age Survivors Insurance program, reduces declines in economic output during economic downturns, while outflows from 401(k) accounts, which decrease during market downturns, contribute to economic instability.[107]

These broader considerations, in addition to those concerning employment relations and cost-efficiency presented in this brief, indicate that policy makers should pause to consider whether the direction in which much of the private sector has traveled in terms of retirement benefits is the right path to follow. So far, rather than simply abandon this human resources tool, state governments, like many of their counterparts who are large private sector employers, have determined that modifications to the existing DB plan provide better short- and long-term sustainability of pensions.

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State&Local Pensions

An Overview of Funding Issues and Challenges







January 2013

Center for State & Local Government Excellence

State&Local Pensions

An Overview of Funding Issues and Challenges

Retirement security, important for all Americans, has been especially important in attracting and retaining public servants. Public sector workers generally have accepted more modest wages in exchange for more generous retirement benefits.

While there has been substantial focus on the unfunded pension liabilities of state and local governments, the issues are often not presented in perspective. For example, the extent of public pension liabilities varies widely among the states and local governments. Some pension plans are fully funded, while others have seen their funding levels drop below 80 percent. In most cases, pension funding shortfalls are the result of the cyclical nature of the economy, which was particularly severe in the 2008–2009 period. In a minority of cases, unfunded liabilities can be directly traced to the failure of public officials to properly fund the pension system over a period of many years.

This primer lays out key facts about public pension plans, how they compare with the private sector, and what kinds of reforms are taking place to restore pension plan health. It does not address retiree health care funding issues, which have a different legal and structural framework.

The Funding of State and Local Pensions: 2011–2015

Defined benefit pension plan funding is based on assumptions developed and certified by enrolled actuaries. There are two types of assumptions: demographic and economic. Demographic assumptions include projected behaviors such as salary growth, mortality, and length of service. Economic assumptions include inflation and investment returns.

Using these assumptions, actuaries develop projections regarding the level of pension fund assets required to pay future liabilities. Then, based on these projections, they calculate the Annual Required Contribution (ARC) needed from the pension fund sponsor to bring the fund into balance over a specified period of time. The ARC includes the so-called "normal cost," which is the projected growth in the present value of benefits generated by active employees in the coming year. It also includes any payment required to address unfunded liabilities, which are typically calculated over a 30-year amortization period.

If a plan diligently funds the ARC on an annual basis, and demographic and economic projections prove to be accurate in the long term, the pension plan will be fully funded. However, in the event contributions are not made, and/or the plan experiences adverse shocks, such as a financial downturn, assets will fall below the present value of promised obligations and the plan will report unfunded liabilities. It is also possible that the plan will experience favorable shocks, such as the stock market boom of the 1990s, and become "over-funded."

A key benchmark for evaluating the viability of a public plan is the sponsor's history of making ARC payments. Another important factor is the history of the ARC as a percentage of payroll; i.e., no long-term upward trend. The ARC has increased significantly in the last two years, largely due to the economic downturn. In 2011, the ARC was 15.7 percent of payroll.[1]

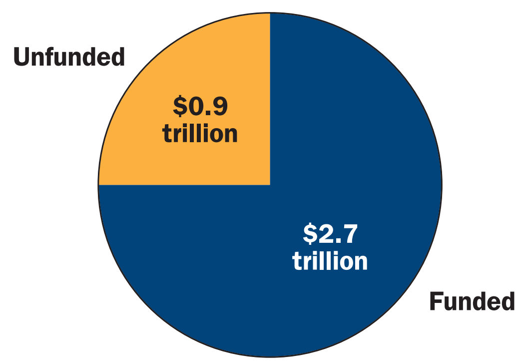
Economic assumptions are rarely realized in the short term. However, over the multi-decade history of public sector pensions, economic assumptions have been largely accurate. The most volatile assumption, and hence the assumption most likely to be inaccurate on a "snapshot basis," is the investment return assumption. As the chart below demonstrates, the major public sector pension plans have exceeded their assumed investment return over the long term.

The financial crisis reduced the value of equities in state and local defined benefit pensions just as it did for private sector 401(k) and defined benefit pension plans. When this occurs, the result will be unfunded liabilities.

