



ND TFFR BOARD MEETING

Thursday, September 24, 2020, 1:00 p.m.
RIO Conference Room (**Virtual Meeting Host**)
Teleconferencing – 701.328.0950 Participant Code – 177 627 676#
3442 East Century Avenue, Bismarck, ND

AGENDA

- I. **CALL TO ORDER AND ACCEPTANCE OF AGENDA**
 - A. Executive Summary
- II. **ACCEPTANCE OF MINUTES (July 23, 2020)**
- III. **BOARD EDUCATION**
 - A. Callan Presentation “Asset Liability Analysis: How, Why and What For” – (Ms. Moriarty & Mr. Browning) (45 minutes) *Informational*
 - B. Retirement Plan Types – Ms. Murtha (15-20 minutes) *(to follow)*
 - C. Board Member Training Discussion - President Lech (10-15 minutes) *Informational*
- IV. **GOVERNANCE**
 - A. Annual SIB Customer Satisfaction Survey - President Lech (5 minutes) *Informational*
 - B. Employee Benefits Programs Committee Update & Proposed Legislation – Ms. Murtha (10 minutes) *Board Action*
- V. **REPORTS**
 - A. Annual TFFR Investment Report - Mr. Hunter (15 -20 minutes) *Board Action*
 - B. Annual Internal Audit Report - Ms. Sauter (5-10 minutes) *Board Action*
 - C. Annual Benefit Payment Audit - Ms. Thorsen (15-20 minutes) *Board Action*
 - D. Annual Budget and Expense Report – Ms. Flanagan (15 minutes) *(to follow)*
 - E. Quarterly Monitoring Report on TFFR Ends – Ms. Murtha (10 minutes) *Board Action*
- VI. **PAS PROJECT UPDATE – Ms. Murtha (15 minutes) *Informational***
- VII. **CONSENT AGENDA – Disability Retirement Application – Ms. Murtha (5 minutes) *Board Action*¹**
- VIII. **OTHER BUSINESS**
 - A. Board Reading Materials – *Material References Included (to follow)*
 - B. Next Meeting:
 1. TFFR Regular Board Meeting Thursday, November 19, 2020 at 1:00p.m.- *Virtual*
- IX. **ADJOURNMENT**

Any individual requiring an auxiliary aid or service, please contact the Retirement and Investment Office (701) 328-9885 at least three (3) days prior to the scheduled meeting.

¹ Executive Session possible if Board discusses confidential member information under N.D.C.C. 15-39.1-30.



EXECUTIVE SUMMARY

TFFR Board Regular Meeting

September 24, 2020 – 1 pm CT

-
- I. **Agenda:** The **September Board Meeting will be held via video conference.** The board member video link is included in the email with the Board materials. There will be a call in number for the public.
 - II. **Minutes:** The July 23, 2020 Board meeting minutes are included for review and approval.
 - III. **A. Board Education:** Members of the Callan team will provide board education on asset liability analysis in preparation for the asset liability allocation discussion scheduled for the November meeting.
B. Board Education: Ms. Murtha will provide a short board education presentation on different types of retirement plans in preparation for the upcoming legislative session.
C. Board Member Training Discussion: President Lech will invite board members to share their respective training experiences and insights gained over the last year.
 - IV. **A. Governance – Annual SIB Customer Satisfaction Survey:** President Lech will present the results of the this survey.
B. Governance –Employee Benefits Programs Committee Update: Ms. Murtha will discuss the presentation to and comments from the EBPC relating to proposed legislation.
 - V. **Reports:** The Board will receive the following quarterly and annual reports: annual TFFR investment report, annual internal audit report, annual benefit payment audit report, annual budget and expense report and the quarterly monitoring report on TFFR ends.
 - VI. **PAS PROJECT RFP RESPONSE DISCUSSION:** Ms. Murtha will provide the Board with a brief update regarding the notice of award for consultant services in the PAS project.
 - VII. **CONSENT AGENDA – Disability Retirement:** The Board will be provided with one application for review.

Other Business and Adjournment to follow.

**NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
JULY 23, 2020 BOARD MEETING**

BOARD MEMBERS PRESENT: Rob Lech, President
Mike Burton, Vice President
Kirsten Baesler, State Supt. DPI
Toni Gumeringer, Trustee
Cody Mickelson, Trustee
Mel Olson, Trustee
Kelly Schmidt, State Treasurer

STAFF PRESENT: David Hunter, ED/CIO
Missy Kopp, Retirement Assistant
Jan Murtha, Deputy ED/CRO
Rich Nagel, IT Program Supvr
Sara Sauter, Supvr of Internal Audit
Dottie Thorsen, Internal Auditor
Denise Weeks, Retirement Program Mgr

OTHERS PRESENT: Karen Askerooth, ND United, Retired
Dean DePountis, Atty. General's Office

CALL TO ORDER:

Dr. Rob Lech, President of the Teachers' Fund for Retirement (TFFR) Board of Trustees, called the meeting to order at 1:00 p.m. on Thursday, July 23, 2020. The meeting was held at the ND Retirement and Investment Office (RIO), Bismarck, ND, but most participants attended via video or teleconference.

THE FOLLOWING MEMBERS WERE PRESENT REPRESENTING A QUORUM: MR. BURTON, MS. GUMERINGER, PRES. LECH, MR. MICKELSON, MR. OLSON, AND TREASURER SCHMIDT.

ACCEPTANCE OF AGENDA:

The Board considered the agenda for the July 23, 2020, meeting.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MR. MICKELSON AND CARRIED BY A VOICE VOTE TO APPROVE THE AGENDA AS DISTRIBUTED.

AYES: TREASURER SCHMIDT, MR. BURTON, MR. MICKELSON, MS. GUMERINGER, MR. OLSON, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

MINUTES:

The Board considered the minutes of the June 25, 2020, meeting.

IT WAS MOVED BY MS. GUMERINGER AND SECONDED BY MR. MICKELSON AND CARRIED BY A VOICE VOTE TO APPROVE THE JUNE 25, 2020, MINUTES AS AMENDED.

AYES: MR. MICKELSON, MR. OLSON, TREASURER SCHMIDT, MR. BURTON, MS. GUMERINGER, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

GOVERNANCE:

Trustee Appointment:

Ms. Murtha informed the Board that Governor Burgum has reappointed Dr. Lech to the TFFR Board of Trustees, representing active school administrators for a 5-year term effective July 1, 2020, through June 30, 2025.

Election of 2020-21 Officers:

Pres. Lech opened the floor for nominations for officers of the TFFR Board.

MR. OLSON NOMINATED DR. LECH FOR PRESIDENT. WITH NO FURTHER NOMINATIONS, TREASURER SCHMIDT MADE A MOTION FOR A UNANIMOUS BALLOT, MR. MICKELSON SECONDED. MOTION CARRIED BY A VOICE VOTE.

AYES: TREASURER SCHMIDT, MS. GUMERINGER, MR. OLSON, MR. BURTON, AND MR. MICKELSON.

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

MR. OLSON NOMINATED MR. BURTON FOR VICE PRESIDENT. WITH NO FURTHER NOMINATIONS, TREASURER SCHMIDT MADE A MOTION FOR A UNANIMOUS BALLOT, MR. MICKELSON SECONDED. MOTION CARRIED BY A VOICE VOTE.

AYES: MS. GUMERINGER, MR. MICKELSON, MR. OLSON, TREASURER SCHMIDT, AND PRES. LECH.

MOTION CARRIED

ABSENT: SUPT. BAESLER

TREASURER SCHMIDT NOMINATED PRES. LECH, MS. GUMERINGER, AND MR. OLSON AS REPRESENTATIVES TO THE STATE INVESTMENT BOARD (SIB) BOARD. WITH NO FURTHER NOMINATIONS, MR. BURTON MADE A MOTION FOR A UNANIMOUS BALLOT, MR. OLSON SECONDED. THE MOTION WAS CARRIED BY A VOICE VOTE.

AYES: MR. OLSON, MR. MICKELSON, MS. GUMERINGER, TREASURER SCHMIDT, MR. BURTON, AND PRES. LECH

MOTION CARRIED

ABSENT: SUPT. BAESLER

Pres. Lech will continue to serve as the Audit Committee representative and Mr. Burton will continue to be the alternate for SIB.

Annual SIB Customer Satisfaction Survey:

Pres. Lech outlined the process which will be used to collect TFFR Board input on the SIB customer satisfaction survey. The purpose of the survey is to determine how well the SIB, through the staff at RIO, is meeting the expectations of its clients. Ms. Sauter, Supervisor of Internal Audit, will send an electronic satisfaction survey to Pres. Lech to distribute to the Board members. The compiled responses will be reviewed at the September 2020 meeting and sent to the SIB upon approval.

Annual TFFR Program Review:

Ms. Murtha reviewed the following items as part of the Annual TFFR Program Review: program awards, program monitoring summary, customer satisfaction reports, code of conduct policy affirmations, and mission/policy/goals review. Board discussion followed.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. MICKELSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE ANNUAL PROGRAM REVIEW.

AYES: TREASURER SCHMIDT, MS. GUMERINGER, MR. OLSON, MR. BURTON, MR. MICKELSON, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

REPORTS:

Investment Update:

Mr. Hunter provided an investment update for the periods ended March 31, 2020, and May 31, 2020. TFFR investments have exceeded \$2 billion the last 5-years and excess return have generally exceeded 0.40% per annum. TFFR's use of active management has enhanced Net Investment Returns by \$40 million for the 5-years ended December 31, 2019.

Markets faced unprecedented disruption in quarter one of 2020 because of the COVID-19 pandemic. U.S. and Global equities fell by over 30% in one month.

Asset allocation is the primary driver of investment returns. Although U.S. Fixed Income was the top performing asset class in the last year, U.S. Large Cap Equities were the top performing sector over the last 3,

5, and 10 year periods ended March 31, 2020, which supports TFFR's long term asset allocation policy.

TFFR's Actual Asset Allocations were within 3.5% of target as of March 31, 2020, but at the lower bounds of their ranges for Equities. As a result, the SIB approved an Equity Overlay strategy to rebalance the portfolio to target levels during the second quarter.

Investment volatility hit an all-time high in 2020 as the longest bull market in history was immediately followed by one of the fastest bear market corrections. TFFR returns gained 18% in 2019 before losing 12% in quarter one of 2020 as their diversified portfolios served to dampen roughly 40% of the equity market volatility. TFFR returns materially improved in April and May due to a strong equity market recovery with fiscal year to date net investment returns of approximately +1.5% as of May 31, 2020.

IT WAS MOVED BY MR. BURTON AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY INVESTMENT REPORT.

AYES: MS. GUMERINGER, MR. MICKELSON, TREASURER SCHMIDT, MR. BURTON, MR. OLSON, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

Supt. Baesler joined the meeting at 2:06 p.m.

Audit Report:

Ms. Sauter provided an update of audit activities for the second and third quarters of 2019-20. During this time the following audits activities were completed: Executive Limitation Audit, External Audit Support, Administrative Expense Audit, TFFR Employer Salary Reviews, Salary Verification Audit, File Maintenance, Benefit Payment Audit, Data Analytics, Cash Management and Rebalancing Audit, Internal Control Assessment, and Task List Project. Board discussion followed.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MS. GUMERINGER AND CARRIED BY A VOICE VOTE TO APPROVE THE QUARTERLY AUDIT REPORTS.

AYES: SUPT. BAESLER, MR. BURTON, MS. GUMERINGER, MR. OLSON, TREASURER SCHMIDT, MR. MICKELSON, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

File Maintenance Report:

Ms. Thorsen provided information on the TFFR File Maintenance Audit. The Internal Audit Division (IA) reviews system generated CPAS audit tables

on an annual basis to ensure transactions initiated by staff are expected and appropriate given a staff member's role within RIO. Board discussion followed.

IT WAS MOVED BY MS. GUMERINGER AND SECONDED BY MR. BURTON AND CARRIED BY A VOICE VOTE TO APPROVE THE ANNUAL FILE MAINTENANCE REPORT.

AYES: TREASURER SCHMIDT, MR. OLSON, MR. BURTON, MR. MICKELSON, MS. GUMERINGER, SUPT. BAESLER, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

Technology Report:

Mr. Nagel provided the annual technology report. As of July 1, 2020, about 5,100 members have successfully logged into the Member Online Portal. Over the past year the 1099R Form, Annual Statement, and Benefit Change Notices have been added to the portal. The Information Technology Division (IT) transitioned most RIO staff to remote work in response to the COVID-19 pandemic. IT has been working on a new website utilizing the new state website platform. Board discussion followed.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MR. MICKELSON AND CARRIED BY A VOICE VOTE TO APPROVE THE ANNUAL TECHNOLOGY REPORT.

AYES: MR. BURTON, SUPT. BAESLER, MR. MICKELSON, MS. GUMERINGER, MR. OLSON, TREASURER SCHMIDT, AND PRES. LECH

NAYS: NONE

MOTION CARRIED

OPERATIONS:

Member Outreach Update:

Ms. Weeks provided an update on TFFR member outreach programs. Due to the COVID-19 pandemic, face-to-face workshops (Retirement Education Workshops and Group Benefit Counseling) have been cancelled. Retirement Services and IT are working to determine the best way to present these workshops in an online format. Board discussion followed.

CONSENT AGENDA:

Pres. Lech and Mr. Mickelson declared that there was a possible conflict of interest for Disability 2020-5D because they both know the member through their place of employment.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO ALLOW PRES. LECH AND MR. MICKELSON TO VOTE ON DISABILITY 2020-5D.

AYES: TREASURER SCHMIDT, MR. BURTON, MS. GUMERINGER, AND MR. OLSON

NAYS: NONE
MOTION CARRIED
ABSENT: SUPT. BAESLER

IT WAS MOVED BY MR. OLSON AND SECONDED BY MR. BURTON AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE CONSENT AGENDA WHICH INCLUDES DISABILITY 2020-4D AND 2020-5D.

AYES: MR. OLSON, MS. GUMERINGER, MR. MICKELSON, TREASURER SCHMIDT, MR. BURTON, AND PRES. LECH.

NAYS: NONE
MOTION CARRIED
ABSENT: SUPT. BAESLER

PENSION ADMINISTRATION SYSTEM (PAS) PROJECT RFP RESPONSE DISCUSSION:

Ms. Murtha stated that the PAS project Request for Proposal (RFP) response discussion must be discussed in Executive Session. The purpose of the Executive Session is to discuss responses to the RFP and contract negotiations. The legal authority for closing this portion of the meeting is N.D.C.C. 54-44.4-10, 44-04-17.1, 44-04-18.4, 44-04-19.1, and 44-04-19.2.

IT WAS MOVED BY MS. GUMERINGER AND SECONDED BY MR. MICKELSON AND CARRIED BY A ROLL CALL VOTE TO ENTER INTO EXECUTIVE SESSION.

AYES: TEASURER SCHMIDT, MR. BURTON, MR. MICKELSON, MS. GUMERINGER, MR. OLSON, AND PRES. LECH

NAYS: NONE
MOTION CARRIED
ABSENT: SUPT. BAESLER

Executive Session began at 3:05 p.m. and ended at 3:24 p.m. It was attended by the TFFR Board, RIO staff members, and TFFR legal counsel Dean DePountis.

RIO staff will act in a manner consistent with guidance given by the Board.

ADJOURNMENT:

With no further business to come before the Board, President Lech adjourned the meeting at 3:26 p.m.

Respectfully Submitted:

Dr. Rob Lech, President
Teachers' Fund for Retirement Board

Missy Kopp
Reporting Secretary

September 24, 2020



North Dakota Teachers Fund For Retirement

Asset Liability Analysis:
A Primer

Alex Browning
Fund Sponsor Consulting

Paul Erlendson
Fund Sponsor Consulting

Julia Moriarty, CFA
Capital Market Research

Objective of the Study

The objective of an asset-liability study is to determine an appropriate long-term mix between return-seeking assets (e.g., equities, real assets, alternatives) and risk-mitigating assets (fixed income)

- 80-90% of funded status volatility is driven by the broad asset allocation decision

Asset allocation will vary by the unique circumstances of the plan

- No “one-size-fits-all” solution exists

Asset-liability studies helps NDTFFR quantify the impact that different strategies might have on relevant metrics

Factors to consider:

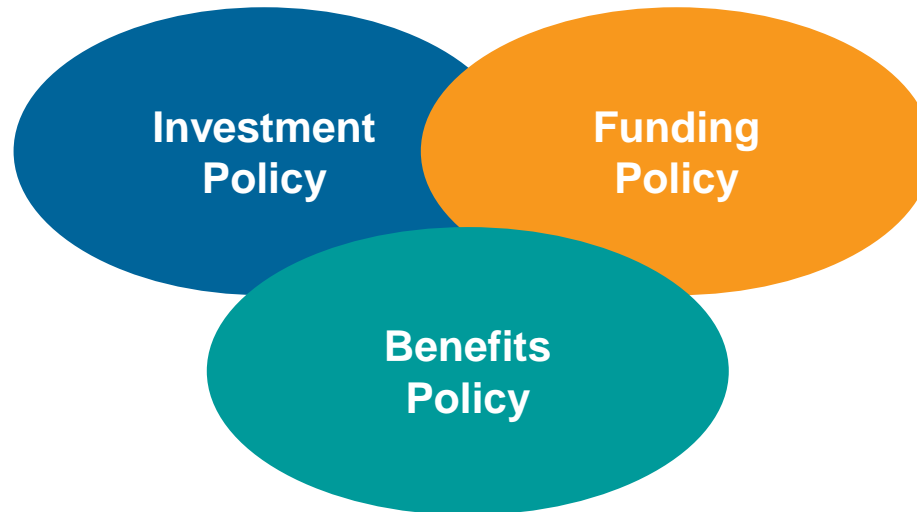
- Liability characteristics
- Funded status
- Contribution policy
- Time horizon
- Liquidity needs

Where Does Asset Allocation Fit In?

Evaluate the interaction of three key policies to identify the optimal investment policy

Investment Policy

- How will the assets supporting the benefits be invested?
- What risk and return objectives?
- How to manage cash flows?



Funding Policy

- How will the benefits/deficits be paid for (funded)?
- What are the actuarial assumptions to use?

Benefits Policy

- What type/kind of benefits?
- What level of benefit?
- When and to whom are they payable?

Callan Asset-Liability Modeling Process

Asset Modeling

Define Capital Market Assumptions

Create Asset Mix Alternatives

Liability Modeling

Define Liability Assumptions

Build Actuarial Liability Model

Simulate Financial Conditions

Define Risk Tolerance

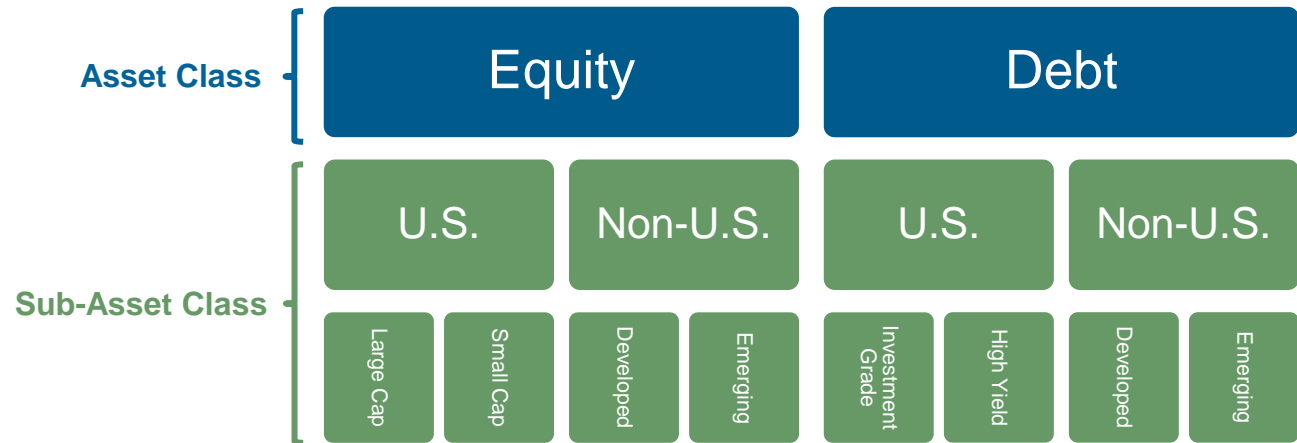
Select Appropriate Target Mix

The Focus is on Broad Asset Classes

Breakdowns between investment styles within asset classes (growth vs. value, large cap vs. small cap) are best addressed in a manager structure analysis.