The 2011 unfunded liability for the sample of 126 plans is more than $900 billion. To pay off that amount over 30 years, the generally accepted amortization period, would require contributions to increase by about 2 percent of payrolls.

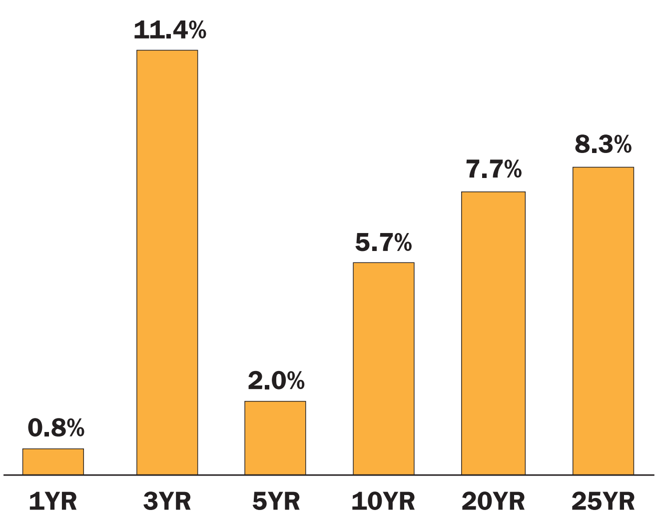
There is a consensus that plans should maintain discipline about making their ARC and should strive to reach full funding. States and local governments are taking steps to strengthen pension funding because many plans have slipped below 80 percent funding. Those plans that do not maintain fiscal discipline can become severely underfunded, creating serious fiscal problems. Although many of the poorly funded plans are relatively small, several large plans, such as three plans in Illinois (SERS, Teachers, and Universities) and Connecticut (SERS), had funding levels below 60 percent. Although employees have made contributions to these plans, the state governments did not consistently make their ARC. These plans will now need substantially larger increases in contributions to get their plans on sound financial footing.

Figure 2. *Funding of Aggregate Pension Liability, 2011*



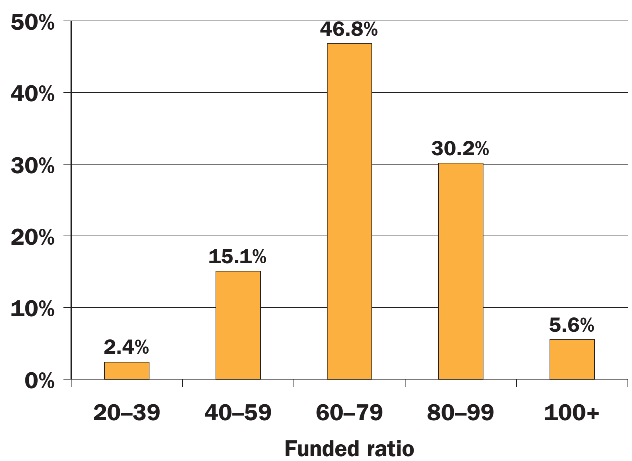
Source: Estimates based on *Public Plans Database* (PPD).

Figure 1. *Median public pension annualized investment returns for period ended 12/31/2011*



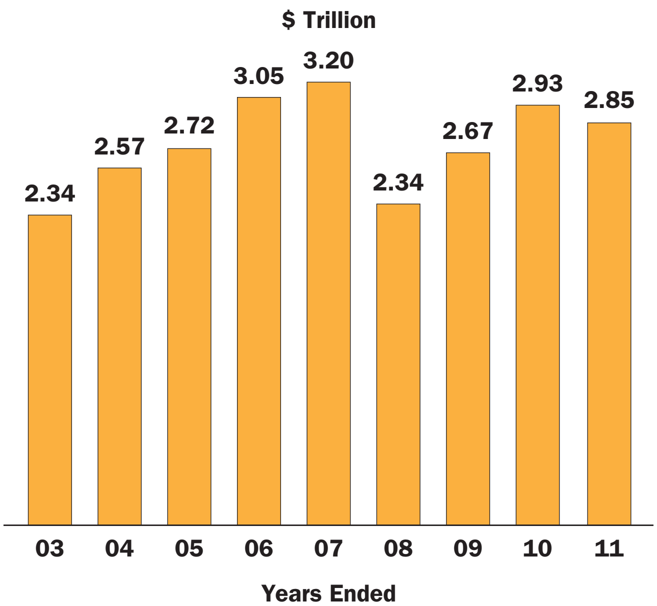
Source: Data—Callan Associates/Chart—NASRA Issue Brief, 8/27/2012