Primary asset classes and important sub-asset classes include:

- U.S. Stocks
- U.S. Bonds
- Non-U.S. Stocks
- Non-U.S. Bonds
- Real Estate
- Private equity
- Absolute return
- Cash



Callan Capital Market Assumptions

Risk and return: 2020–2029

Asset Class	Index	Projected Return*	Projected Risk
Equities			
Broad U.S. Equity	Russell 3000	7.15%	18.10%
Large Cap U.S. Equity	S&P 500	7.00%	17.70%
Small Cap U.S. Equity	Russell 2500	7.25%	21.20%
Global ex-U.S. Equity	MSCI ACWI ex USA	7.25%	20.50%
Developed ex-U.S. Equity	MSCI World ex USA	7.00%	19.70%
Emerging Market Equity	MSCI Emerging Markets	7.25%	25.70%
Fixed Income			
Short Duration Govt/Credit	Bloomberg Barclays 1-3 Yr G/C	2.70%	2.10%
Core U.S. Fixed	Bloomberg Barclays Aggregate	2.75%	3.75%
Long Government	Bloomberg Barclays Long Gov	1.80%	12.50%
Long Credit	Bloomberg Barclays Long Cred	3.25%	10.50%
Long Government/Credit	Bloomberg Barclays Long G/C	2.75%	10.60%
TIPS	Bloomberg Barclays TIPS	2.40%	5.05%
High Yield	Bloomberg Barclays High Yield	4.65%	10.25%
Global ex-U.S. Fixed	Bloomberg Barclays Gbl Agg xUSD	0.90%	9.20%
Emerging Market Sovereign Debt	EMBI Global Diversified	4.35%	9.50%
Other			
Core Real Estate	NCREIF ODCE	6.25%	14.00%
Private Equity	Cambridge Private Equity	8.50%	27.80%
Hedge Funds	Callan Hedge FoF Database	5.00%	8.70%
Commodities	Bloomberg Commodity	2.75%	18.00%
Cash Equivalentents	90-Day T-Bill	2.25%	0.90%
Inflation	CPI-U	2.25%	1.50%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

- Most capital market expectations represent passive exposure (beta only); however, return expectations for private market investments reflect active management premiums
- Return expectations are net of fees

Callan Capital Market Assumptions

Correlation: 2020 - 2029

Correlation Matrix		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1	Broad U.S. Equity	1.00																					
2	Large Cap U.S. Equity	1.00	1.00																				
3	Small/Mid Cap U.S. Equity	0.95	0.92	1.00																			
4	Global ex-US Equity	0.81	0.79	0.80	1.00																		
5	Developed ex-U.S. Equity	0.78	0.77	0.78	0.99	1.00																	
6	Emerging Market Equity	0.78	0.78	0.77	0.92	0.85	1.00																
7	Short Duration G/C	-0.05	-0.04	-0.07	-0.06	-0.05	-0.08	1.00															
8	Core U.S. Fixed	-0.11	-0.10	-0.13	-0.12	-0.11	-0.14	0.85	1.00														
9	Long Government	-0.11	-0.10	-0.13	-0.13	-0.11	-0.17	0.77	0.90	1.00													
10	Long Credit	0.30	0.30	0.28	0.24	0.23	0.23	0.64	0.84	0.75	1.00												
11	Long Government/Credit	0.13	0.13	0.10	0.08	0.09	0.06	0.75	0.93	0.92	0.95	1.00											
12	TIPS	-0.05	-0.04	-0.08	-0.06	-0.05	-0.09	0.56	0.64	0.53	0.48	0.54	1.00										
13	High Yield	0.61	0.60	0.59	0.59	0.57	0.56	-0.03	0.03	-0.10	0.40	0.19	0.06	1.00									
14	Global ex-U.S. Fixed	0.01	0.01	0.00	0.07	0.05	0.10	0.50	0.53	0.47	0.54	0.54	0.40	0.12	1.00								
15	EM Sovereign Debt	0.53	0.53	0.52	0.54	0.52	0.55	0.05	0.11	-0.01	0.35	0.20	0.18	0.60	0.01	1.00							
16	Core Real Estate	0.70	0.70	0.67	0.67	0.66	0.63	-0.01	-0.04	-0.05	0.32	0.17	0.00	0.46	-0.05	0.36	1.00						
17	Private Equity	0.84	0.83	0.81	0.81	0.80	0.77	-0.16	-0.19	-0.25	0.19	-0.01	-0.14	0.53	0.06	0.43	0.60	1.00					
18	Hedge Funds	0.78	0.78	0.75	0.76	0.75	0.72	0.06	0.10	0.12	0.39	0.29	0.09	0.56	-0.05	0.54	0.53	0.64	1.00				
19	Commodities	0.22	0.22	0.21	0.21	0.21	0.20	-0.20	-0.10	-0.03	-0.05	-0.04	0.12	0.10	0.15	0.19	0.20	0.18	0.21	1.00			
20	Cash Equivalents	-0.03	-0.03	-0.05	-0.04	-0.03	-0.07	0.30	0.10	0.04	-0.10	-0.04	0.12	-0.11	0.00	-0.07	-0.06	0.00	-0.07	0.07	1.00		
21	Inflation	-0.01	-0.02	0.02	0.01	0.00	0.03	-0.21	-0.28	-0.25	-0.25	-0.27	0.10	0.07	-0.10	0.00	0.10	0.06	0.20	0.40	0.00	1.00	

- Relationships between asset classes are as important as standard deviation
- To determine portfolio mixes, Callan employs mean-variance optimization
- Return, standard deviation, and correlation determine the composition of efficient asset mixes

NDTFFR Asset-Liability Models

Build detailed liability model for the North Dakota Teachers Fund for Retirement

- Start with July 1, 2019 valuation, experience study, and any other relevant data sets from Segal
- Construct models to match 2019 valuation reports in ProVal, a liability modeling system with capital market projection and simulation capabilities
- Include any recently adopted changes regarding benefits or funding

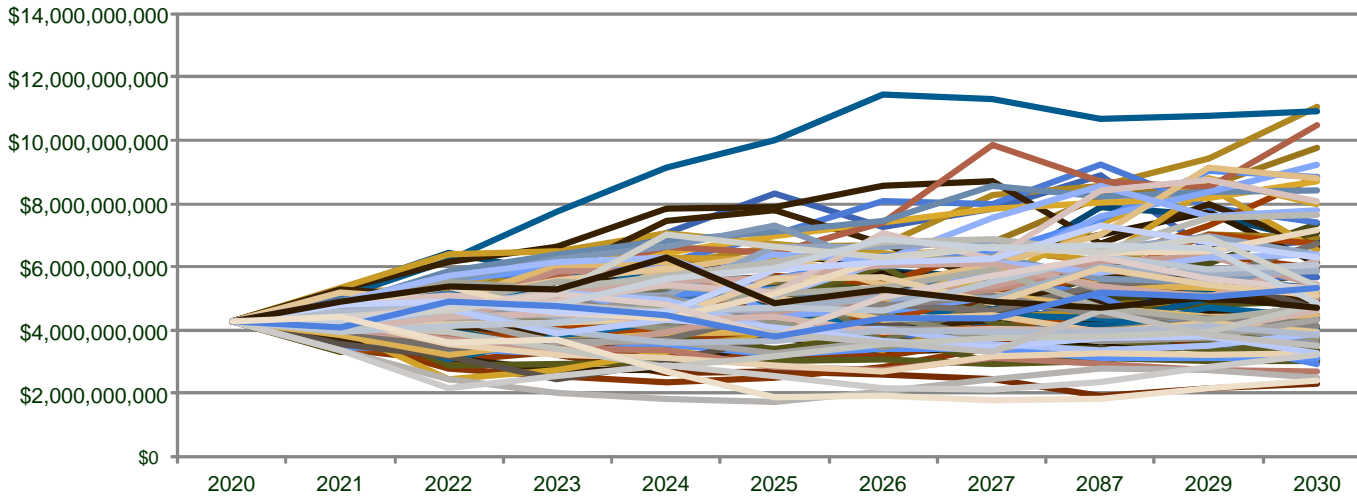
Next steps:

- Generate 10-year projections based on actuarial assumptions
- Conduct Monte Carlo simulation to generate range of potential results for key variables
 - *Assets*
 - *Liabilities*
 - *Funded status*
 - *Contributions*
 - *Liquidity risk*
- Compare results across alternative asset mixes
- Identify recommended asset allocation policies for consideration

Impact of Capital Market Uncertainty

Example Only - Not NDTFFR

Market Value of Assets - Current Target Mix



Simulate 2,000 different capital market environments (trials)

Conduct a valuation at the end of every year for each trail

Rank the simulated results from highest to lowest

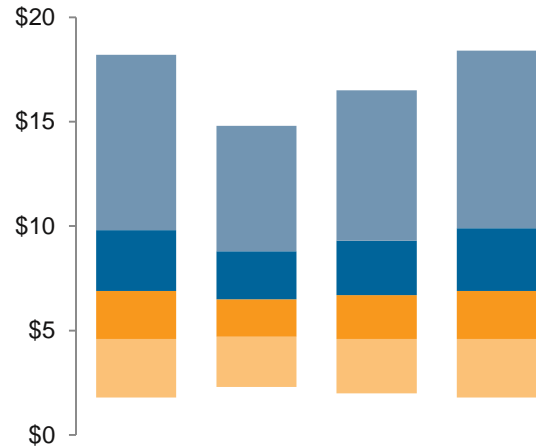
Range of simulated results illustrates the impact of investment return variability

Worse-case results represent a stress test for TFFR

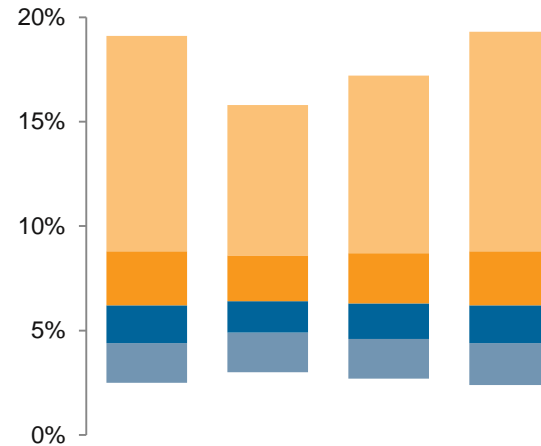
What can we measure? Assets, Net Payout, Contributions, Funded Status, Etc.

Sample Output - Not NDTFFR

Year 10 Asset Value (\$ bn)



Year 10 Net Payout Ratio



	Current	Mix A	Mix B	Mix C
2.5th %tile	18.2	14.8	16.5	18.4
25th %tile	9.8	8.8	9.3	9.9
50th %tile	6.9	6.5	6.7	6.9
75th %tile	4.6	4.7	4.6	4.6
97.5th %tile	1.8	2.3	2.0	1.8

	Current	Mix A	Mix B	Mix C
2.5th %tile	19.1%	15.8%	17.2%	19.3%
25th %tile	8.8%	8.6%	8.7%	8.8%
50th %tile	6.2%	6.4%	6.3%	6.2%
75th %tile	4.4%	4.9%	4.6%	4.4%
97.5th %tile	2.5%	3.0%	2.7%	2.4%

Decision Factors – Sample Public Fund

Factor	Description
Return Objective	<ul style="list-style-type: none"> Assumed 8.0% return is based on 3.0% expected inflation Callan liability return target is 7.9% based on projecting liabilities at 2.25% expected inflation None of the alternative asset mixes are expected to achieve 7.9% over the next 10 years
Time Horizon	<ul style="list-style-type: none"> Indefinite (plan is open)
Liquidity Needs	<ul style="list-style-type: none"> Liquidity needs are expected to rise as benefit payments outpace current employer and employee contributions Employer contribution rates will increase, if the proposed assumptions are adopted Illiquid assets are currently 12% of portfolio (7% in core real estate and 5% in private equity)
Actuarial Methodology	<ul style="list-style-type: none"> 5-year asset smoothing Statutory employer contribution rates
Contribution Risk	<ul style="list-style-type: none"> Low over the short run as employer contribution rates are set However, actuarial (investment) losses will eventually necessitate higher contribution rates
Risk Tolerance	<ul style="list-style-type: none"> Risk tolerance is the ability and willingness to take risk What is comfort level in taking more risk? Consider worse-case results for projected funded status, ultimate net cost and drawdown risk
Liability Growth	<ul style="list-style-type: none"> Liabilities are growing
Funded Status	<ul style="list-style-type: none"> Plan is underfunded as of 7/1/2019 (Market value funded status = 92%)

Proposed Timeline

Asset-Liability Kickoff

Meeting Date: September 2020

Preliminary Asset-Liability Results

- Evaluate optimizations with TFFR and Retirement & Investment Office investment team
- Review preliminary asset-liability results
- Solicit feedback re: recommendations

Meeting Date: November 2020

Final Asset-Liability Results

- Review final asset-liability results based on feedback from prior meeting
- Select appropriate target investment policy

Meeting Date: December 2020

Disclaimers

This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.

This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.

Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.

Past performance is no guarantee of future results.

The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.



Retirement Plans

A DISCUSSION TO PREPARE FOR A DISCUSSION

SEPTEMBER 24, 2020 TFFR BOARD MEETING

Why Now?



Pandemic/ Economy

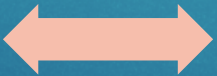
Members

Contributions
Plan Design
Education



2021-2023 Session

Legislature



Board


What prompts the Discussion?

Sector

Choice

Education

What's the Goal of the Message?



Education	<ul style="list-style-type: none">• Retention• Depth
Planning	<ul style="list-style-type: none">• Plan• Members
Policy	<ul style="list-style-type: none">• Legislature• Stakeholders

Retirement Plan Types Simplified

Defined Contribution (DC)

- ▶ The Contribution is "Defined".
- ▶ (Member Contributions + Employer Contributions) x (Investment Risk) = (?) Unknown Benefit
- ▶ Market Impact: Pebbles in a Pond

Defined Benefit (DB)

- ▶ The Benefit is "Defined".
- ▶ (Member Contributions + Employer Contributions) x (Investment Risk) = Known Benefit
- ▶ Market Impact: Boulder in a Pond

Overcoming Assumptions





“ First Learn the Meaning of what
you say, and then speak.

”

QUOTE ATTRIBUTED TO EPICTETUS, GREEK PHILOSOPHER, COURTESY OF WWW.BRAINYQUOTE.COM

What is our message?

TFFR BOARD MEMO
Thursday, September 24, 2020

RE: State Investment Board Customer Satisfaction Survey

FROM: Rob Lech, TFFR Board President

BOARD FOCUS: Informational

The annual customer satisfaction survey from the State Investment Board was completed by the TFFR Board members in August 2020. This survey was provided to all TFFR board members with 6 board members completing the survey. These results were compiled and a weighted average was used to determine the ratings provided to the State Investment Board. All comments in the individual surveys were included in the compiled survey.

Responses and Weighted Averages

The following are the average scores. As was done last year, I rounded up or down based on the numeric average. In this case all rounded up to a rating of Excellent.

Availability/Responsiveness to Requests (via calls and/or emails)

Responses included 5 ratings of Excellent and 1 rating of Average for a weighted average of 3.67 and a compiled rating of Excellent

Clarity and Effectiveness of Communications, Reports, and Presentations

Responses included 5 ratings of Excellent and 1 rating of Average for a weighted average of 3.67 and a compiled rating of Excellent

Frequency of Communications/Reporting

Responses included 5 ratings of Excellent and 1 rating of Above Average for a weighted average of 3.83 and a compiled rating of Excellent

Knowledge of Investments

Responses included 5 ratings of Excellent and 1 rating of Average for a weighted average of 3.67 and a compiled rating of Excellent

Overall Value of Services Provided

Responses included 5 ratings of Excellent and 1 rating of Average for a weighted average of 3.67 and a compiled rating of Excellent

Comments

Following are each comment that accompanied an individual submission:

“The staff consistently meets or exceeds my expectations. They are innovative and always willing to take time to answer questions”.

“I appreciate the partnership SIB provides in our services to the 10,000+ teachers of North Dakota”.

“In my opinion, the Board and staff do an excellent job of providing services and measure up to my expectations”.

“I think/hope the new computer system will allow even more access and more current updates of client accounts. If possible, using the current technology/resources, we should be sending clients, in this COVID affected market, updates of fund condition often. I often get questions from retired and active teachers as to the current health of the fund and will there be enough monies left in the near future for retirees and the farther future for active teachers”.

“Continue to maintain the professional level of service and ensure a continuous effort to improve”.

Informational Purposes Only.



MEMORANDUM

TO: TFFR Board

FROM: Jan Murtha

DATE: September 18, 2020

SUBJ: Employee Benefits Programs Committee Update & Proposed Legislation

The Employee Benefits Programs Committee (EBPC) met on September 9, 2020. The EBPC heard the request of the TFFR Board to modify the plan documents pursuant to NDCC 15-39.1-35 to effect the change to the required minimum distribution rule required by the 2019 SECURE Act. The presentation relating to this request is enclosed.

After hearing the presentation, EBPC members stated that they would like the TFFR Board to submit proposed legislation authorizing this change for the 2021-2023 biennium. The EBPC voted to allow the submission of legislation by TFFR related to this request.

Enclosed please find a proposed bill draft for your consideration and approval.

BOARD ACTION REQUESTED: Board motion to approve proposed legislation for submission to the EBPC at its next scheduled meeting (likely October 28, 2020).

Introduced by

A BILL for an Act to amend and reenact subsection 4 of section 15-39.1-10 of the North Dakota Century Code, relating to Teacher's Fund for Retirement eligibility benefits.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. 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~~ For a member who attains age seventy and one-half prior to January 1, 2020, the member's required beginning date is 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. For a member who attains seventy and one-half after December 31, 2019, the member's required beginning date is no later than April first of the calendar year following the year the member attains age seventy- two 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, as amended, and the regulations issued under that section, as applicable to governmental plans.

NDCC 15-39.1-35 TFFR Plan Modification Request

Employee Benefits Programs Committee

Meeting of September 9, 2020

Presented by Jan Murtha

NDRIO Deputy Executive Director/Chief Retirement Officer

What Changed? 2019 SECURE ACT (Passed 12/20/19)

New RMD Rule

"If you reached the age of 70½ in 2019 the prior rule applies, and you must take your first RMD by April 1, 2020. If you reach age 70½ in 2020 or later you must take your first RMD by April 1 of the year after you reach 72."**

Must be in effect by last day of the first plan year beginning on or after January 1, 2024.

*<https://www.irs.gov/retirement-plans/retirement-plans-faqs-regarding-required-minimum-distributions#>

Definition of "RMD"

- "Required Minimum Distributions (RMDs) generally are minimum amounts that a retirement plan account owner must withdraw annually starting with the year that he or she reaches 72 (70 ½ if you reach 70 ½ before January 1, 2020), if later, the year in which he or she retires."*

Applicable State Law- EBPC Jurisdiction

NDCC 15-39.1-34(1)

- The board shall administer the plan in compliance with section 415, section 401(a)(9), section 401(a)(17), and section 401(a)(31) of the Internal Revenue Code, as amended, and regulations adopted pursuant to those provisions as they apply to governmental plans.

NDCC 15-39.1-35

- 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.

TFFR Proposed Language

- 15-39.1-10. Eligibility for normal retirement benefits.
- 4. ~~Retirement benefits must begin~~ For a member who attains age seventy and one-half prior to January 1, 2020, the member's required beginning date is 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. For a member who attains seventy and one-half after December 31, 2019, the member's required beginning date is no later than April first of the calendar year following the year the member attains age seventy- two 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, as amended, and the regulations issued under that section, as applicable to governmental plans.

•

TFFR Plan Modification Request

- At its April 23, 2020 meeting, the TFFR Board voted to submit the proposed change to NDCC 15-39.1-10(1) to the Employee Benefits Programs Committee (EBPC) pursuant to NDCC 15-39.1-35.
- The TFFR Board respectfully requests the EBPC approve the interim change with the understanding that the TFFR Board would submit proposed legislation for the 2023 session.
- The TFFR Board appreciates any guidance from the EBPC regarding this request.

Annual TFFR Investment Report

For the Periods Ended June 30, 2020

September 24, 2020

Note: This document contains unaudited data which is deemed to be materially accurate, but is unaudited and subject to change.

Dave Hunter, Executive Director/CIO

Jan Murtha, Deputy Executive Director / Chief Retirement Officer

Darren Schulz, Deputy Chief Investment Officer

Connie Flanagan, Chief Financial Officer

Eric Chin, Chief Risk Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

TFFR Investment Ends – June 30, 2020

TFFR earned 3.45% in the last fiscal year and 6.17% in the 5-years ended June 30, 2020 exceeding Policy Benchmarks.
TFFR earned 8.53% the last 10-years exceeding the Policy Benchmark of 7.90% by over 0.60%.

SIB clients should receive net investment returns consistent with their written investment policies and market variables. This “End” is evaluated based on comparison of each client’s (a) actual net investment return, (b) standard deviation and (c) risk adjusted excess return, to the client’s policy benchmark over **5 or more years**.

	1 Year Ended 6/30/2020	3 Yrs Ended 6/30/2020	5 Yrs Ended 6/30/2020	10 Yrs Ended 6/30/2020	Risk 5 Yrs Ended 6/30/2020	Risk Adj Excess Return 5 Yrs Ended 6/30/2020
TFFR \$2.65 billion						
Total Fund Return - Net	3.45%	6.01%	6.17%	8.53%	10.1%	0.20%
Policy Benchmark Return	3.19%	5.81%	5.87%	7.90%	9.9%	
Total Relative Return	0.26%	0.21%	0.30%	0.63%	102%	

Key: TFFR investments have exceeded \$2 billion the last 10-years and Excess Returns have generally exceeded **0.30%** per annum. **TFFR’s use of active management has enhanced Net Investment Returns by \$60 million for the 10-years ended June 30, 2020** (or \$2 billion x 0.30% = \$6 million per year x 10 years = **\$60 million**). These returns were achieved while adhering to prescribed Risk limits (e.g. 102% versus a policy limit of 115%).