Figure 3. *Distribution of Funded Ratios for Public Plans, 2011*



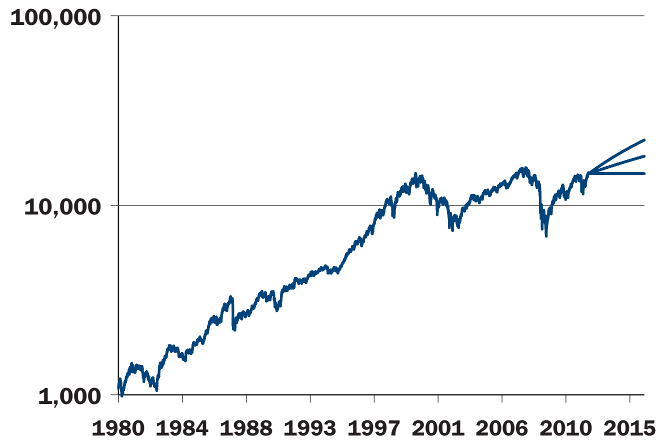
Sources: Various 2011 actuarial valuations; and BC-CRR calculations from the *Public Plans Database* (2010).

Figure 4. *Value of State and Local Government Defined Benefit Assets*



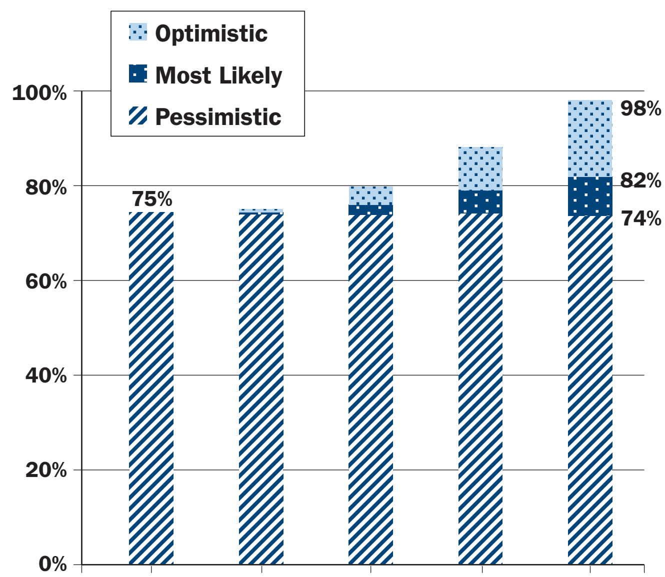
Source: U.S. Federal Reserve, compiled by NASRA.

Figure 5. *Dow Jones Wilshire 5000 Index, 1980–2011, and Projections for 2012–15 under Alternative Assumptions*



Sources: Wilshire Associates (2012) and BC-CRR projections.

Figure 6. *Projected State and Local Funding Ratios Under Three Scenarios, 2011–2015*



Source: BC-CRR estimates for 2011–2015 based on *Public Plans Database.*

Retired state and local government employees are typically paid from public pension trust funds, which have some $2.7 trillion in assets. According to the US Census Bureau, public pension funds distributed $213.8 billion in benefits in 2010 to more than 8.2 million Americans, paying an average yearly benefit of $25,925.

Projections for 2012–2015

While funding ratios for 2011 were the lowest they have been in 15 years, reported numbers are likely to improve slightly between 2013 and 2015 as losses in earlier years are phased out and years with gains are phased in. The precise pattern of future funding will depend on what happens to plan investments and over what period plans recognize investment gains and losses.