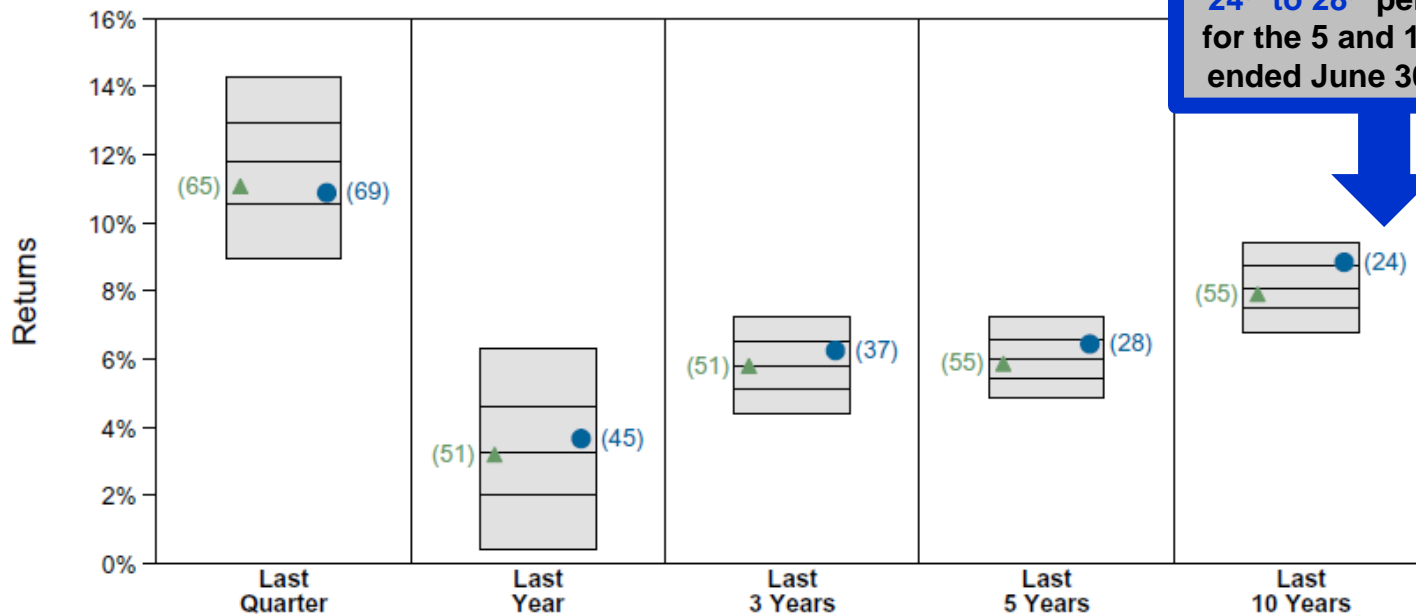
5-Yr. Returns June 30, 2020	Asset Allocation	Benchmark Return	Allocation x Return
<i>Asset Class</i>	<i>a</i>	<i>b</i>	<i>a x b</i>
Equity	58%	6.9%	3.98%
Fixed Income	23%	4.5%	1.02%
Real Assets	18%	4.8%	0.86%
Cash	1%	1.2%	0.01%
Policy Benchmark Return (5-years)			5.87%

Current Policy Benchmark: 58% Equity (31% U.S., 21% Non-U.S., 6% Private); 23% Fixed Income (16% Investment Grade, 7% High Yield); 18% Real Assets (10% Real Estate; 6% Infrastructure; 2% Timber); and 1% Cash.

Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended June 30, 2020. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

Callan Public Fund Sponsor Database

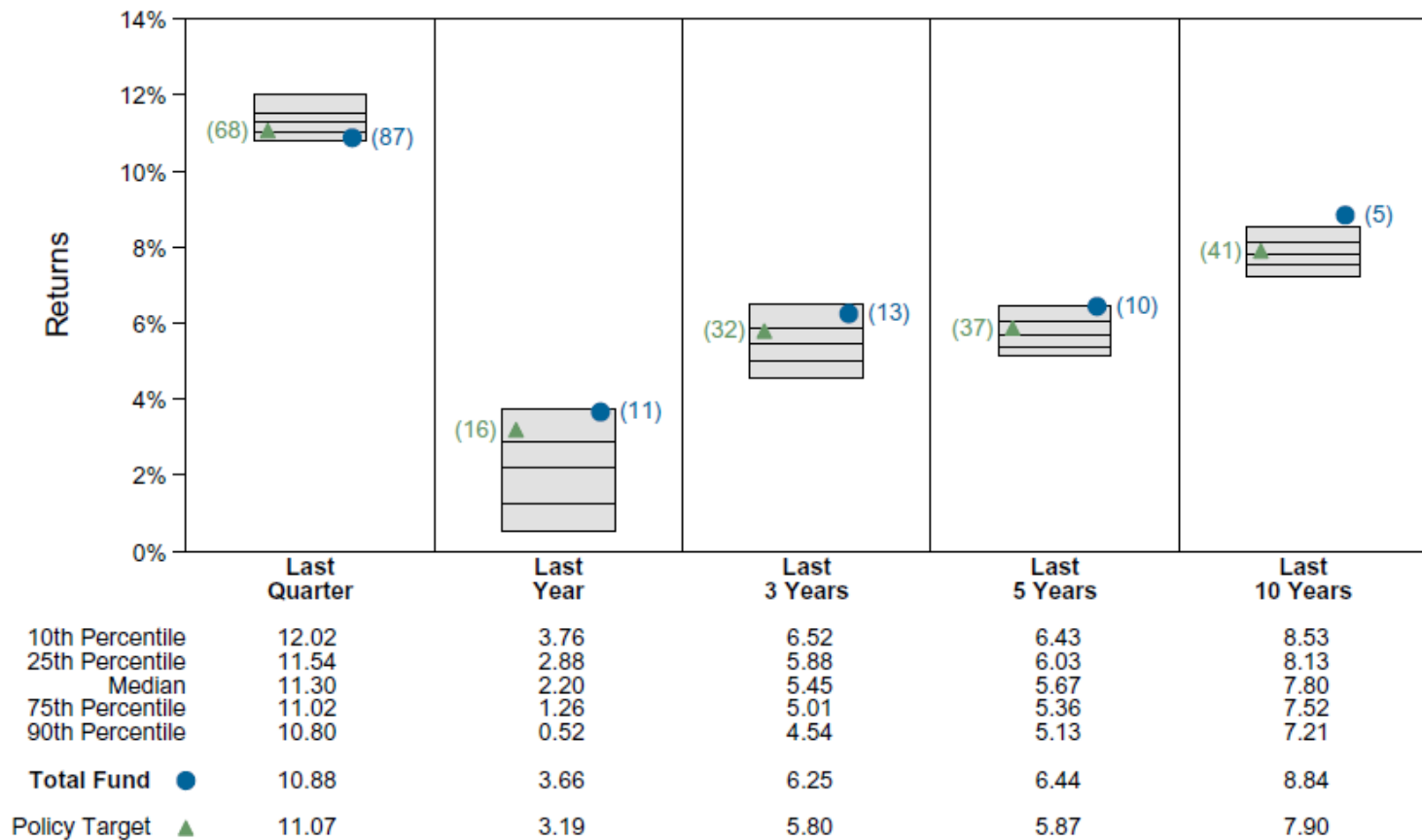


Gross returns for TFFR ranked in the 24th to 28th percentile for the 5 and 10-years ended June 30, 2020.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	14.29	6.31	7.25	7.25	9.43
25th Percentile	12.92	4.59	6.54	6.56	8.76
Median	11.79	3.26	5.81	6.02	8.09
75th Percentile	10.54	1.99	5.14	5.43	7.48
90th Percentile	8.92	0.39	4.40	4.88	6.80
Total Fund ●	10.88	3.66	6.25	6.44	8.84
Policy Target ▲	11.07	3.19	5.80	5.87	7.90

TFFR's "Total Fund" return of 8.84% for the "Last 10 Years" exceeds the "Policy Target" of 7.90% by 0.94%.

Asset Allocation Adjusted Ranking



* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

Public Equity and Fixed Income Overlay Positions

As of June 19, 2020 (Prior to Lifting in late-June)

PENSION POOL

	Physical	Overlay	Actual	Target	Over or Under	
					\$	%
Public Equity	\$ 3,103	\$ 168	\$ 3,271	\$ 3,112	\$ 159	2.6%
Fixed Income/Cash	\$ 1,564	\$ (168)	\$ 1,396	\$ 1,440	\$ (44)	-0.7%
Private Equity	\$ 276	\$ -	\$ 276	\$ 395	\$ (119)	-2.0%
Private Real Assets	\$ 1,135	\$ -	\$ 1,135	\$ 1,131	\$ 4	0.1%
As of June 19, 2020	\$ 6,078	\$ -	\$ 6,078	\$ 6,078	\$ -	0%
Inception to Date Gain on Pension Equity Overlay Strategy				\$ 18		

The Pension Pool was valued at approximately \$6 billion as of June 19, 2020. **Public Equity was overweight 2.6% and Fixed Income/Cash was underweight 0.7% of Target.** Private Equity was underweight 2.0% and Private Real Estate was nearly on Target at June 19, 2020.

LEGACY FUND

	Physical	Overlay	Actual	Target	Over or Under	
					\$	%
Public Equity	\$ 3,366	\$ 234	\$ 3,600	\$ 3,520	\$ 80	1.1%
Fixed Income/Cash	\$ 2,664	\$ (234)	\$ 2,430	\$ 2,464	\$ (34)	-0.5%
Private Real Assets	\$ 1,009	\$ -	\$ 1,009	\$ 1,055	\$ (46)	-0.7%
As of June 19, 2020	\$ 7,039	\$ -	\$ 7,039	\$ 7,039	\$ -	0%
Inception to Date Gain on Legacy Equity Overlay Strategy				\$ 31		

The Legacy Fund was valued at approximately \$7 billion as of June 19, 2020. **Public Equity was overweight 1.1% and Fixed Income/Cash was underweight 0.5%.** Private Real Assets were underweight 0.7% at June 19, 2020.

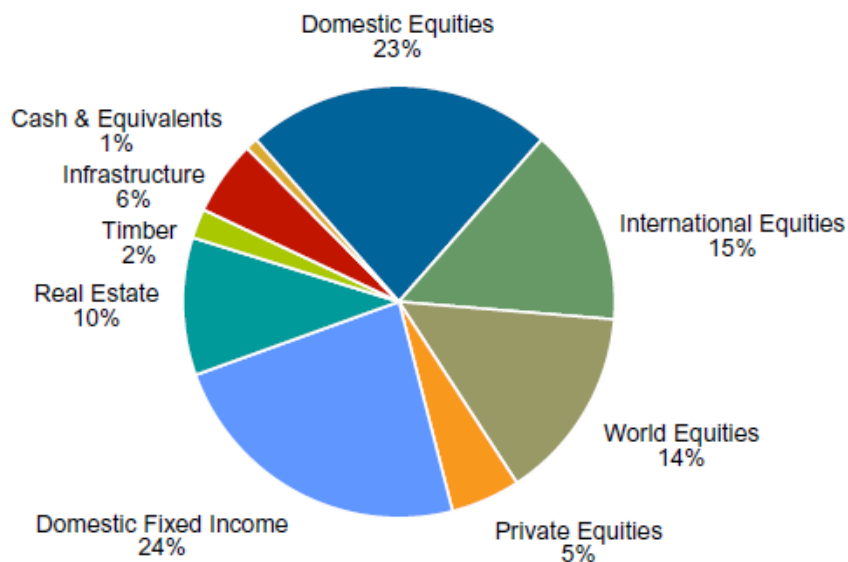
INSURANCE POOL

	Physical	Overlay	Actual	Target	Over or Under	
					\$	%
Public Equity	\$ 477	\$ 50	\$ 527	\$ 506	\$ 21	0.7%
Fixed Income/Cash	\$ 2,160	\$ (50)	\$ 2,110	\$ 2,121	\$ (11)	-0.4%
Private Real Assets	\$ 358	\$ -	\$ 358	\$ 368	\$ (10)	-0.3%
As of June 19, 2020	\$ 2,995	\$ -	\$ 2,995	\$ 2,995	\$ -	0%
Inception to Date Gain Insurance Equity Overlay Strategy				\$ 6		

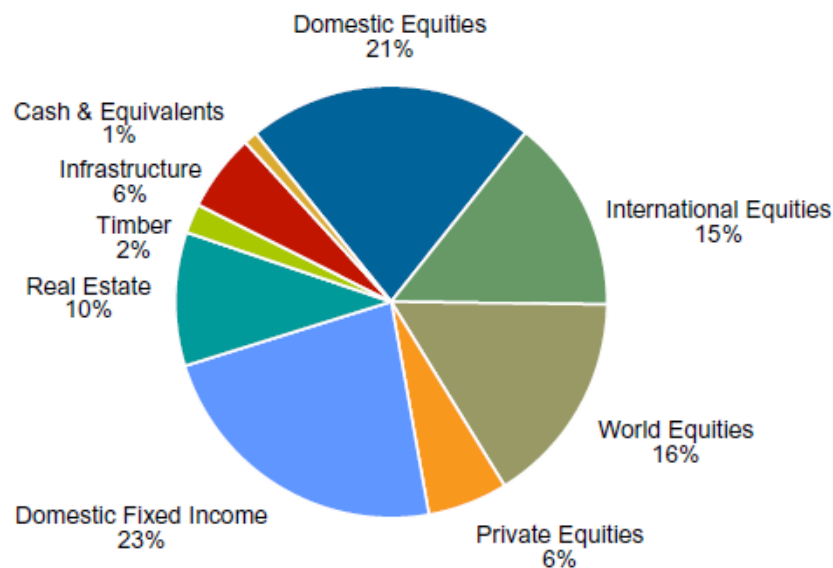
The Insurance Pool was valued at nearly \$3 billion as of June 19, 2020. **Public Equity was overweight 0.7% and Fixed Income/Cash was underweight 0.4% of Target at June 19, 2020.** Private Real Assets were underweight 0.3%.

TFFR's Actual Asset Allocations are within 1% to 2% of Target as of June 30, 2020

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	603,162	23.1%	21.5%	1.6%	42,434
International Equities	387,171	14.8%	14.5%	0.3%	7,323
World Equities	378,588	14.5%	16.0%	(1.5%)	(39,447)
Private Equities	134,642	5.2%	6.0%	(0.8%)	(22,121)
Domestic Fixed Income	614,035	23.5%	23.0%	0.5%	13,110
Real Estate	269,594	10.3%	10.0%	0.3%	8,323
Timber	56,483	2.2%	2.2%	(0.0%)	(0)
Infrastructure	145,357	5.6%	5.8%	(0.3%)	(7,178)
Cash & Equivalents	23,683	0.9%	1.0%	(0.1%)	(2,444)
Total	2,612,716	100.0%	100.0%		

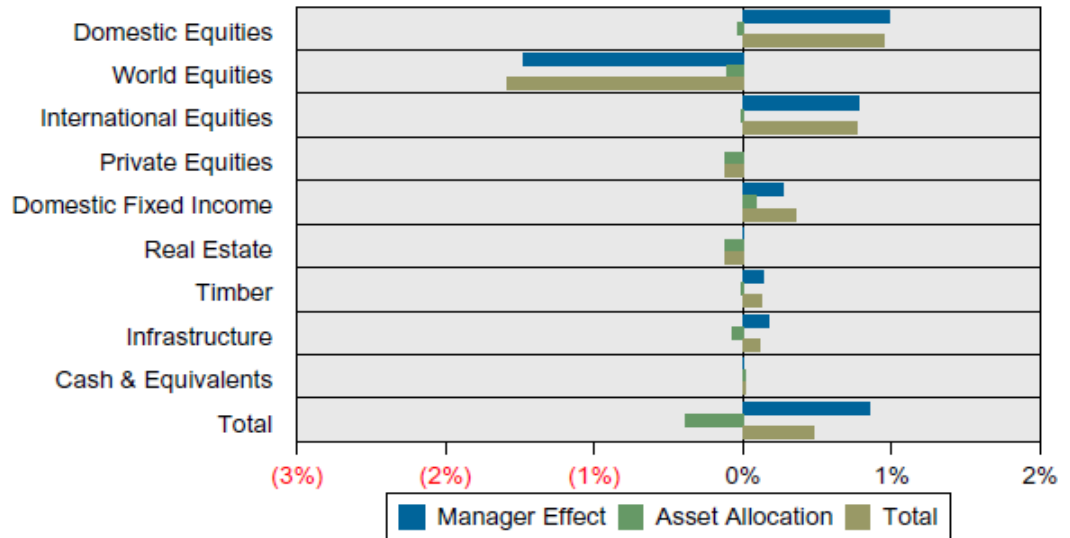
Cumulative Total Fund Relative Attribution

June 30, 2020

One Year Relative Attribution Effects

SIB Watch List:

RIO's recommended Watch List will include **World Equity** managers **Epoch** and **LSV** on Sep. 25, 2020. RIO and Callan are working on a global equity search and intend to advance new global equity strategies for SIB consideration in the 4th quarter of 2020.



One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	9.11%	4.24%	0.99%	(0.04%)	0.95%
World Equities	15%	16%	(6.82%)	2.84%	(1.48%)	(0.11%)	(1.58%)
International Equities	15%	15%	(0.02%)	(4.98%)	0.78%	(0.01%)	0.76%
Private Equities	5%	6%	3.04%	3.04%	0.00%	(0.12%)	(0.12%)
Domestic Fixed Income	24%	23%	7.28%	6.20%	0.27%	0.08%	0.35%
Real Estate	11%	10%	2.66%	2.69%	0.00%	(0.12%)	(0.12%)
Timber	2%	2%	6.28%	0.34%	0.13%	(0.01%)	0.12%
Infrastructure	5%	6%	4.84%	1.62%	0.17%	(0.07%)	0.11%
Cash & Equivalents	1%	1%	1.49%	1.63%	(0.00%)	0.02%	0.01%
Total			3.66%	3.19%	+ 0.86%	+ (0.39%)	0.47%

Callan

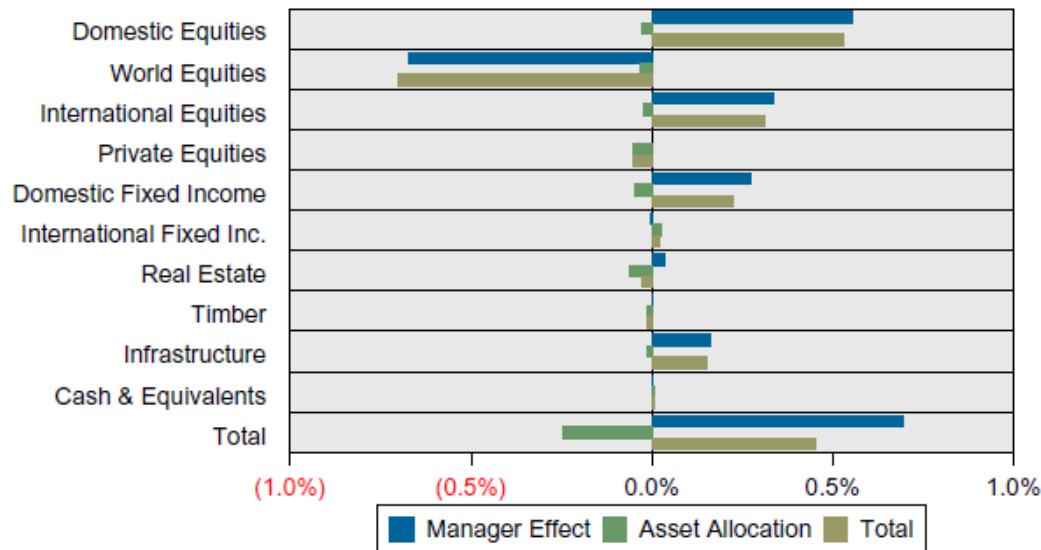
Cumulative Total Fund Relative Attribution

June 30, 2020

Three Year Annualized Relative Attribution Effects

SIB Watch List:

RIO's recommended Watch List will include World Equity managers Epoch and LSV on Sep. 25, 2020. RIO and Callan are working on a global equity search and intend to advance new global equity strategies for SIB consideration in the 4th quarter of 2020.



Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	11.37%	8.71%	0.56%	(0.03%)	0.53%
World Equities	16%	16%	2.24%	6.70%	(0.67%)	(0.03%)	(0.70%)
International Equities	15%	15%	3.18%	1.09%	0.34%	(0.02%)	0.31%
Private Equities	4%	6%	5.62%	5.62%	0.00%	(0.05%)	(0.05%)
Domestic Fixed Income	22%	22%	5.97%	4.72%	0.27%	(0.05%)	0.23%
International Fixed Inc.	1%	1%	-	-	(0.00%)	0.02%	0.02%
Real Estate	10%	10%	5.79%	5.44%	0.04%	(0.06%)	(0.03%)
Timber	2%	2%	2.55%	2.28%	0.00%	(0.01%)	(0.01%)
Infrastructure	5%	6%	6.09%	2.87%	0.16%	(0.01%)	0.15%
Cash & Equivalents	1%	1%	1.76%	1.77%	(0.00%)	0.00%	0.00%

Total **6.25% = 5.80% + 0.70% + (0.24%)** **0.45%**

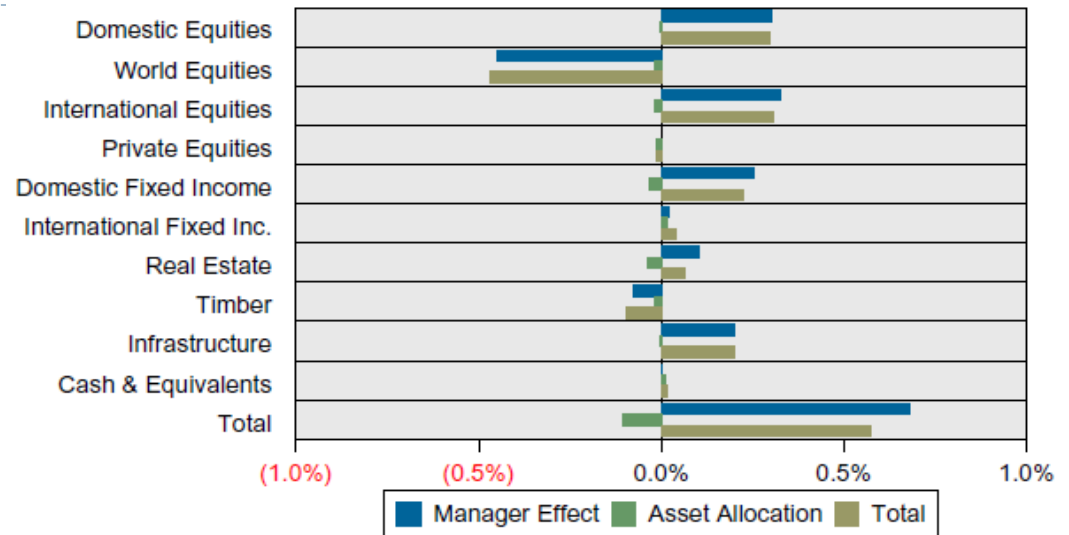
Cumulative Total Fund Relative Attribution

June 30, 2020

Five Year Annualized Relative Attribution Effects

SIB Watch List:

RIO's recommended Watch List will include World Equity managers Epoch and LSV on Sep. 25, 2020. RIO and Callan are working on a global equity search and intend to advance new global equity strategies for SIB consideration in the 4th quarter of 2020.



Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	10.59%	9.12%	0.30%	(0.00%)	0.30%
World Equities	16%	16%	3.87%	6.90%	(0.45%)	(0.02%)	(0.47%)
International Equities	15%	15%	4.23%	2.18%	0.33%	(0.02%)	0.31%
Private Equities	4%	6%	3.97%	3.97%	0.00%	(0.01%)	(0.01%)
Domestic Fixed Income	20%	20%	5.59%	4.32%	0.25%	(0.03%)	0.22%
International Fixed Inc.	3%	3%	-	-	0.02%	0.02%	0.04%
Real Estate	10%	10%	7.76%	6.77%	0.10%	(0.04%)	0.07%
Timber	3%	3%	0.38%	2.71%	(0.08%)	(0.02%)	(0.09%)
Infrastructure	5%	5%	6.31%	2.14%	0.20%	(0.00%)	0.20%
Cash & Equivalents	1%	1%	1.26%	1.19%	0.00%	0.01%	0.01%

Total $6.44\% = 5.87\% + 0.68\% + (0.11\%)$ **0.57%**

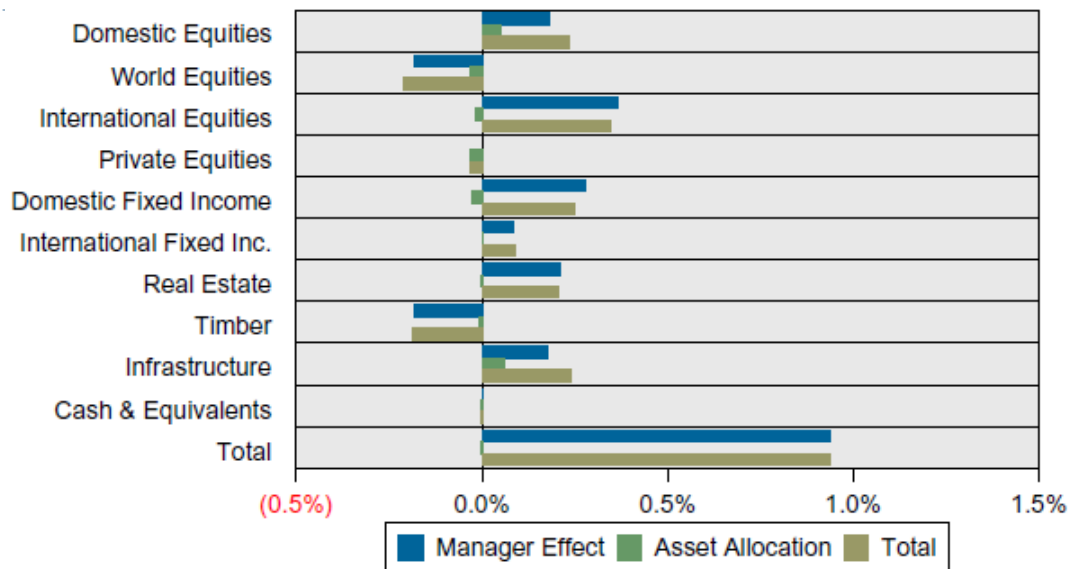
Cumulative Total Fund Relative Attribution

June 30, 2020

Ten Year Annualized Relative Attribution Effects

SIB Watch List:

RIO's recommended Watch List will include World Equity managers Epoch and LSV on Sep. 25, 2020. RIO and Callan are working on a global equity search and intend to advance new global equity strategies for SIB consideration in the 4th quarter of 2020.



Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	14.21%	13.22%	0.18%	0.05%	0.23%
World Equities	13%	13%	-	-	(0.18)%	(0.03)%	(0.21)%
International Equities	17%	16%	6.93%	4.83%	0.37%	(0.02)%	0.35%
Private Equities	4%	5%	4.44%	4.44%	0.00%	(0.03)%	(0.03)%
Domestic Fixed Income	19%	19%	6.13%	4.62%	0.28%	(0.03)%	0.25%
International Fixed Inc.	4%	4%	-	-	0.08%	0.00%	0.09%
Real Estate	10%	10%	11.89%	9.70%	0.21%	(0.00)%	0.21%
Timber	3%	3%	-	-	(0.18)%	(0.01)%	(0.19)%
Infrastructure	4%	5%	-	-	0.18%	0.06%	0.24%
Cash & Equivalents	1%	1%	0.67%	0.64%	0.00%	(0.00)%	(0.00)%

Total 8.84% = 7.90% + 0.94% + (0.00%) 0.94%

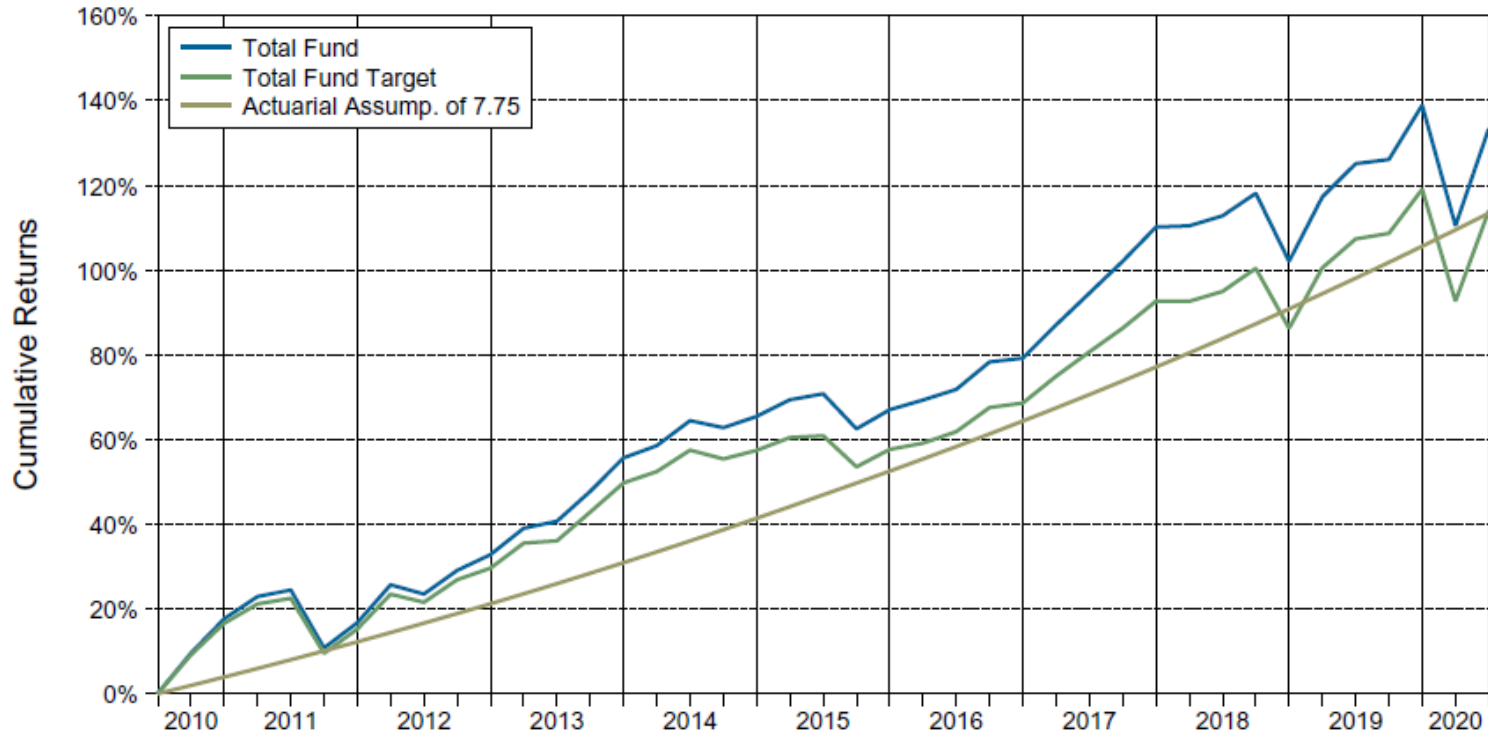
Callan

NDSIB - Teachers Fund For Retirement

Cumulative Performance Relative to Target

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Sponsor Database.

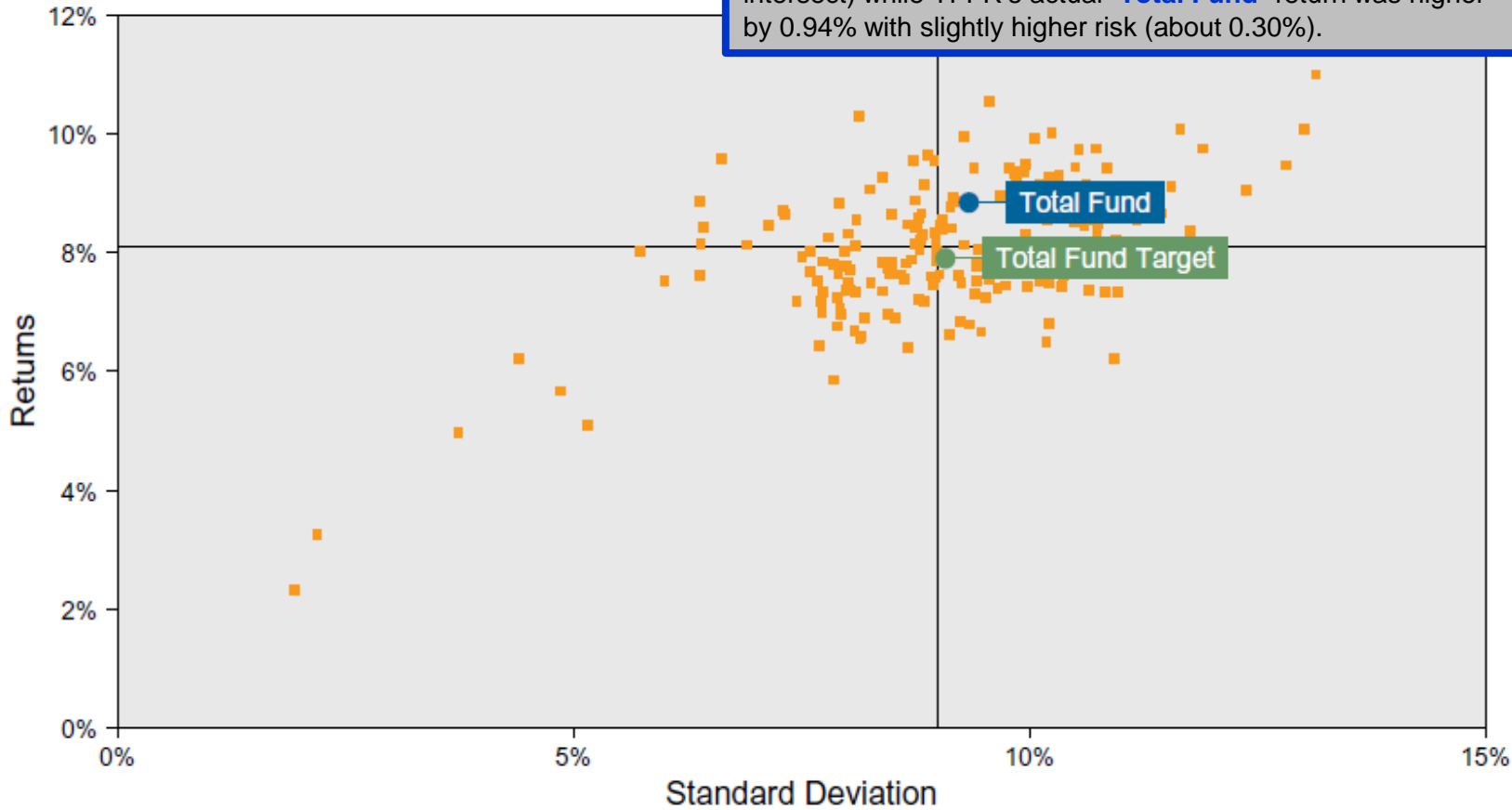
Cumulative Returns Actual vs Target



Ten Year Annualized Risk vs Return

Ten Year Annualized Risk vs Return

Investors seek the highest “Returns” with the lowest risk or “Standard Deviation”. TFFR’s “Total Fund Target” return the last 10-years was very close to the average Callan Public Fund Sponsor Database (where the horizontal and vertical lines intersect) while TFFR’s actual “Total Fund” return was higher by 0.94% with slightly higher risk (about 0.30%).



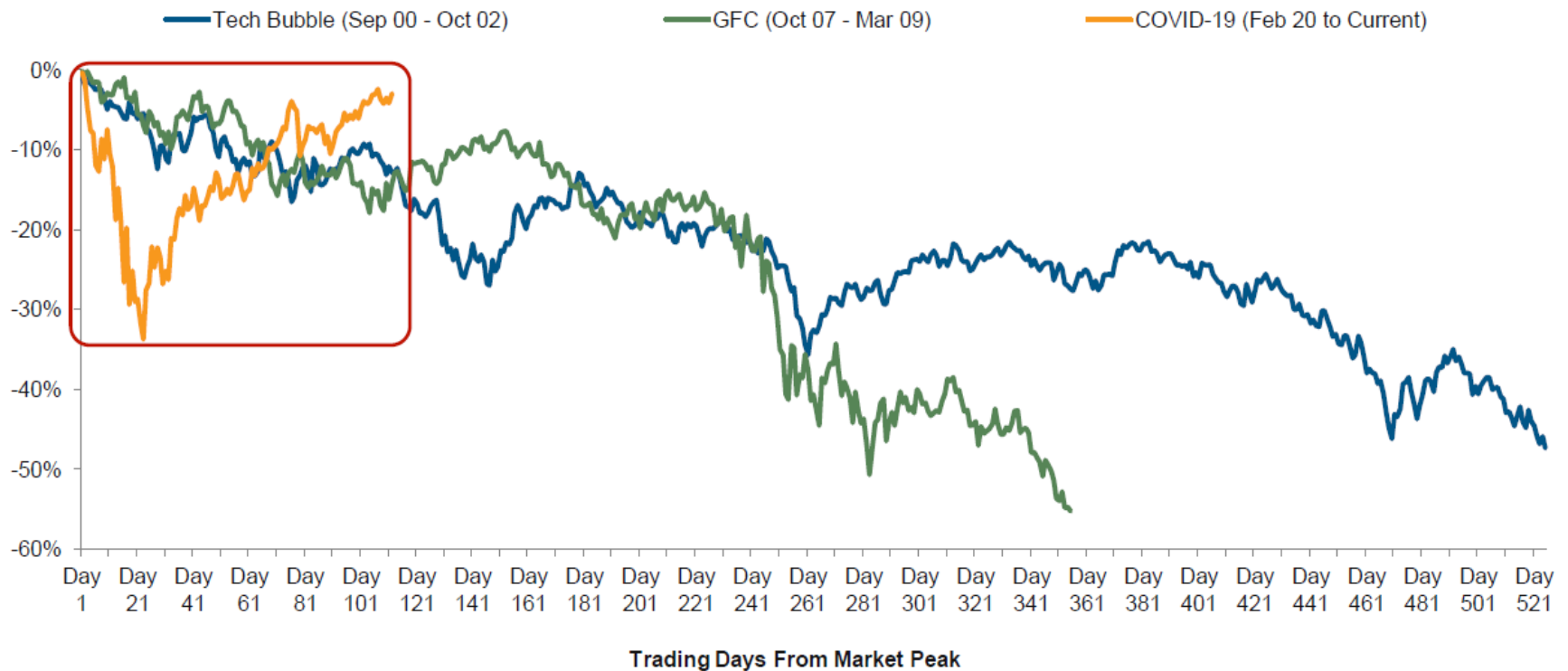
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Bimbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Bimbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

Unprecedented Shock to Global Capital Markets

'Global Hurricane' in the form of a pandemic

**S&P 500 Index Cumulative Returns
Market Peak-to-Trough for Recent Corrections vs.
Current Path of COVID-19 Correction Through 7/29/20**

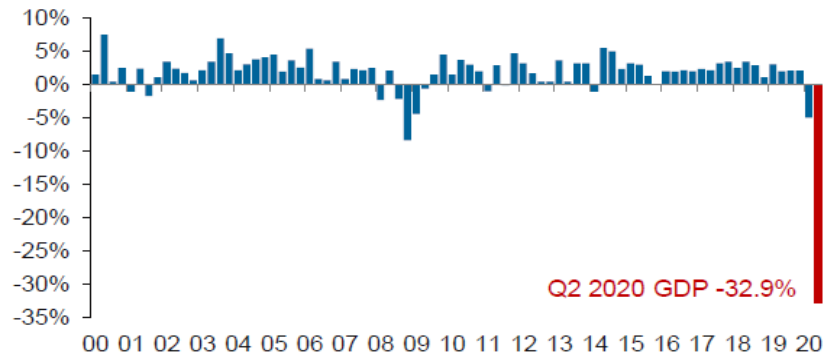


The sharpest and fastest equity market decline ever: 16 trading days to reach bear market; -33% after just 23 days

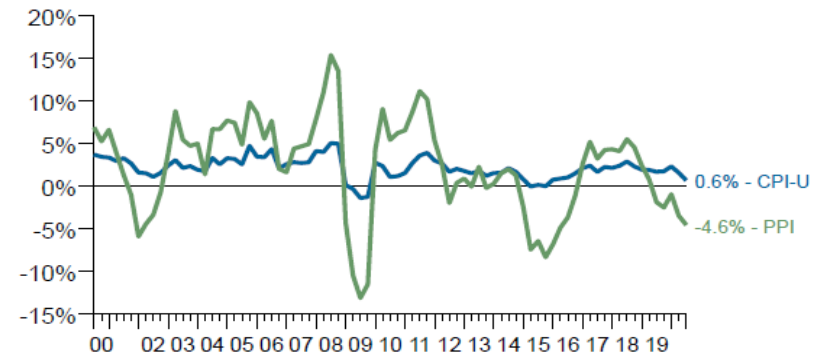
U.S. Economy—Summary

For periods ended June 30, 2020

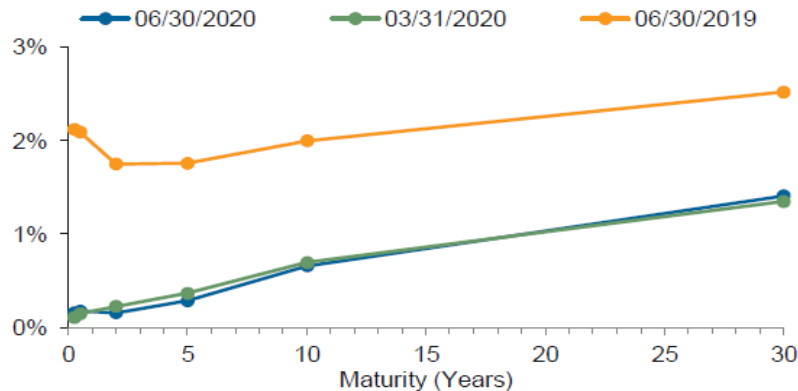
Quarterly Real GDP Growth



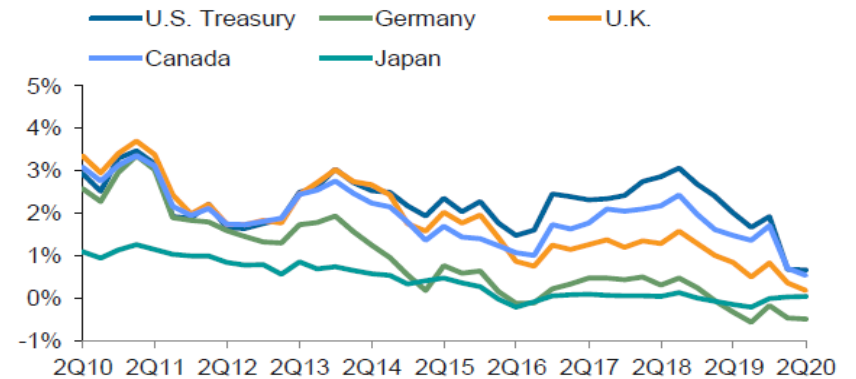
Inflation Year-Over-Year



U.S. Treasury Yield Curves



10-Year Global Government Bond Yields



Sources: Bloomberg, Bureau of Labor Statistics, Callan

Market Environment: 2Q20

High degree of uncertainty

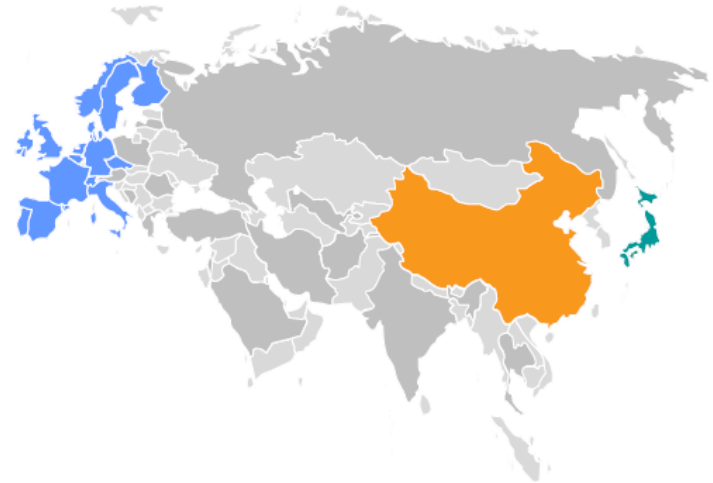
U.S.