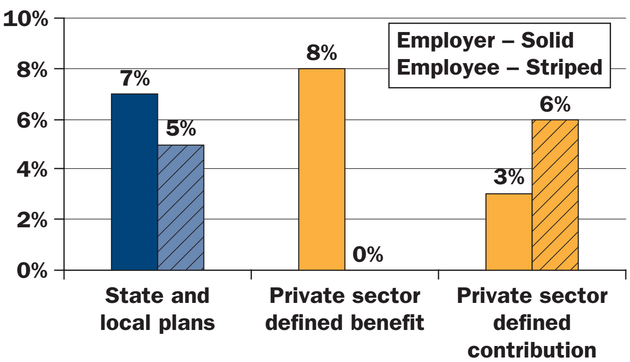
Most plans phase in investment gains and losses over five years, but the period varies from one year to 15. The reason that plans smooth gains and losses is to reduce volatility in contribution rates. Researchers at Boston College's Center for Retirement Research estimate that aggregate funding ratios will increase to 82 percent by 2015 under the most likely scenario.[2]

Comparing State and Local Pensions with Private Plans

Public and private pensions had similar and much higher funding levels before the downturn in equities reduced retirement assets for all Americans.[3] The aggregate funding level of public plans declined from 84 percent in 2008 to 75 percent in 2011, after factoring in the investment losses from the stock market decline. Public and private plan fund comparisons are inexact because private plans have different funding rules, many private plans have been terminated or frozen, and public pension plans often "smooth" investment gains or losses over a three- to five-year period. Thus, public plans that "smooth" showed further declines as asset losses from the 2008–2009 market were fully recognized. Similarly, the strong market rebound over the 2009–10 period will be "smoothed" or recognized over a three- to five-year period.

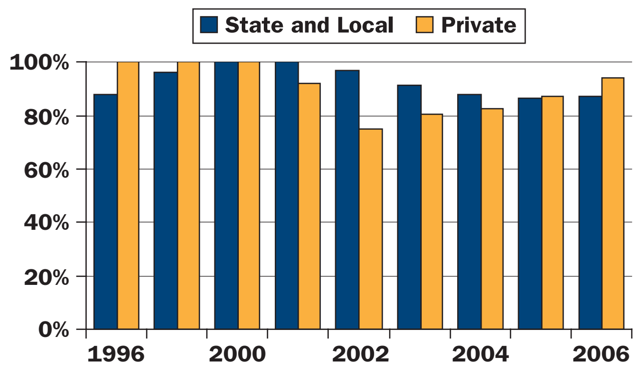
There are significant differences in how public and private employees and employers address retirement savings. For example, unlike their private sector counterparts, it is typical for public employees to contribute to their defined benefit pension plan. All private sector employees participate in Social Security, while 30 percent of state and local employees do not.

Figure 7. *Employer and Employee Contribution Rates, by Sector, 2006*



Note: The state and local employer contribution rate reflects the average rate from 2002 to 2006 for Social Security eligible employees only. The rates for those without Social Security averaged 10.5 percent for the employer and 8 percent for the employee.
Sources: Brainard (2007); Munnell and Sundén (2004); and Munnell and Soto (2004).

Figure 8. *Funding Ratios of Pension Funds, by Sector, 1996–2006*



Sources: BC-CRR calculations from Zorn (1996–2000); National Association of State Retirement Administrators (2001–2007); and Standard and Poor's (1996–2006).

Characteristics of private sector retirement plans

- Roughly one-half of private sector workers have a retirement plan—usually a 401(k)—although a minority has a defined benefit pension plan.
- Private sector employees who are in traditional defined benefit pension plans typically do not contribute to the plan.
- The Employee Retirement Income Security Act of 1974, changes in the tax code, accounting practices, and personnel management systems of private sector employers prompted many private sector sponsors to convert from defined benefit plans to 401(k)s.
- All private sector employees participate in Social Security.

Characteristics of public sector retirement plans

- Most public employees have a defined benefit plan and contribute to it.
- 70 percent of public workers are covered by Social Security.
- Retirement benefits tend to be higher compared with private plans and often include a cost of living adjustment (COLA).
- Starting in 1986, state and local governments have followed the accounting standards set by the Governmental Accounting Standards Board (GASB) to report their benefit obligations and pension fund assets.
- Bond raters consider whether GASB standards are followed in assessing credit standing.
- Often there is a different plan for teachers, general government, or public safety employees.

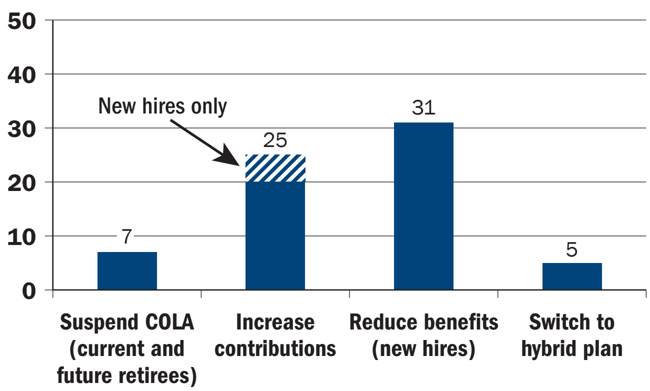
Addressing Pension Issues

Local and state governments have enacted major changes in retirement plans over the last decade, and the pace of change has increased in the last two years. According to the National Conference of State Legislatures, 43 states enacted major changes in state retirement plans for many groups of employees from 2009–2011. The most common changes have been to increase employee contributions to pensions or to establish different tiers of benefits for newly hired employees. New hires might have higher vesting requirements, longer service requirements, a later retirement age, and/or a lower pension. There also are more restrictions on retired public workers returning to covered service while continuing to receive their retirement benefit.[4]

The average funding ratio for 126 retirement plans in the Public Plans Database fell from a record high of 103 percent of accrued liabilities in 1999 to 76 percent in 2010. Funded levels among plans vary widely; 46.8 percent have funded levels between 60–79 percent, while 5.6 percent remain over 100 percent funded and 17.5 percent have a funded ratio below 60 percent.

Although most pension changes have reduced benefits for new hires, some states increased benefits during this period of time, including Vermont teachers (2010) and Maryland teachers and state employees (2006). Formula benefit increases were enacted in 11 states in 2001.

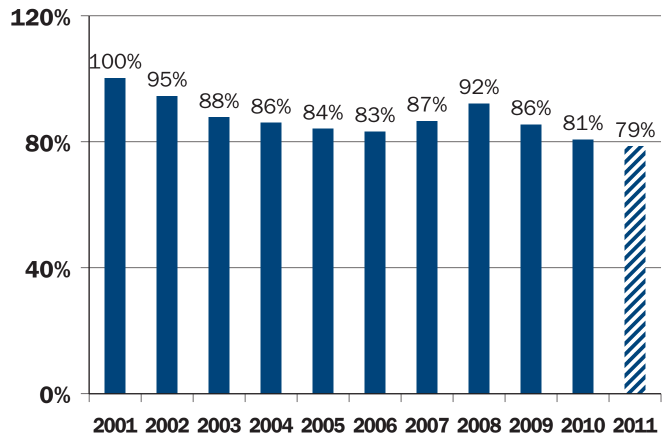
Figure 9. *Number of States Making Changes to State or Local Pensions in the Wake of the Financial Crisis*



Source: National Conference of State Legislatures (2008–2011); and Bradford (2012).

Most benefit reductions apply solely to new employees so they do not affect the current funding status of the plan. Generally speaking, the changes address the specific facts and circumstances of the state's plan. As with any changes that affect employees, policy leaders seek to balance fiscal pressures with a competitive benefit package that will attract and retain the people they need to deliver essential services.

Figure 10. *Percent of Annual Required Contribution Paid, 2001–2011*



Note: 2011 is BC-CRR estimate.
Sources: Various 2011 actuarial valuations; and *Public Plans Database* (2001–2010).

Because of the severe economic downturn, state and local revenues have not yet fully recovered, making it more difficult for governments to make their full payment on their annual required contribution (ARC) to the government pension plan. Plans in the sample studied paid 81 percent of their ARC in 2010. The ARC is increasing for virtually all plans due to the growth in unfunded liabilities related to the 2008 investment losses. In 2011, plans are estimated to pay 79 percent of the ARC.

The Center for State and Local Government Excellence found in its 2012 survey of human resources managers that 37 percent of governments had made changes in their retirement plans in the last year. Governments often face legal constraints in making changes to retirement plans, particularly if those changes are directed at current employees. Although most plans can increase employee contributions, Kansas and Iowa must obtain legislative approval before doing so.