- GDP contracted 5.0% annualized in 1Q and 32.9% in 2Q
 - PCE decline by 10.5% from 1Q levels, despite a 9.7% rise in real disposable income in the second quarter
 - Exports, inventories, investment, and local and state government spending also declined
- Retail sales, durable goods, personal spending rebounded in May but not fully recovered
- Unemployment (11.1% in June) remains elevated
- Housing benefited from relatively low mortgage rates
- Fed left rates close to 0% and expects to be on hold until at least 2022



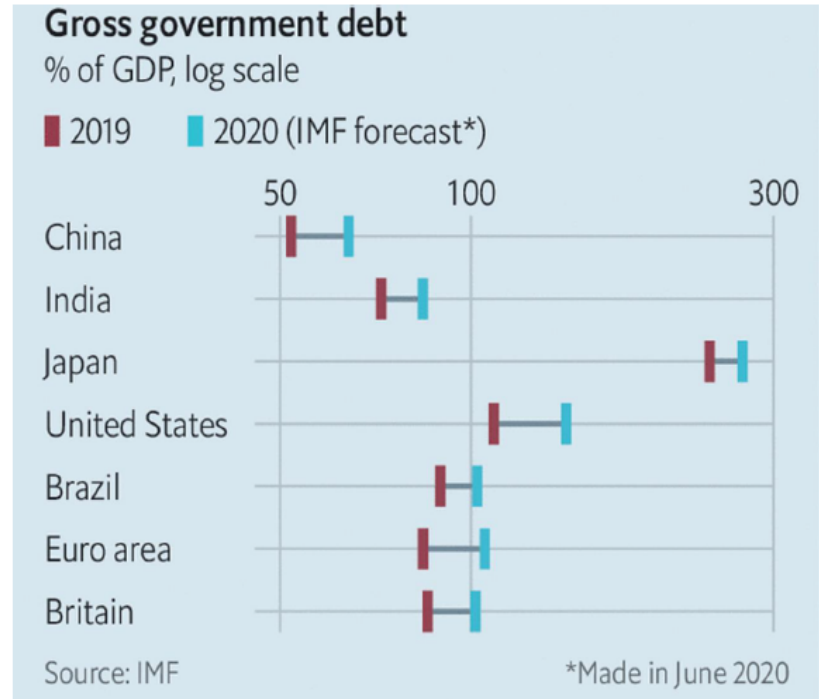
Overseas

- Euro zone 1Q GDP contracted 3.8%; largest quarterly drop on record
- U.K. GDP sank 20% in April, most ever
- Japan's economy shrank 4.4% in April
- China's GDP fell 6.8% in 1Q, first contraction in 28 years.
 - Chinese government unveiled fiscal stimulus of US\$506 bn, bringing budget deficit to a record high of 3.6% of GDP.
 - Growth is expected to be positive in 2Q.



IMF GDP Forecasts for 2020

From bad to worse



On June 24th the IMF said the economic slump caused by the COVID-19 pandemic would be worse than forecast in April, and that governments would be left more indebted as a result.

- The fund thinks advanced economies' combined GDP at the end of 2021 will still be lower than it was in the first quarter of 2019.
- But it warned of an unusual degree of uncertainty surrounding the numbers, which assume persistent social distancing, lower productivity, and widespread economic scarring.

Source: The Economist

Key Point: Asset allocation is the primary driver of investment returns. Although **U.S. Fixed Income** was the top performing asset class in the last year, **U.S. Large Cap Equities** were the top performing sector over the last 3, 5 and 10 year periods ended June 30, 2020, which supports TFFR's long term asset allocation policy.

Callan Periodic Table of Investment Returns

Trailing periods as of June 30, 2020

Annual Returns					Trailing Periods				Quarterly Returns		
2015	2016	2017	2018	2019	1-Year	3-Year	5-Year	10-Year	1Q20	2Q20	YTD 2020
Large Cap Equity	Small Cap Equity	Emerging Market Equity	U.S. Fixed Income	Large Cap Equity	U.S. Fixed Income	Large Cap Equity	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	Small Cap Equity	U.S. Fixed Income
1.38%	21.31%	37.28%	0.01%	31.49%	8.74%	10.73%	10.73%	13.99%	3.15%	25.42%	6.14%
U.S. Fixed Income	High Yield	Dev ex-U.S. Equity	High Yield	Small Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Small Cap Equity	Global ex-U.S. Fixed Income	Large Cap Equity	Global ex-U.S. Fixed Income
0.55%	17.13%	24.21%	-2.08%	25.52%	7.51%	5.32%	4.79%	10.50%	-2.68%	20.54%	0.61%
Real Estate	Large Cap Equity	Large Cap Equity	Global ex-U.S. Fixed Income	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income	High Yield	U.S. Fixed Income	High Yield	High Yield	Emerging Market Equity	Large Cap Equity
-0.79%	11.96%	21.83%	-2.15%	22.49%	0.71%	3.33%	4.30%	6.68%	-12.68%	18.08%	-3.08%
Dev ex-U.S. Equity	Emerging Market Equity	Small Cap Equity	Large Cap Equity	Real Estate	High Yield	Global ex-U.S. Fixed Income	Small Cap Equity	Real Estate	Large Cap Equity	Dev ex-U.S. Equity	High Yield
-3.04%	11.19%	14.65%	-4.38%	21.91%	0.03%	2.52%	4.29%	6.30%	-19.60%	15.34%	-3.80%
Small Cap Equity	Real Estate	Global ex-U.S. Fixed Income	Real Estate	Emerging Market Equity	Emerging Market Equity	Small Cap Equity	Global ex-U.S. Fixed Income	Dev ex-U.S. Equity	Dev ex-U.S. Equity	High Yield	Emerging Market Equity
-4.41%	4.06%	10.51%	-5.63%	18.44%	-3.39%	2.01%	2.89%	5.43%	-23.26%	10.18%	-9.78%
High Yield	Dev ex-U.S. Equity	Real Estate	Small Cap Equity	High Yield	Dev ex-U.S. Equity	Emerging Market Equity	Emerging Market Equity	U.S. Fixed Income	Emerging Market Equity	Real Estate	Dev ex-U.S. Equity
-4.47%	2.75%	10.36%	-11.01%	14.32%	-5.42%	1.90%	2.86%	3.82%	-23.60%	10.07%	-11.49%
Global ex-U.S. Fixed Income	U.S. Fixed Income	High Yield	Dev ex-U.S. Equity	U.S. Fixed Income	Small Cap Equity	Dev ex-U.S. Equity	Dev ex-U.S. Equity	Emerging Market Equity	Real Estate	Global ex-U.S. Fixed Income	Small Cap Equity
-6.02%	2.65%	7.50%	-14.09%	8.72%	-6.63%	0.84%	2.01%	3.27%	-28.53%	3.38%	-12.98%
Emerging Market Equity	Global ex-U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	Global ex-U.S. Fixed Income	Real Estate	Real Estate	Real Estate	Global ex-U.S. Fixed Income	Small Cap Equity	U.S. Fixed Income	Real Estate
-14.92%	1.49%	3.54%	-14.57%	5.09%	-16.25%	-1.60%	1.27%	1.98%	-30.61%	2.90%	-21.33%

Sources: ● Bloomberg Barclays Aggregate ● Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US
 ● FTSE EPRA Nareit Developed ● MSCI World ex USA ● MSCI Emerging Markets ● Russell 2000 ● S&P 500

Stunning Recovery in Global Equity Markets in 2Q20

V-shaped equity rebound, ahead of the global economy

Global equity rally after March market bottom

- S&P -33% from peak (02/19/20) to low on 3/23/20
- Sharp rebound since March, suggesting broad-based recovery, but YTD results concentrated in a few stocks
- Fed cut rates to zero, commenced QE, instituted multiple facilities to backstop money markets, credit markets, and economy.
 - *Fed expects to get paid back*
 - *Further fiscal stimulus expected*
- Congress passed fiscal stimulus (CARES) to carry the economy through the crisis.
- Economic recovery will be uncertain as COVID-19 infections continue; re-openings may be reversed.

Returns for Periods ended June 30, 2020

	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	22.03	6.53	10.03	13.72	9.28
S&P 500	20.54	7.51	10.73	13.99	9.27
Russell 2000	25.42	-6.63	4.29	10.50	8.16
Global ex-U.S. Equity					
MSCI World ex USA	15.34	-5.42	2.01	5.43	4.68
MSCI Emerging Markets	18.08	-3.39	2.86	3.27	--
MSCI ACWI ex USA Small Cap	22.83	-4.34	2.50	6.05	5.51
Fixed Income					
Bloomberg Barclays Aggregate	2.90	8.74	4.30	3.82	5.36
90-day T-Bill	0.02	1.63	1.19	0.64	2.37
Bloomberg Barclays Long Gov/Credit	6.23	18.91	8.98	7.84	7.72
Bloomberg Barclays Global Agg ex-US	3.38	0.71	2.89	1.98	3.73
Real Estate					
NCREIF Property	0.71	4.46	7.13	9.89	9.22
FTSE Nareit Equity	11.82	-13.04	4.06	9.05	9.48
Alternatives					
CS Hedge Fund	6.20	-0.73	1.55	3.83	7.49
Cambridge Private Equity*	5.36	16.14	12.64	13.57	15.29
Bloomberg Commodity	5.08	-17.38	-7.69	-5.82	0.75
Gold Spot Price	12.77	27.36	8.97	3.75	6.36
Inflation - CPI-U	-0.12	0.65	1.56	1.69	2.12

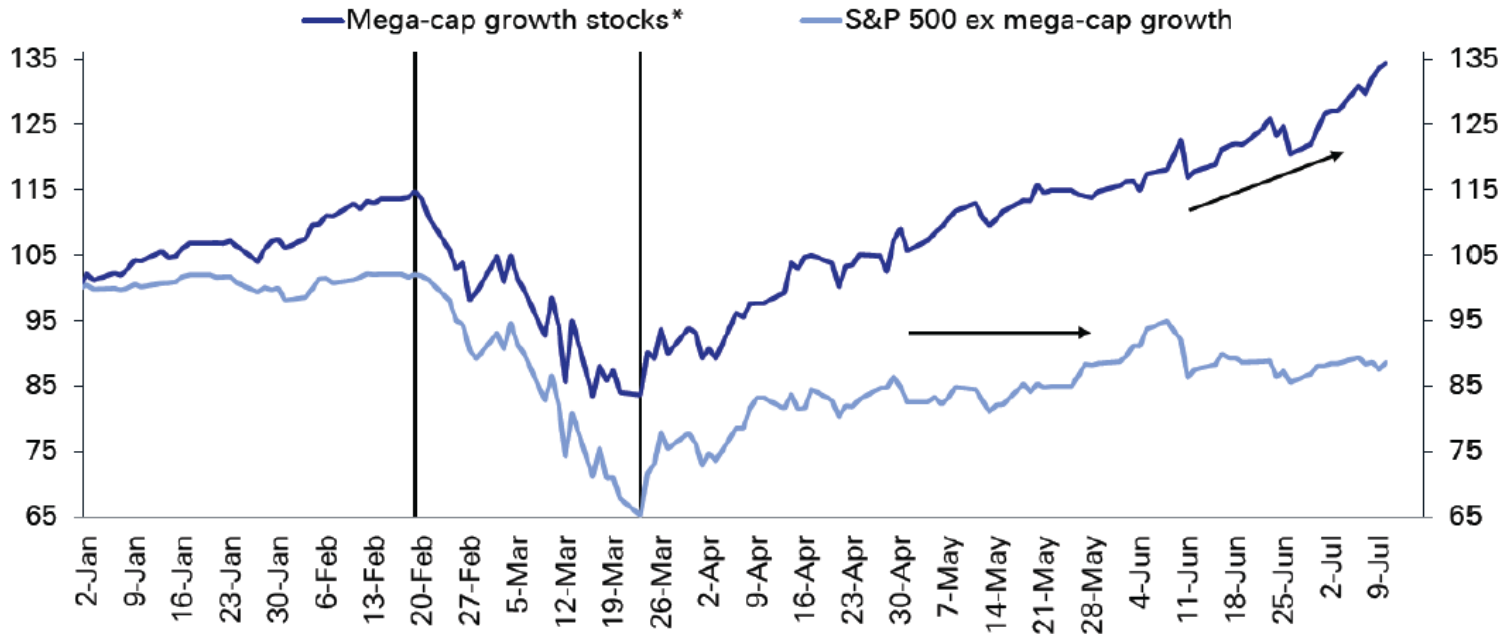
*Cambridge PE data through 12/31/19

Sources: Bloomberg, Bloomberg Barclays, Callan , Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

Narrow U.S. Equity Market Performance

YTD through July 20th 2020

S&P 500 mega-cap growth vs others (re-indexed, Dec 31 2019=100)



*MSFT, AAPL, AMZN, GOOGL, GOOG, FB, V, MA, NVDA, NFLX, ADBE

Source: Bloomberg Finance LP, DB Asset Allocation, DB Global Research

- Mega-cap growth stocks (27% of S&P 500) propping the market up. Other 490 range traded since early April.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2020, with the distribution as of March 31, 2020. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Class Allocation

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
Global Equities	\$1,503,564,150	57.55%	\$45,681,866	\$235,214,026	\$1,222,668,258	51.83%
Public Equities	\$1,368,921,751	52.39%	\$35,433,445	\$235,710,695	\$1,097,777,611	46.54%
World Equities	\$378,588,023	14.49%	\$5,959,837	\$54,732,881	\$317,895,305	13.48%
Domestic Equities	\$603,162,444	23.09%	\$16,649,435	\$116,849,187	\$469,663,822	19.91%
Large Cap	477,208,309	18.26%	7,624,135	94,572,839	375,011,335	15.90%
Small Cap	125,954,135	4.82%	9,025,300	22,276,348	94,652,487	4.01%
International Equities	\$387,171,284	14.82%	\$12,824,173	\$64,128,627	\$310,218,484	13.15%
Developed	313,070,972	11.98%	12,654,773	50,297,934	250,118,265	10.60%
Emerging Markets	74,100,312	2.84%	169,400	13,830,693	60,100,219	2.55%
Private Equities	\$134,642,399	5.15%	\$10,248,421	\$(496,669)	\$124,890,647	5.29%
Global Fixed Income	\$614,035,046	23.50%	\$(37,999,745)	\$25,927,419	\$626,107,371	26.54%
Domestic Fixed Income	\$614,035,046	23.50%	\$(37,999,745)	\$25,927,419	\$626,107,371	26.54%
Investment Grade	432,861,747	16.57%	(37,184,658)	20,741,171	449,305,234	19.05%
Below Investment Grade	181,173,299	6.93%	(815,087)	5,186,249	176,802,137	7.50%
Global Real Assets	\$471,434,280	18.04%	\$(2,058,406)	\$(5,093,796)	\$478,586,482	20.29%
Real Estate	\$269,594,421	10.32%	\$2,505,705	\$(6,744,223)	\$273,832,939	11.61%
Other Real Assets	\$201,839,859	7.73%	\$(4,564,110)	\$1,650,426	\$204,753,543	8.68%
Infrastructure	145,356,956	5.56%	(3,435,626)	1,545,371	147,247,211	6.24%
Timber	56,482,903	2.16%	(1,128,485)	105,056	57,506,332	2.44%
Cash	\$23,683,023	0.91%	\$(7,785,945)	\$38,246	\$31,430,722	1.33%
Securities Lending Income	\$0	0.00%	\$(24,588)	\$24,588	-	-
Total Fund	\$2,612,716,499	100.0%	\$(2,186,816)	\$256,110,483	\$2,358,792,833	100.0%



**TFFR
Investment
Performance
At June 30, 2020**



SIB Watch List:

Epoch and LSV will likely be on Watch as of Sep. 25 pending SIB approval.

Callan and RIO are working on a global equity search and intend to identify new strategies to enhance future global equity returns later in 2020.

	June-20			Current Fiscal YTD		3 Years Ended 6/30/2020		5 Years Ended 6/30/2020	
	Allocation			Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net
	Market Value	Actual	Policy						
TOTAL FUND	2,612,716,499	100%	100%	3.66%	3.45%	6.25%	6.01%	6.44%	6.17%
POLICY TARGET BENCHMARK				3.19%	3.19%	5.80%	5.80%	5.87%	5.87%
EXCESS RETURN				0.46%	0.26%	0.45%	0.21%	0.57%	0.30%
GLOBAL EQUITIES	1,503,564,149	57.5%	58.0%	1.64%	1.45%	6.23%	6.01%	6.59%	6.34%
<i>Benchmark</i>				1.72%	1.72%	6.12%	6.12%	6.37%	6.37%
PUBLIC EQUITIES	1,368,921,750	52.4%	52.0%	1.63%	1.41%				
<i>Benchmark</i>				1.21%	1.21%				
Epoch Global Choice (1)	187,336,160	7.2%	7.0%	-3.32%	-3.92%	6.06%	5.40%	5.73%	5.07%
<i>MSCI World</i>				2.84%	2.84%	6.70%	6.70%	6.90%	6.90%
LSV Global Value Equity	191,251,863	7.3%	9.0%	-10.04%	-10.13%	-0.91%	-1.04%	2.24%	1.95%
<i>MSCI ACWI IMI (2)</i>				1.17%	1.17%	6.12%	6.12%	6.55%	6.55%
Total Global Equities	378,588,023	14.5%	16.0%	-6.82%	-7.14%	2.24%	1.88%	3.86%	3.41%
<i>MSCI World</i>				2.84%	2.84%	6.70%	6.70%	6.90%	6.90%
Domestic - broad	603,162,443	23.1%	21.5%	9.11%	8.96%	11.37%	11.20%	10.58%	10.40%
<i>Benchmark</i>				4.24%	4.24%	8.72%	8.72%	9.12%	9.12%
Large Cap Domestic									
LA Capital Large Cap Growth	200,018,312	7.7%	6.6%	22.47%	22.23%	18.04%	17.79%	14.92%	14.69%
<i>Russell 1000 Growth</i>				23.28%	23.28%	18.99%	18.99%	15.89%	15.89%
LA Capital 60% Large Cap/40% Large Cap Active Extension	88,779,460	3.4%	3.3%	8.31%	8.20%	10.58%	10.46%	10.63%	10.51%
<i>Russell 1000</i>				7.48%	7.48%	10.64%	10.64%	10.47%	10.47%
NTAM - Quant Enhanced S&P 500	83,782,468	3.2%	3.3%	3.13%	3.13%	7.91%	7.91%	8.30%	8.30%
Parametric/Clifton Group Enhanced S&P 500	104,627,138	4.0%	3.3%	7.67%	7.67%	10.49%	10.49%	10.73%	10.68%
<i>S&P 500</i>				7.51%	7.51%	10.73%	10.73%	10.73%	10.73%
Total Large Cap Domestic	477,208,309	18.3%	16.6%	13.13%	13.01%	13.13%	13.01%	12.01%	11.88%
<i>Russell 1000 (3)</i>				7.48%	7.48%	10.64%	10.64%	10.47%	10.47%
Small Cap Domestic									
Atlanta Capital Small Cap Equity Fund	61,825,302	2.4%	2.4%	-2.76%	-3.25%	8.42%	7.74%	N/A	N/A
Parametric/Clifton Group Enhanced Russell 2000	64,128,833	2.5%	2.4%	-5.93%	-5.93%	2.12%	2.09%	4.70%	4.51%
Total Small Cap Domestic	125,954,134	4.8%	4.8%	-4.25%	-4.50%	5.36%	5.00%	5.63%	5.26%
<i>Russell 2000</i>				-6.63%	-6.63%	2.01%	2.01%	4.29%	4.29%
International - broad	387,171,284	14.8%	14.5%	-0.02%	-0.20%	3.18%	3.00%	4.24%	4.05%
<i>Benchmark</i>				-4.98%	-4.98%	1.09%	1.09%	2.18%	2.18%
Developed International									
NTAM - MSCI World ex-US Index	153,412,018	5.9%	5.9%	-4.94%	-4.97%	1.24%	1.21%	2.41%	2.37%
<i>MSCI World Ex US</i>				-5.42%	-5.42%	0.84%	0.84%	2.01%	2.01%
William Blair International Leaders	98,970,993	3.8%	3.5%	8.68%	8.28%	9.94%	9.55%	N/A	N/A
<i>MSCI ACWI ex-US IMI (Net)</i>				-4.74%	-4.74%	0.96%	0.96%		
DFA Intl. Small Cap Value Portfolio (6)	28,650,806	1.1%	1.2%	-11.98%	-11.98%	-6.38%	-6.38%	-0.84%	-0.84%
Wellington International Small Cap Opportunities	32,035,201	1.2%	1.2%	-3.25%	-4.08%	-0.49%	-1.34%	3.90%	3.03%
<i>S&P/Citigroup BMI EPAC < \$2BN</i>				-4.88%	-4.88%	-1.81%	-1.81%	2.03%	2.03%
Total Developed International	313,070,972	12.0%	11.8%	-0.37%	-0.59%	3.04%	2.82%	4.14%	3.91%
<i>MSCI World Ex US (4)</i>				-5.42%	-5.42%	0.84%	0.84%	1.94%	1.94%
Axiom Emerging Markets Equity Fund (6)	55,815,692	2.1%	2.1%	5.45%	5.45%	5.65%	5.65%	5.28%	5.28%
DFA Emerging Markets Small Cap Portfolio (6)	18,284,621	0.7%	0.7%	-9.26%	-9.26%	-1.88%	-1.88%	1.27%	1.27%
Total Emerging Markets	74,100,312	2.8%	2.8%	1.44%	1.44%	3.69%	3.69%	4.22%	4.22%
<i>MSCI Emerging Markets</i>				-3.39%	-3.39%	1.90%	1.90%	2.86%	2.86%

**TFFR
Investment
Performance
At June 30, 2020**

	June-20			Current Fiscal YTD		3 Years Ended 6/30/2020		5 Years Ended 6/30/2020	
	Allocation			Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net
	Market Value	Actual	Policy						
TOTAL FUND	2,612,716,499	100%	100%	3.66%	3.45%	6.25%	6.01%	6.44%	6.17%
POLICY TARGET BENCHMARK				3.19%	3.19%	5.80%	5.80%	5.87%	5.87%
EXCESS RETURN				0.46%	0.26%	0.45%	0.21%	0.57%	0.30%
Private Equity									
Adams Street-Brinson 1998 Partnership Fund	6,390	0.0%		1.93%	1.93%	3.44%	3.44%	2.85%	2.85%
Adams Street-Brinson 1999 Partnership Fund	58,354	0.0%		5.34%	5.34%	-0.20%	-0.20%	2.12%	2.12%
Adams Street-Brinson 2000 Partnership Fund	158,284	0.0%		-3.13%	-3.13%	6.31%	6.31%	3.98%	3.98%
Adams Street-Brinson 2001 Partnership Fund	243,373	0.0%		-6.33%	-6.33%	0.64%	0.64%	-0.28%	-0.28%
Adams Street-Brinson 2002 Partnership Fund	65,012	0.0%		1.24%	1.24%	-2.44%	-2.44%	3.97%	3.97%
Adams Street-Brinson 2003 Partnership Fund	71,398	0.0%		-5.59%	-5.59%	4.49%	4.49%	4.38%	4.38%
Total Adams Street-Brinson Partnership Funds	602,811	0.0%		-3.51%	-3.51%	2.00%	2.00%	2.26%	2.26%
Adams Street-Brinson 1999 Non-US Partnership Fund	33,872	0.0%		1.39%	1.39%	1.61%	1.61%	3.87%	3.87%
Adams Street-Brinson 2000 Non-US Partnership Fund	172,966	0.0%		4.28%	4.28%	7.58%	7.59%	5.39%	5.39%
Adams Street-Brinson 2001 Non-US Partnership Fund	45,102	0.0%		3.48%	3.48%	8.20%	8.20%	8.36%	8.36%
Adams Street-Brinson 2002 Non-US Partnership Fund	41,702	0.0%		-0.06%	-0.06%	1.07%	1.07%	4.83%	4.83%
Adams Street-Brinson 2003 Non-US Partnership Fund	75,897	0.0%		-7.80%	-7.80%	-6.25%	-6.25%	4.25%	4.25%
Adams Street-Brinson 2004 Non-US Partnership Fund	83,377	0.0%		-2.73%	-2.73%	4.13%	4.13%	2.54%	2.54%
Total Adams Street-Brinson Non-US Partnership Fund	452,915	0.0%		0.06%	0.06%	3.69%	3.69%	5.36%	5.36%
Adams Street 2008 Non-US Partnership Fd	2,906,499	0.1%		7.45%	7.45%	13.85%	13.85%	13.80%	13.80%
Adams Street-Brinson BVCF IV	1,768	0.0%		-99.89%	-99.89%	-89.63%	-89.63%	-74.02%	-74.02%
Adams Street Direct Co-investment Fund	119,967	0.0%		-43.85%	-43.85%	-31.32%	-31.42%	-19.58%	-19.69%
Adams Street 2010 - Direct Fund	347,573	0.0%		-0.97%	-0.97%	10.85%	10.85%	10.40%	10.40%
Adams Street 2010 - Non-US Emerging Mkts	839,686	0.0%		8.03%	8.03%	13.32%	13.32%	12.11%	12.11%
Adams Street 2010 - Non-US Developed Mkts	1,184,448	0.0%		11.49%	11.49%	16.79%	16.79%	16.26%	16.26%
Adams Street 2010 - Partnership Fund	2,541,177	0.1%		10.85%	10.85%	15.51%	15.51%	13.51%	13.51%
Total Adams Street 2010 Funds	4,912,884	0.2%		9.62%	9.62%	15.15%	15.15%	13.77%	13.77%
Adams Street 2015 Global Fund	13,352,222	0.5%		16.99%	16.99%	17.37%	17.37%	N/A	N/A
Adams Street 2016 Global Fund	10,046,071	0.4%		11.93%	11.93%	12.05%	12.05%	N/A	N/A
Adams Street 2017 Global Fund	18,178,673	0.7%		11.40%	11.40%	N/A	N/A	N/A	N/A
Adams Street 2018 Global Fund	10,646,998	0.4%		18.93%	18.93%	N/A	N/A	N/A	N/A
Adams Street 2019 Global Fund	2,912,440	0.1%		N/A	N/A	N/A	N/A	N/A	N/A
Blackrock PEP	44,905,683	1.7%		1.34%	1.34%	4.47%	4.47%	N/A	N/A
Matlin Patterson - Global Opportunities II	608,199	0.0%		10.26%	10.26%	4.27%	4.27%	-2.85%	-2.85%
Matlin Patterson - Global Opportunities III	2,371,129	0.1%		-46.37%	-46.37%	-16.16%	-16.16%	-9.89%	-9.89%
InvestAmerica - Lewis and Clark Fund	652,786	0.0%		23.67%	23.67%	11.30%	11.30%	-3.86%	-3.86%
InvestAmerica - L&C II	2,455,971	0.1%		18.49%	18.49%	10.26%	10.26%	8.64%	8.64%
Corsair III	4,768,701	0.2%		-22.33%	-22.33%	-2.44%	-2.44%	5.90%	5.90%
Capital International - Fund V	294,899	0.0%		-22.49%	-22.49%	-36.79%	-36.79%	-37.54%	-37.54%
Capital International - Fund VI	12,860,737	0.5%		17.60%	17.60%	10.40%	10.40%	8.29%	8.29%
EIG (formerly TCW)	1,064,736	0.0%		-47.54%	-47.54%	-21.87%	-21.87%	-29.58%	-29.58%
Quantum - Energy Partners	484,186	0.0%		-24.76%	-24.76%	-43.45%	-43.45%	-25.10%	-25.10%
Total Private Equity (6)	134,642,399	5.2%	6.0%	3.04%	3.04%	5.62%	5.62%	3.97%	3.97%

**TFFR
Investment
Performance
At June 30, 2020**



	June-20			Current Fiscal YTD		3 Years Ended 6/30/2020		5 Years Ended 6/30/2020	
	Allocation			Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net
	Market Value	Actual	Policy						
TOTAL FUND	2,612,716,499	100%	100%	3.66%	3.45%	6.25%	6.01%	6.44%	6.17%
POLICY TARGET BENCHMARK				3.19%	3.19%	5.80%	5.80%	5.87%	5.87%
EXCESS RETURN				0.46%	0.26%	0.45%	0.21%	0.57%	0.30%
GLOBAL FIXED INCOME Benchmark	614,035,046	23.5%	23.0%	7.28%	7.14%	6.31%	6.14%	5.72%	5.52%
<i>Domestic Fixed Income Benchmark</i>				6.20%	6.20%	5.31%	5.31%	4.63%	4.63%
<i>Investment Grade Fixed Income</i>									
PIMCO Distressed Senior Credit Opportunities II (6)	46,557,902	1.8%	1.8%	2.93%	2.93%	6.24%	6.24%	7.95%	7.95%
Prudential Core Fixed Income	145,144,556	5.6%	5.3%	8.61%	8.49%	N/A	N/A	N/A	N/A
Bloomberg Aggregate				8.74%	8.74%	5.32%	5.32%	4.30%	4.30%
State Street Long U.S. Treasury Index NL Fund	42,929,786	1.6%	1.6%	25.52%	25.50%	12.08%	12.05%	9.27%	9.24%
Bloomberg Long Treasuries				25.41%	25.41%	12.04%	12.04%	9.26%	9.26%
PIMCO Core Plus Constrained (formerly Unconstrained)	144,498,132	5.5%	5.3%	9.20%	9.07%	6.35%	6.20%	5.57%	5.32%
Bloomberg Aggregate (5)				8.74%	8.74%	6.07%	6.07%	3.90%	3.90%
Declaration Total Return Bond Fund (6)	53,729,605	2.1%	1.9%	3.19%	3.19%	4.32%	4.32%	4.11%	4.11%
3m LIBOR				1.56%	1.56%	1.97%	1.97%	1.48%	1.48%
Parametric Fixed Inc Overlay (current notional exposure \$)	1,766	0.0%	0.0%	N/A	N/A				
Total Investment Grade Fixed Income Bloomberg Aggregate	432,861,747	16.6%	16.0%	9.78%	9.69%	6.51%	6.41%	5.69%	5.57%
<i>Below Investment Grade Fixed Income</i>									
Ares ND Credit Strategies	47,800,671	1.8%	1.8%	1.72%	1.72%	N/A	N/A	N/A	N/A
Cerberus ND Private Credit Fund	49,639,482	1.9%	1.9%	8.93%	8.93%	N/A	N/A	N/A	N/A
S&P LSTA Leveraged Loan B Index				-1.14%	-1.14%				
Loomis Sayles High Yield	75,435,824	2.9%	3.0%	-0.77%	-1.28%	3.14%	2.62%	4.43%	3.91%
PIMCO BRAVO II (6)	8,192,534	0.3%	0.3%	-18.00%	-18.00%	-3.59%	-3.59%	1.69%	1.69%
GS Mezzanine Partners 2006 Offshore, L.P. (6)	29,898	0.0%	0.0%	6.28%	6.28%	8.65%	8.65%	16.12%	16.12%
GS Mezzanine Partners V Offshore, L.P. (6)	74,890	0.0%	0.0%	25.90%	25.90%	25.98%	25.98%	10.47%	10.47%
Bloomberg High Yield 2% Issuer Constrained Index				0.00%	0.00%	3.32%	3.32%	1.98%	1.98%
Total Below Investment Grade Fixed Income Bloomberg High Yield 2% Issuer Constrained Index	181,173,299	6.9%	7.0%	1.14%	0.91%	4.61%	4.33%	5.48%	5.15%

SIB client investment policy statements should be reviewed by client boards on a regular basis. RIO notes that TFFR recently engaged Callan to conduct a comprehensive asset liability study including a review of its asset allocation policy. These reviews are scheduled to be completed in the next six months at which time Callan and RIO will engage with the SIB and TFFR boards to review the new asset allocation policy and make recommendations to TFFR's investment policy statements. (PERS is pursuing a similar timeline.)

**TFFR
Investment
Performance
At June 30, 2020**

	June-20			Current Fiscal YTD		3 Years Ended 6/30/2020		5 Years Ended 6/30/2020	
	Market Value	Allocation		Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net	Gross ⁽⁶⁾	Net
		Actual	Policy						
TOTAL FUND	2,612,716,499	100%	100%	3.66%	3.45%	6.25%	6.01%	6.44%	6.17%
POLICY TARGET BENCHMARK				3.19%	3.19%	5.80%	5.80%	5.87%	5.87%
EXCESS RETURN				0.46%	0.26%	0.45%	0.21%	0.57%	0.30%
GLOBAL REAL ASSETS	471,434,280	18.0%	18.0%	3.78%	3.40%	5.42%	5.00%	6.16%	5.72%
Benchmark				2.06%	2.06%	4.23%	4.23%	4.75%	4.75%
Global Real Estate									
Invesco Core Real Estate - U.S.A., L.P.	133,553,533			1.32%	0.98%	5.51%	5.15%	7.18%	6.81%
Invesco Real Estate Fund III, LP (6)	1,229,100			27.02%	27.02%	1.59%	1.59%	5.98%	5.98%
Invesco U.S. Value-Add Fund IV, L.P. (6)	13,910,863			5.79%	5.79%	9.94%	9.94%	8.49%	8.49%
Invesco U.S. Value-Add Fund V, L.P. (6)	12,168,114			2.95%	2.95%	N/A	N/A	N/A	N/A
Invesco Asia Real Estate Fund I, L.P. (6)	-			N/A	N/A	N/A	N/A	83.29%	83.29%
Invesco Asia Real Estate Fund III, L.P. (6)	8,006,212			16.93%	16.93%	35.49%	35.49%	N/A	N/A
JP Morgan Strategic & Special Situation Property Blend	100,476,065			3.15%	2.40%	5.99%	5.11%	7.63%	6.65%
JP Morgan Greater Europe Opportunistic Property Fund (7)	250,535			-29.62%	-29.62%	-25.41%	-25.41%	-12.47%	-12.47%
Total Global Real Estate	269,594,421	10.3%	10.0%	2.66%	2.20%	5.79%	5.28%	7.76%	7.23%
NCREIF TOTAL INDEX				2.69%	2.69%	5.44%	5.44%	6.77%	6.77%
OTHER REAL ASSETS	201,839,859	7.7%	8.0%	5.31%	5.04%				
Benchmark				1.27%	1.27%				
Timber									
TIR Teredo Timber, LLC	12,515,762	0.5%		0.16%	0.16%	1.13%	1.13%	1.00%	1.00%
TIR Springbank, LLC	43,967,141	1.7%		8.35%	8.35%	3.00%	3.00%	0.22%	0.22%
Total Timber (6)	56,482,903	2.2%	2.2%	6.28%	6.28%	2.55%	2.55%	0.38%	0.38%
NCREIF Timberland Index				0.34%	0.34%	2.28%	2.28%	2.71%	2.71%
Infrastructure									
Rohatyn Group Asian Infrastructure & Related Resources (6)	6,679,666	0.3%		-18.03%	-18.03%	-14.26%	-14.26%	-5.06%	-5.06%
JP Morgan Infrastructure Investments Fund (IIF)	76,287,303	2.9%		5.31%	4.62%	7.81%	7.11%	7.11%	6.31%
ISQ Global Infrastructure Fund II	18,715,596	0.7%		6.15%	6.15%	N/A	N/A	N/A	N/A
Macquarie Infrastructure Partners IV	26,824,084	1.0%		9.14%	9.14%	N/A	N/A	N/A	N/A
Grosvenor Customized Infrastructure Strategies, LP (6)	8,905,817	0.3%		3.38%	3.38%	4.67%	4.67%	6.21%	6.21%
Grosvenor Customized Infrastructure Strategies II (6)	7,944,489	0.3%		5.23%	5.23%	9.76%	9.76%	7.70%	7.70%
Total Infrastructure	145,356,956	5.6%	5.8%	4.84%	4.47%	6.09%	5.65%	6.32%	5.79%
50% NCREIF ODCE/50% CPI-U (lagged one quarter)				1.62%	1.62%	2.87%	2.87%	2.15%	2.15%
Cash Equivalents									
Northern Trust Collective STIF	18,000,913			1.46%	1.46%	1.71%	1.71%	1.23%	1.23%
Bank of ND	5,682,110			1.49%	1.49%	1.72%	1.72%	N/A	N/A
Total Cash Equivalents	23,683,023	0.9%	1.0%	1.49%	1.49%	1.76%	1.76%	1.26%	1.26%
90 Day T-Bill				1.63%	1.63%	1.77%	1.77%	1.19%	1.19%

**Preliminary Update
Pension Trust -
As of July 31, 2020:**

Net Returns 3.36%
Benchmark 2.91%
Excess Return 0.45%

The SIB engages Callan to conduct a comprehensive fee study every two years. Callan and RIO intends to share these fee study results with our SIB client boards later this year in advance of legislative session.

Status Update on SIB Investments (provided to) Employee Benefits Program Committee – Sep. 9, 2020

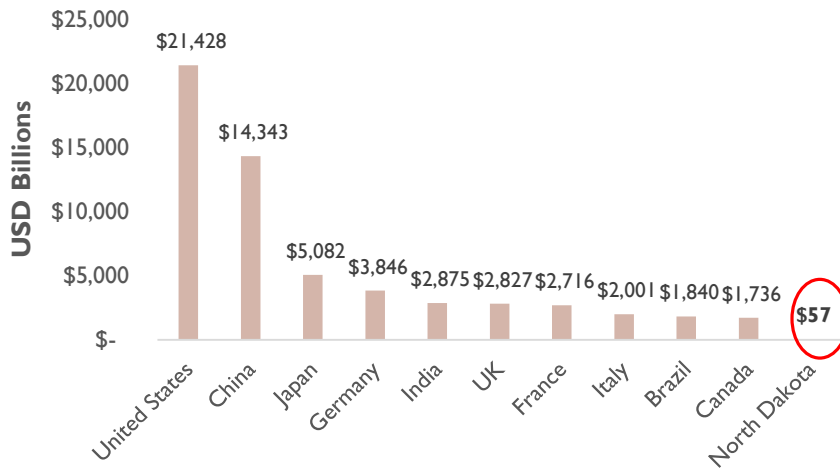
Overview of SIB Client Investments

- SIB client investments increased by over \$1.6 billion in the last fiscal year to exceed \$16.3 billion as of June 30, 2020:

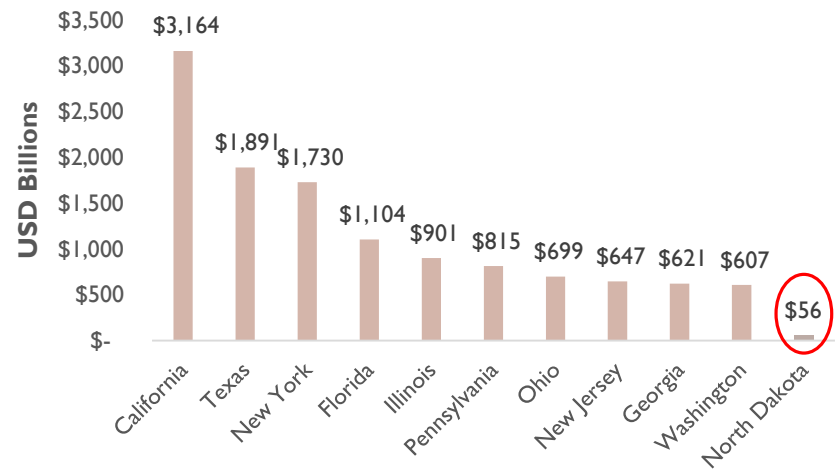
Legacy Fund	\$ 7.0 billion	<i>(\$6.995 billion)</i>
PERS	3.2	
TFFR	2.7	
Other	3.4	
- SIB client net investment income exceeded \$623 million for the fiscal year ended June 30, 2020, including \$277 million for the Legacy Fund, \$104 million for PERS and \$86 million for TFFR.
- For the 10-years ended June 30, 2020, PERS (main) plan earned a net investment return of 8.38% exceeding its performance benchmark of 7.94% by 0.44% and its long-term expected return assumption of 7.00%.
- For the 10-years ended June 30, 2020, TFFR earned a net investment return of 8.53% exceeding its performance benchmark of 7.90% by 0.63% and its long-term expected return assumption of 7.25%.
- SIB Pension Trust returns (including TFFR and PERS) ranked in the top 25% based on Callan's Public Fund Sponsor database for the 10-years ended June 30, 2020.
- In 2019, the SIB dedicated an additional \$100 million in Legacy Fund investments to providing cost-efficient financing to companies seeking to develop new businesses and infrastructure in North Dakota. The \$100 million addition to the Bank of North Dakota's (BND) Match Loan Certificates of Deposit (CD) Investment Program increased the program's size to \$300 million. BND requested the increase to support future anticipated growth in this economic development program.
- The SIB is required to apply the prudent investor rule in investing funds under its supervision. The prudent investor rule requires the SIB, as a fiduciary, to exercise 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 the probable safety of capital as well as probable income.
- RIO's website was recently updated to improve overall transparency and reporting access for our interested users and clients noting the Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to RIO for its CAFR for the fiscal year ended June 30, 2019 (for the 22nd consecutive year).