Retirement Plan Design: What Works

Sound management of retirement plans is essential to protect taxpayer interests and to ensure retirement security for employees.

To minimize a government's exposure to potential loss in its financial management practices, the Government Finance Officers Association issued an advisory in 2010 that emphasizes the importance of certain practices:

- **Make annual required contributions.** Employers that skip payments or make smaller payments than required can harm the long-term funding health of the plan. This shifts the burden of paying for the benefit to future generations.
- **Establish appropriate full-retirement ages.** Plan sponsors should evaluate their normal retirement ages and make appropriate adjustments, if needed, to reflect increased life expectancy, the productivity benefits of retaining experienced workers, and the availability of early, unreduced retirement options. Public pension plans cover a range of employees. Police, firefighters, and other public safety personnel, for example, have physically demanding jobs so their retirement plans allow retirement at earlier ages. Employers must make decisions about the preferred length of a career and design their pension plans to reflect these workforce realities.
- **Be realistic about investment assumptions.**
- **Avoid retroactive benefits increases.**
- **Avoid pension formulas that allow the inclusion of extraordinary income into the formula on which pension benefits are based.** Such practices, often called pension "spiking," are widely viewed as improper as well as costly.

There are no easy solutions to the pension funding challenge. Whatever approaches governments choose, they will need to take a long view and fully consider the complexities of workforce planning and retirement security.

GASB's New Pension Accounting Standards Add Complexity

The Governmental Accounting Standards Board (GASB) released new standards in 2012 that focus entirely on how state and local governments should account for pension benefit costs. However, they do not address how employers should calculate the annual required contribution (ARC). To help fill that gap, the national associations representing local and state governments established a Pension Funding Task Force to develop policy guidelines.

The framework for the policy guidelines states that state and local governments should have a pension funding plan that is based on an actuarially determined ARC. The government's funding policy should address three core elements: (1) actuarial cost method, (2) asset smoothing, and (3) amortization policy. Governments likely will need to strike a balance between competing policy objectives and determine the most appropriate time frame in which to meet their goals.

The Pension Funding Task Force recommends that governments address five general policy objectives:

1) Base pension funding policy on actuarially determined ARC
2) Be disciplined about funding so that promised benefits can be paid
3) Maintain intergenerational equity
4) Manage employer costs so they are a consistent percentage of payroll
5) Have clear reporting that shows how and when plans will be fully funded.

The new accounting standards from GASB are likely to create confusion. GASB Statement No. 67, *Financial Reporting for Pension Plans* takes effect for pension plan fiscal years beginning after June 15, 2013 (FYE's ending on or after 6/30/2014). GASB Statement No. 68, *Accounting and Reporting for Pensions* applies to employers (and contributing nonemployer) in fiscal years beginning after June 15, 2014 (FYE's ending on or after 6/30/2015).

The new GASB rules require employers to recognize an unfunded pension obligation on their balance sheet. A new measure of pension expense must be calculated that may have little relation to the actuarially determined contribution. The new GASB "net pension liability" and "pension expense" will likely be larger and more volatile than the current GASB measures of the unfunded actuarial accrued liability and annual pension cost. Under prior GASB statements, there was a close link between accounting and funding measures. That link has now been broken.

Endnotes

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2 Ibid, p. 7. http://www.slge.org.

3 Munnell, Alicia H. and Mauricio Soto, *State and Local Government Pensions are Different from Private Plans,* Center for State and Local Government Excellence. November 2007, p. 7. http://www.slge.org.

4 Snell, Ron, *State Pension Reform, 2009–2011*, National Conference of State Legislatures, March 2012.

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Additional Resources

National Association of Retirement System Administrators
http://www.nasra.org

National Institute for Retirement Security
http://www.nirsonline.org/

National Education Association
http://www.nea.org/assets/docs/CharacteristicsLargePubEdPensionPlans2010.pdf

The Center for State and Local Government Excellence thanks AFSCME, AFT, BCCRR, GFOA, ICMA-RC, NASRA, NCSL, NEA, and SEIU for their assistance and support in developing this pension primer.

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Helping state and local governments become knowledgeable and competitive employers

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