GDP of Ten Largest Global and U.S. Economies

GDP of the Ten Largest Economies by Country
2019 (Current USD Billions)²



GDP of the Ten Largest Economies by State
Q1, 2020 (Current USD Billion)¹



1: State GDP data from www.bea.gov
2: Country GDP data from www.worldbank.org

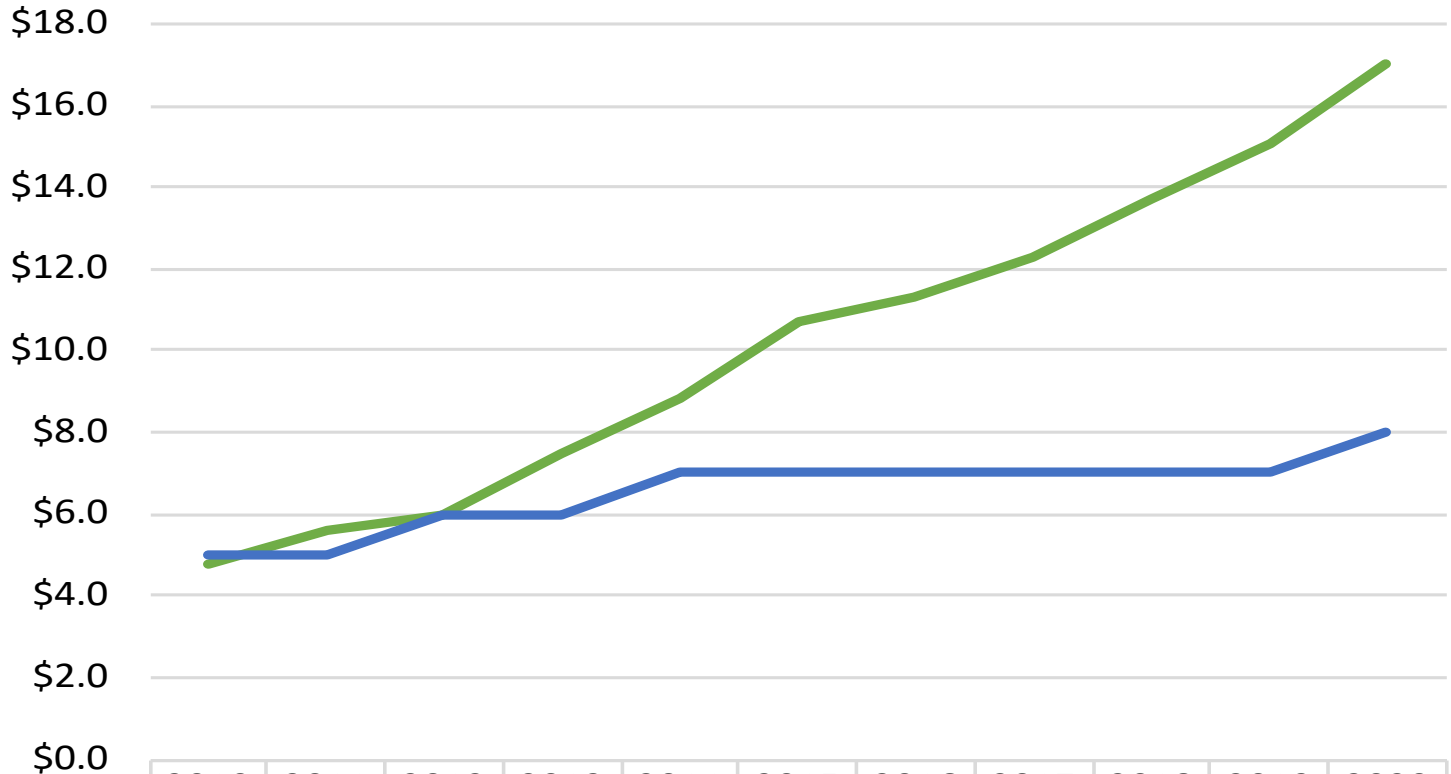
SIB Press Release August 27, 2019 - The North Dakota State Investment Board (SIB) dedicated an additional \$100 million in Legacy Fund investments to providing cost-efficient financing to companies seeking to develop new businesses and infrastructure in North Dakota – one of several actions taken by the board to further improve the Legacy Fund’s performance and return for North Dakotans.

The \$100 million addition to the Bank of North Dakota’s Match Loan Certificates of Deposit (CD) Investment Program will increase the program’s total size from \$200 million to \$300 million. The state-owned Bank of North Dakota requested the increase to support future anticipated growth in this economic development program, which has been in place for over 30 years.

“This increase in funding will provide greater access to capital for entrepreneurs looking to launch new manufacturing, processing and value-added businesses and important infrastructure in North Dakota, while also ensuring that more Legacy Fund dollars are being invested right here in North Dakota,” said Lt. Gov. Brent Sanford, who chairs the SIB.

NOTE: SIB client investment values in 2020 are preliminary, unaudited and subject to change.

SIB Investments and SIB FTE (2010 to 2020)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
\$ Billions	\$4.8	\$5.6	\$6.0	\$7.5	\$8.8	\$10.7	\$11.3	\$12.3	\$13.7	\$15.1	\$17.0
SIB FTE	5	5	6	6	7	7	7	7	7	7	8

— \$ Billions — SIB FTE

MEMORANDUM

TO: TFFR Board

FROM: SIB Audit Committee

DATE: August 13, 2020

**SUBJECT: Fiscal Year End Audit Committee Activities Update
July 1, 2019 to June 30, 2020**

The Audit Committee is a standing committee of the State Investment Board (SIB) authorized under the SIB Governance Policy B-6, Standing Committees. Its primary function is to assist the SIB in fulfilling its oversight responsibilities of the Retirement and Investment Office (RIO) internal and external audit programs, including the financial reporting process, internal controls, and compliance with laws, regulations, policies, and procedures.

The Audit Committee consists of five members selected by the SIB. Three members of the Audit Committee represent the three groups on the SIB (Teachers' Fund for Retirement (TFFR) Board, Public Employees Retirement System (PERS) Board, and elected and appointed officials). The other two members are selected from outside the SIB, that are both independent and financially literate. Members of the Audit Committee for the 2019 - 2020 fiscal year were:

Yvonne Smith, PERS Board, Chair
Rob Lech, TFFR Board, Vice Chair
Jodi Smith, Elected and Appointed Officials and SIB Liaison
Julie Dahle, External Member
Jon Griffin, External Member

The Audit Committee held four regular meetings during the fiscal year ended June 30, 2020. The meetings occurred on: September 26, 2019, November 13, 2019, February 27, 2020, and May 21, 2020.

Activities of the Audit Committee during the past year included:

- The Committee approved a July 1, 2019 through June 30, 2020 Audit Service work plan. Progress was monitored on a quarterly basis. Audit activities included:
 - Executive Limitations Audit was completed. The audit determined the Executive Director/CIO's level of compliance with SIB Governance Manual Executive Limitation policies (A-1 through A-11) for the calendar year ending December 31, 2019.
 - State Investment Board Self-Evaluation was administered by Internal Audit. The SIB requested Internal Audits assistance in administering the self-evaluation and presenting the results.
 - Investment Due Diligence Audit was completed. The audit reviewed the ongoing investment due diligence process for investment managers.
 - Administrative Expense Audit was completed. The audit included reviews of RIO's travel policy, travel expense reimbursement vouchers, and a sample of invoices.
 - Three TFFR Employer Reporting Reviews were completed. The review tested the accuracy of retirement salaries and contributions reported by the Employer. Eligibility and services hours were also reviewed.

- TFFR Benefit Payment Audit was completed. A review of TFFR procedures for processing deaths of annuitants/members and checks outstanding sixty days or longer. The audit also verified that established procedures related to the monitoring of long-term annuitants in payment status are being followed.
 - The TFFR File Maintenance Audit was completed. The audit reviewed system generated (CPAS) audit tables and reports to ensure transactions initiated by staff are appropriate given an individual's role within the organization.
 - TFFR Task List Project was started to help with the upcoming PAS project. Internal Audit worked with Retirement Services, Administrative Services, and Information Technology Services on tracking retirement program activities. This is to document the flow of work and help find efficiencies. The tasks lists were also used in various audits throughout the year.
 - Internal Audit worked with the Loss Committee on Risk Management. All staff training was done for risk management. Policies and documentation of training was submitted Risk Management Division and RIO received the full 15% discount on their premium for having all required risk management policies and training in place.
 - Internal Audit has been working with staff on updating the Staff Policy Manual. This is an ongoing process and is to be completed by end of calendar year. Policies are being updated to ensure compliance with state and federal policies.
 - RIO's Internal Audit division provided assistance to our external audit partners, CliftonLarsonAllen, LLP (CLA), during the financial audit of the RIO as well as the GASB 68 Census Data Audits. Due to COVID-19, Internal Audit staff assisted in providing additional information to CLA as they were unable to travel for the preliminary onsite work.
 - Internal Audit staff continued to pursue networking and professional development opportunities via the IIA's local chapter. Staff attended training seminars and monthly meetings which cover a variety of topics. Supervisor of Internal Audit obtained both a Master's in Public Administration and Master's in Business Administration.
- The Committee received the results of the RIO financial audit for the fiscal year ended June 30, 2019 from independent auditors, CliftonLarsonAllen, LLP. They issued an unmodified "clean" opinion.
 - The Committee reviewed the RIO financial audit plan for fiscal year ended June 30, 2020 with independent auditors, CliftonLarsonAllen, LLP. Discussion included scope and approach for the audit to ensure complete coverage of financial information and review and approval of the Final GASB 68 Schedule Audit Report.
 - The Committee adopted a detailed audit work plan and budgeted hours for fiscal year July 1, 2020 to June 30, 2021.

The above activities support the Committee's fulfillment of its oversight responsibilities. Please inform the Committee if there are special audits or activities the Board would like to have reviewed.

**Internal Audit – North Dakota Retirement and Investment Office
Benefit Audit for Processing the Accounts of Deceased Members,
Long-Outstanding Checks, and Long-Term Annuitants
Final Audit Report
April 20, 2020**

Background

The Internal Audit Division of the Retirement and Investment Office (RIO) conducts an audit on a biennial basis to verify that the staff of Retirement Services is adhering to established procedures for processing deaths of annuitants/members and checks outstanding sixty days or longer. The audit also verifies that established procedures related to the monitoring of long-term annuitants in payment status are being followed. This review is conducted per the request of the State Investment Board (SIB) Audit Committee, the Executive Director/CIO, and the Deputy Executive Director/Chief Retirement Officer.

Results Summary

Internal Audit (IA) found three findings (1-3) and had one procedural recommendation in the audit of Deaths-pages 1-4. In the audit of Long-Outstanding checks, there were two findings (4-5) noted on pages 4 and 5. In the audit of Long-term annuitants, there were two findings (6-7) and a procedural recommendation found on pages 5 and 6 of this report. Retirement Services should notify IA in writing with their responses to the findings and recommendations found within thirty days from the receipt of this report.

Scope

Information needed to complete the audit was requested on Mar, April and June of 2019. Audit work started October 2019 and concluded on February 26, 2020. Audit work for each of the three processes reviewed encompassed three phases:

- Phase I – Review and Document Changes to Established Procedures
- Phase II – Sample Selection and Testing of Established Procedures
- Phase III – Findings and Recommendations

Observations, Conclusions and Recommendations

Processing the Deaths of Annuitants and Members:

Starting May 1, 2019 of the 2018/19 fiscal year, there was increased risk associated with processing deaths due to Retirement Services staff turnover. The Retirement Program Specialist (RPS) that processed annuitant/member deaths retired and a new RPS was hired. The Retirement Program Manager (RPM) also changed the procedures processing the deaths. Instead of one RPS processing the deaths, the responsibility was divided among three staff members (the Membership Specialist and two RPS). There were 220 deaths processed in fiscal year 2018/19.

There are two separate procedures that pertain to the processing of annuitant/member deaths. The first set of procedures detail how the staff of Retirement Services (RS) determines if an annuitant/member has died. The second set of procedures detail how an annuitant/member's account is closed following the receipt of a death notification. IA confirmed that the staff of RS adhered to the established procedures for determining if an annuitant/member has died. IA also confirmed that the staff of RS adhered to established procedures for closing a deceased annuitant/member's account upon notification of death.

Procedure I for Deaths: Determining if an Annuitant/Member has died

The death of a member can be communicated to TFFR by family members, employers, banks, funeral homes, attorneys, and obituaries which appear in newspapers (manual searches). North Dakota Vital Statistic reports which

are run monthly and LifeStatus 360 reports which are run quarterly are also referenced. These reports compare the CPAS database to the North Dakota Vital Statistics and LifeStatus 360 databases of deceased individuals.

The Membership Specialist (MS) manually searches obituaries and reviews the LifeStatus 360 and ND Vital Statistic comparisons of the CPAS Database.

Per task reports reviewed from July 2019 through January 2020, the MS approximately spends one hour a day manually reviewing obituaries using website searches. Internal Audit estimated the time spent on these searches for the year was as follows: 52 weeks less 4 weeks of vacation – 2 weeks of sick leave = 46 weeks * 5 hours = 230 hours spent searching obituaries.

TFFR also compares the CPAS database to the North Dakota Vital Statistics database of deceased individuals every month. During the fiscal year under audit, these **Vital Statistic reports** identified 207 North Dakota annuitant/member deaths. In all but one occurrence, **TFFR had already identified the deaths**. There is no cost affiliated to TFFR with the monthly database comparisons. In 2018/19, eighty-four percent of benefits are paid to North Dakota residents.

The **LifeStatus 360** reports quarterly compare the CPAS database to a **national database** of deceased individuals. The four quarterly reports identified five deaths in the CPAS database comparison for fiscal year 2018/19. One death had already been identified but not yet closed. The other four deaths had not been previously identified (two out-of-state and two ND). During fiscal year 2018/19, the cost per quarterly search was \$250.00. Starting in August 2019, the cost per search had decreased to \$200.00.

Recommendation for Manual Obituary Searches:

The Vital Statistic and LifeStatus 360 comparisons are important automated tools to identify deaths or other inconsistencies that exist in the CPAS database that could result in an overpayment of benefits. **Both searches are identifying the deaths on CPAS. In the coming fiscal year, IA recommends that RS's consider investigating the expanded use of LifeStatus 360 for searches on a daily or weekly basis and discontinue the manual searches of state newspapers.** Discontinuing the manual searches will **free-up staff time which can be utilized for other time sensitive tasks.** There will still be time associated with investigating the deaths located by the automated searches. IA would be happy to research the different plans available and the cost associated to determine if the change would be cost effective.

Retirement Services' Response:

Retirement Services agrees ND Vital Records and LifeStatus-360 comparisons are important tools in identifying deaths. Finding deaths in a timely manner is one of the most time-sensitive tasks that needs to be done to ensure no payments are being made to deceased members. By having a staff member do a daily online search of obituaries in North Dakota state newspapers, TFFR rarely pays benefits to deceased members. Daily obituary lookups are needed to provide death information to TFFR in a timely manner. This can be done manually by TFFR staff or possibly automatically by a data compliance organization.

Retirement Services will explore various options for daily or weekly searches from reliable sources such as LifeStatus 360, ND Vital Records, or other death audit services. Retirement Services will also be mindful of the time it takes Information Services Division (IDS) to upload files as well as the time spent to investigate the information.

Procedure II for Deaths: Detail on how an annuitant's account is closed following the receipt of a death notification.

Once TFFR has been notified of an annuitant/member's death, the annuitant/member's account must be closed and any additional benefits owed or benefits overpaid processed accordingly. Starting May 1, 2019, both Retirement Program Specialist (RPS) monitor the deaths in their assigned section of the alphabet.

Due to the increased risk, IA reviewed 61 accounts: 23 of the accounts were the last accounts closed by the retiring RPS (were documents closed /scanned), 8 were accounts closed from May 1st to June 30th under new staff, and 30 subsequent deaths processed by the RS's staff under the new procedures. The accounts reviewed were either closed or in the process of being closed. IA determined that there were three issues that occurred with the transition accounts. All other accounts had been handled appropriately per procedures in place at the time of the review.

Finding 1:

IA found that one of the deaths processed in April of 2019 by the retiring RPS had none of the required documents found on FileNet. The RPS had forwarded the file to the MS to enter information from documents collected and code documents for scanning. The death was a Joint Survivor option that popped up to a single option when the designated beneficiary died.

RS had found this error for two other deaths and changed their procedures. Now, there is a direct handoff of the document folder from the MS to Administrative Services (instead of placing the file in the scanning basket which was located in the supply room). Administrative Services then scans the documents to annuitant's/members FileNet account.

Recommendation:

It is recommended that RS's should draft a memorandum stating the error that occurred and scan it to the affected account. RS's should also continue to request copies of the documents that have not been recovered.

Retirement Services' Response:

Retirement Services has added a memo to the retiree's account explaining the situation and included a full obituary. We will continue to request the necessary documents from the beneficiary or ND Vital Records, if necessary. Retirement Services understands that proper documentation is important and has reviewed and updated processing procedures.

Finding 2:

An active teacher died. Her beneficiary was set-up for payment status. There is not a copy of the member's death certificate and survivor/beneficiary's birth certificate found on FileNet.

Recommendation:

It is recommended that RS should get copies of the documents and have them scanned to FileNet.

Retirement Services' Response:

Retirement Services has added a memorandum to the surviving beneficiary's account explaining the situation. We have requested the documentation from the deceased member's spouse who has power of attorney for the beneficiary since we are unable to communicate with the beneficiary. Retirement Services has reviewed and updated processing procedures and will request additional documentation from ND Vital Records if necessary.

Finding 3:

An annuitant died and his continuing annuitant was set-up for payment status. The date of the death on CPAS is not the same as the date of death on the Death Certificate.

Recommendation:

It is recommended that RS's should correct the date of death on CPAS.

Retirement Services' Response:

Retirement Services has corrected the date of death on the retiree's account to match the death certificate. This was an isolated occurrence and will remind staff to closely look at the documents.

To conclude, due to staff turnover in 2018/19, the procedures for processing deaths was updated and decentralized for cross training purposes. Each RPS processes all types of TFFR procedures. The audit confirmed that RS's staff are following the newly established procedures and monitoring the deaths in their section of the alphabet.

IA commends the work of RS's staff as they adjusted to the challenges with new staff and new procedures.

Processing of Checks Outstanding Sixty Days or Longer:

These procedures also changed after the retirement of a staff member. Instead of the one Retirement Program Specialist (RPS) monitoring the outstanding checks, both RPS monitor the checks in their assigned section of the alphabet. The procedures that have been established by RS's are to ensure members cash pension payments and refund checks in a timely manner. Those same procedures require that staff follow-up with members as needed and monitor checks outstanding longer than sixty days.

IA reviewed a sample of twelve checks. The sample was from the outstanding check list from the BND dated 7/1/2019 and the checks issued in June of 2019. The twelve checks were comprised of three benefit checks, three continuing annuitant set-up checks, and six refund checks (one employer and 5 members). IA confirmed RS's staff was adhering to the established procedures for the processing of checks outstanding sixty days or longer with the following issues.

To note, two refund checks were outstanding sixty days or longer, the checks were issued in 2016 to two in-active members whose age was seventy and one and a half years. RIO was required to issue these payments to remain in compliance with IRS regulations, these instances represent the first time TFFR has been compelled to issue payments due to a member's age. Procedures were subsequently developed to address this unique circumstance. Retirement Services staff adhered to newly developed procedures, but has been unable to contact the members and facilitate the cashing of the outstanding checks. The two individuals are added to the quarterly LifeStatus 360 death comparisons. IA determined that there were two other issues with checks outstanding.

Finding 4:

There were two refund checks outstanding for 4 months. Reminder letters were not sent to the members after 60 days to cash their checks. Both RPS were adjusting to the new duties and procedures. The checks were cashed by the beneficiaries.

Recommendation: None

Finding 5:

There was an employer refund check that was lost by the employer and had to be reissued. Procedures were

followed except for scanning the documents to FileNet.

Recommendation:

It is recommended that the Affidavit document and attached explanation should be scanned when the check is reissued. It is important to scan the documents, so that other staff members can access them if needed and insure the documents do not get misplaced or lost.

Retirement Services' Response:

Although all documentation was scanned to the employer file, in the future Retirement Services will be more timely and documents will be scanned when the check is reissued.

To conclude, due to staff turnover in 2018/19, the RPM decentralized the job duties (one individual does not handle the monitoring of long-outstanding checks). Each RPS processes all types of TFFR procedures. The audit confirmed that RS's staff are following the newly established procedures and monitoring the checks in their section of the alphabet.

IA commends the work of RS's staff as they adjusted to the challenges with new staff and new procedures.

Monitoring Long-Term Annuitants in Pay Status:

The staff of RS's reviews the accounts of annuitants ninety years of age and older who reside out-of-state on a quarterly basis to ensure that the annuitant is not deceased. Quarterly reviews require manual obituary searches on Legacy.com. Elderly, out-of-state annuitants can present a risk to TFFR. Death notifications for these members can be delayed. A delayed notification can lead to overpayment of benefits.

IA determined that the staff of RS adhered to established procedures for monitoring long-term annuitants.

IA selected five annuitant accounts for further review. Original eligibility for retirement benefits was verified. Retirement documents could be found on microfiche and/or FileNet. Only two of the five annuitants had recent documents of contact on their FileNet account. However, RS corresponds annually, every January, with the annuitants by sending statements at the beginning of the calendar year. The statement lists benefit payment, deduction changes, and beneficiary on file. This annual statement gives the annuitant an opportunity to review information on file and notify TFFR with changes. The statement is not scanned to FileNet; it is stored in PDF form on the annuitant account in CPAS.

For IA's review of the five sample members, IA determined that all accounts had been handled appropriately except for the following issues. All five sample members were eligible for retirement benefits and recent activity has occurred between the annuitant or the annuitant's representative and TFFR.

Finding 6:

For one annuitant, the routing number found on FileNet is different from the routing number found on CPAS.

Recommendation:

It is recommended that RS should verify the Bank Routing Number.

Retirement Services' Response:

Retirement Services has verified the bank routing number with Wells Fargo Bank. This documentation is scanned to the member's account.

Finding 7:

For one annuitant, the SSN for beneficiary was not listed on CPAS.

Recommendation:

It is recommended that the Beneficiary SSN found on the Beneficiary Form found in microfiche could be entered into CPAS.

Retirement Services' Response:

Retirement Services added the beneficiary's social security number to the member's CPAS account and has added the Beneficiary form to FileNet; however, the beneficiary's social security number is not needed since there will be no payment paid to the beneficiary.

IA also confirmed that out-of-state long-term annuitants were reviewed on a quarterly basis by the MS. The quarterly searches were instituted in past years because the LifeStatus 360 comparisons were conducted only in April and October. Currently, the LifeStatus 360 comparisons to national database of deceased individuals are run in July, October, January, and April. The four searches averaged 83 out-of-state annuitants. The out-of-state annuitants were located in AK, AL, AR, AZ, CA, FL, IA, LA, MI, MN, MT, OR, SD, TX, UT, VA, WA, WI, and WY.

Recommendation on manual obituary searches:

IA recommends that RS could discontinue the manual obituary searches for the long-term annuitants that live out-of-state; especially if the LifeStatus 360 searches are increased in number in the future. In 2018/19, the price per search was \$250.00. The price per search decreased to \$200.00 starting August 1, 2019. Again, IA would be happy to research the different plans available and the cost associated to determine if the change would be cost effective.

Retirement Services' Response:

Retirement Services will explore various options such as daily obituary look-ups from LifeStatus 360, ND Vital Records, or other death audit service during the fiscal year 2020-21.

The discontinuation of the searches will allow for other time sensitive tasks to be completed by RS staff. Examples of other time sensitive tasks are as follows: July through September- start processing Member Action Forms, retirements, annual active member statements, and Benefit Recalculations of Presumptive Retirements; October through December – processing Member Action Forms, Dual Members, and inactive refund project; Jan-Mar – start of retirement season, data demographic checks for 1099s and retirement letters; April through June – retirement season and end of year activities with database for actuarial evaluation

In summary for the Benefit Payment Audit, IA commends the work of RS's staff as they adjusted to the challenges with new staff and new procedures. The audit confirmed that RS's staff are following the newly established procedures in processing deaths, long-outstanding checks, and monitoring long-term annuitants.

Distribution:

David Hunter, Executive Director/CIO
Fay Kopp, Deputy Executive Director/Chief Retirement Officer
Denise Weeks, Retirement Program Manager
SIB Audit Committee
TFFR Board

FROM: Dottie Thorsen, Internal Audit
TO: Information Systems Division
DATE: May 3, 2020
SUBJECT: 2018/19 Audit of Deaths

IA completed the Benefit Payment Audit of Deaths, Long-outstanding Checks, and Long-Term Annuitants. The Audit report was sent RS who responded on April 29, 2020. The Audit report with RS's response is attached to this email. The Death Audit information is found on pages 1-4 of the report. The review of deaths was divided into two sets of procedures. The first set of procedures detail how the staff of Retirement Services (RS) determines if an annuitant/member has died. The second set of procedures detail how an annuitant/member's account is closed following the receipt of a death notification.

On page 2 of the Report, IA made a recommendation on the first set of procedures. RS's response is shaded in gray. The second paragraph in RS response noted issues of concern with IA's recommendation. We will be addressing our recommendation and the concerns raised by RS at AC Meeting on May 21, 2020.

Please respond to the following issues raised by RS by May 11, 2020.

- 1) I have attached the RIO history of using a consultant for death comparisons. We have used the LifeStatus 360 (formerly Smallworld) since 2011/12. Does ISD have concerns on the reliability of the LifeStatus database and the quality of the searches? Has ISD completed any due diligence on the consultant?

Our department does not have any concerns on the reliability or quality of the services provided by LifeStatus 360. LifeStatus 360 has provided no reason to question the quality of service that they have provided. For the time period of 1/1/2019 to 12/31/2019, LifeStatus 360 found 7 individuals with a date of death. When we researched these individuals in CPAS, it was found that all of them had a date of death in the system. The reason for the discrepancy is that in the past when a file was submitted to LifeStatus 360, it would take one to two days to process the file. In the time that it took LifeStatus 360 to process the file, our RS staff would find that the individual was deceased and then a date was entered into CPAS. The only way to investigate how reliable LifeStatus 360 is with searches is to either find another death audit service and run both services parallel or add deceased participants to our quarterly file to see if LifeStatus 360 finds a 'hit' on those individuals. As a side note, LifeStatus 360 now processes our death files the same day they are submitted. Our department is not involved in the contract negotiations with RS and LifeStatus 360. Our department is mainly used in an 'operations' role. We obtain the data from CPAS, then format the data so it can be read by the LifeStatus 360 system and then pass the results to RS.

- 2) Does ISD have any reservations about the security measures instituted by LifeStatus 360 and the safety of the information on our database?

Our department does not have any concerns with the security or safety of our information. To log into the LifeStatus 360 platform, a user has to be granted access by LifeStatus 360. This process requires the individual to know a few things about our account (such as account number). Our department is able to see every user in our organization that has access to the system and what level of data they can see. When the file is uploaded to LifeStatus 360, the file is uploaded directly to the server only after a user logs in with the proper credentials.

- 3) Please explain the process for sending the CPAS database to LifeStatus and the amount of time spent for the process.

For the quarterly file that is submitted to LifeStatus 360, our department will run a batch job in CPAS. That batch job will create a text file with the participant's personal information (SS Number, Name, City, State, Zip and date of birth). All the individuals in this file are participants receiving a pension or a beneficiary of someone that is receiving a pension. This file, the way it is generated, cannot be sent to

LifeStatus 360 until it is formatted in a way that the system recognizes. The text file needs to be exported in Excel and the text fields need to be formatted in a certain way (line breaks need to be created between fields and some texts need to be designated as a number or a text field). Once in Excel, columns and column headings need to be added. There are some fields that need to be reordered and formatted (Zip Code). Once the changes are made the file is saved back into a text file and then uploaded in LifeStatus 360. This whole process from start to finish is about 30 minutes.

Thank you for your help!

Polling Question: Death Search Results

Fund #	Detail	Total Members	Efficient	Cost
1	Our system monitors our two major local newspapers daily (we're a small state!), we receive a data file of death certificates processed by our State monthly, and run our data against death records through Berwyn quarterly.	80,000	Yes	
2	We submit weekly files to PBI and the Department of Public Health for death match searches.	430,000	Yes	
3	Uploads to LifeStatus 360 monthly and reviews the work weekly. We work with a local vendor that sends us obituaries in state and local newspapers. We find that the information from LifeStatus 360 gets to us the fastest and is the most reliable. We had LifeStatus 360 and PBI but found that they were giving me the same information. We have had really good success with LifeStatus 360 but we have some limitations because we pay retirement benefits at the beginning of the month.	262,000	Yes	Annual LifeStatus 360 Subscription \$5,030
4	Here is the process for where we actively try and identify deaths not reported to us by family members, employer agencies, etc.: <ul style="list-style-type: none"> - Weekly match with LexisNexis and Department of Health and Hospitals - Daily alerts from legacy.com - Quarterly obituary match with the Berwyn Group - Annual non-obituary death match with Berwyn Group 	88,800	Yes	
5	We uses PBI weekly and provide our active membership data, and it is compared to PBI data system. A report is provided for us to process the deaths every Friday. The report includes where PBI IS getting the information regarding the death such as (SS or OBIT). This information helps the Survivor Specialist know if they need to do additional research including requesting a death certificate.	57,000	Yes	
6	1) Weekly data files loaded to RIMS (now VNAV) from our third party death notification vendor, Life Status 360, OR 2) Telephone contact either our call center, or third party group life insurance administrator.	723,000	Yes	

7	<p>We uses CLEAR, a service from Thomson Reuters. Our IT sends a member listing to CLEAR monthly for the vendor to do a search (via SSA, news and other possible sources) and sends us a listing of death notices. I heard our Member Services team is not satisfied with the service, the information does not seem to be complete or timely in all instances. To receive the service, IT did have to obtain an independent certification to ensure we are in compliance with the Common Criteria and Confidentiality controls as defined in the Trust Services Principles and Criteria. We need to send a written attestation statement Limited Access Death Master File (LADMF) Accredited Conformity Assessment Body Systems Safeguards Attestation Form, Form Number: NTIS FM100A to Thomson.</p> <p>We also receive a death notice from the surviving member (~75% of the notices).</p>	46,000	No	
8	Berwyn and State Health Services, receives death search report quarterly from Berwyn and monthly from State Health Services	1.6 million		
9	<p>We do several different forms of Death Searches:</p> <ul style="list-style-type: none"> • The Internal Audit Department performs a biannual search of every person in our database (i.e. Member, Spouse, Beneficiary). We use a third party vendor (Berwyn) to compare our person records with their national database. Any positive hits we further investigate, using Vital Statistics, Lexis Nexis, obituaries, or reach to the family of the person • On a monthly basis we also perform a search of every payee that is going to receive a check on our monthly payroll. We perform this search using Berwyn again, and do it 3-4 days before our annuity checks are to hit the bank accounts. If we get a hit through this search, we can then remove this payees check from the payroll file. • We do numerous other individual or specific group searches throughout the year as needed. 	26,500		
10	<p>Rely on survivors/estate to notify of a retired member death. We have relief associations that administer health benefits for retirees and they send notifications too.</p> <p>They get weekly reports from LifeStatus 360 and it's used as a backup. They also have access to LexisNexis Accurant search for as-needed search.</p> <p>Lastly, they conduct an Alive and Well audit on pensioners/beneficiaries over 95 every 5 years or so.</p>	26,500	Yes	LifeStatus for Quarterly Yearly Cost \$2,600

11	<p>1) On a daily basis each admin services member looks at obits in the newspapers to look for members that pass away. They usually just look for key words that would indicate they were a state employee.</p> <p>2) On a quarterly basis we do a death match with the Dept of Health.</p> <p>3) On a semi-annual basis we do a similar process with Social Security, however, with them we can only do the members that we are paying and it's not our entire database.</p>	50,000		
12	We staff member who does daily manual searches, Vital Records is done monthly, and LifeStatus 360 is done quarterly.	22,800		LifeStatus \$800 Yearly Cost
13	Berwyn and State Health Services, receives death search report monthly for Berwyn and semi-monthly for State Health Services.	162,000		
14	Pension Benefit Information (PBI), receives reports weekly and use both their death and obituary match services	75,000		
15	Our agency performs a daily, manual search of the local (state capital) newspaper, weekly searches of insurers' death reports (we are pension and employee health benefits), and a monthly search using a vendor. Our state vital records department inputs death reports weekly into our statewide payroll system.	382,000		
16	Weekly matches with PBI that gives us death matches and obituary matches we need to look up to see if it is our member. We also do monthly vital records search.	210,000		

FROM: Dottie Thorsen, Internal Audit

DATE: May 1, 2020

SUBJECT: History of Consultants used for Death Comparisons

1994/95	Comserv (timeframe not noted)	ND Vital Statistics	
1995/96	Comserv	ND Vital Statistics	
1996/97	Comserv	ND Vital Statistics	
1997/98	Comserv	ND Vital Statistics	
1998/99	Comserv - annually	ND Vital Statistics - monthly	
1999/2000	Comserv - annually	ND Vital Statistics - monthly	
2000/2001	Comserv - annually	ND Vital Statistics - monthly	
2001/2002	Comserv - annually	ND Vital Statistics - monthly	
2002/2003	Comserv - annually	ND Vital Statistics - monthly	
2003/2004	Comserv - annually	ND Vital Statistics - monthly	
2004/2005	Comserv - annually	ND Vital Statistics - monthly	
2005/2006	Comserv - annually	ND Vital Statistics - monthly	
2006/2007	Comserv - annually	ND Vital Statistics - monthly	
2007/2008	Berwyn - annually	ND Vital Statistics- monthly	
2008/2009	Berwyn - annually	ND Vital Statistics - monthly	
2009/2010	Berwyn - semi - annually	ND Vital Statistics - monthly	
2010/2011	Berwyn - semi - annually	ND Vital Statistics - monthly	
2011/2012	Small World Solutions - semi - annually	ND Vital Statistics - monthly	
2012/2013	Small World Solutions - semi - annually	ND Vital Statistics - monthly	
2013/2014	Small World Solutions - semi - annually	ND Vital Statistics - monthly	
2014/2015	Smallworld Solutions - semi - annually	ND Vital Statistics - monthly	
2015/2016	LifeStatus 360 - semi-annually (formerly Smallworld)	ND Vital Statistics - monthly	
2016/2017	LifeStatus 360 - quarterly	ND Vital Statistics - monthly	
2017/2018	LifeStatus 360 - quarterly	ND Vital Statistics - monthly	non-audit year
2018/2019	LifeStatus 360 - quarterly	ND Vital Statistics - monthly	

BENEFIT PAYMENT AUDIT

AUDIT FOR FISCAL YEAR 2018/19

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Benefit Payment Audit

Consist of the following:

Audit of Deaths

Audit of Long-Outstanding Checks

Audit of Long-term Annuitants

Audit Scope/Purpose for Deaths

Two separate sets of procedures that pertain to the processing of annuitant/member deaths:

- The first set of procedures detail how the staff of Retirement Services (RS) determines if an annuitant/member has died.
- The second set of procedures detail how an annuitant/member's account is closed following the receipt of a death notification. The purpose is to ensure that the 2018/19 of TFFR annuitants/members were processed in a timely manner and that overpayment of benefits did not occur. If benefits were overpaid in error, overpaid amounts were recovered.

Determining if an Annuitant/ Member has died

- Family members, employers, banks, funeral homes, attorneys
- Manual Obituary Searches of state newspapers
- Monthly CPAS database comparison to the North Dakota Vital Statistics database of deceased individuals
- Quarterly CPAS database comparison to the LifeStatus 360 national database –
January, April, July, and October

Recommendation for Procedure I

The Vital Statistic and LifeStatus 360 comparisons are important automated tools to identify deaths or other inconsistencies that exist in the CPAS database that could result in an overpayment of benefits. **Both searches are identifying the deaths on CPAS. In the coming fiscal year, IA recommends that RS's consider investigating the expanded use of LifeStatus 360 for searches on a daily or weekly basis and discontinue the manual searches of state newspapers.**

Discontinuing the manual searches will **free-up staff time which can be utilized for other time sensitive tasks.** There will still be time associated with investigating the deaths located by the automated searches.

IA would be happy to research the different plans available and the cost associated to determine if the change would be cost effective.

Reasons for Recommendation

- Duplication of effort – Past performance of Vital Statistic (monthly) and LifeStatus (quarterly) searches are finding the same deaths as manual searches
- LifeStatus can process daily searches
- Free-up Retirement Services staff time for other time-sensitive tasks
- ISD time to process the TFFR/LifeStatus file from start to end is thirty minutes
- ISD stated the service is reliable – we have used LifeStatus since 2011/12 (was Small World Solutions)
- ISD is satisfied with the security or safety of TFFR data
- Cost-Benefit - Polling data from other Pension systems - #3 and #10 – cost of LifeStatus is similar to cost of TFFR manual search

Retirement Services Response

Retirement Services agrees ND Vital Records and LifeStatus-360 comparisons are important tools in identifying deaths. Finding deaths in a timely manner is one of the most time-sensitive tasks that needs to be done to ensure no payments are being made to deceased members. By having a staff member do a daily online search of obituaries in North Dakota state newspapers, TFFR rarely pays benefits to deceased members. Daily obituary lookups are needed to provide death information to TFFR in a timely manner. This can be done manually by TFFR staff or possibly automatically by a data compliance organization.

Retirement Services will explore various options such as daily obituary look-ups from LifeStatus 360, ND Vital Records, or other death audit services. **Factors to consider when researching these options are how expansive and reliable the organization's database searches are, how quickly they receive death notices, cost of the daily service, and security of their service. TFFR will also need to consider the time it takes Information Services Division (ISD) to upload files as well as the time it takes Retirement Services to investigate the information.**

Closing the Annuitant/Member Account after notice of death

For each Sample Member:

- Death noted on CPAS
- No overpayment of benefits
- Refund of account value to beneficiary
- Survivor/continuing annuitant set-up
- Appropriate documents on FileNet account

Findings for Procedure 2

Finding 1: Required documents to process the death were not scanned to annuitant FileNet account.

IA Recommendation: Memorandum in FileNet and recover missing documents

RS's Response: Retirement Services has added a memo to the retiree's account explaining the situation and included a full obituary. We will continue to request the necessary documents from the beneficiary of ND Vital Records, if necessary. Retirement Services understands that proper documentation is important and has reviewed and updated processing procedures.

Findings for Procedure 2

Finding 2: Missing documents in annuitant and survivor accounts – copy of death certificate and copy of survivor's birth certificate

IA Recommendation: Request missing documents from annuitant

RS's Response: RS's has added a memorandum to the surviving beneficiary's account explain the situation. We have requested the documentation from the deceased member's spouse who has power of attorney for the beneficiary since we were unable to communicate with the beneficiary. RS's has updated processing procedures and will request additional documentation from the ND Vital Records.

Finding 3: Death posted on CPAS database is not the same as the death certificate

IA Recommendation: Correct date of death on death on CPAS

RS's Response: Date of death was corrected-isolated occurrence.

Audit Scope/Purpose for Long-Outstanding Checks

The purpose of the audit is to evaluate the procedures for investigating long-outstanding checks and determine that staff are following established procedures. The following sources were used:

- Retirement Services/Fiscal Services/IT procedures
- June 2019 reconciled Bank Statement
- FileNet Accounts of members that had outstanding checks
- Member check register in CPAS
- Employer Services Coordinator for outstanding employer checks

Audit Procedures for Sample

Sample: six checks from the 7/1/2019 reconciled BND statement and six checks from June 2019 file

- Were checks outstanding longer than 60 days
- Letter sent if check is outstanding over 60 days
- If the check is lost, member/employer returns an affidavit
- All documents are found on employer/member's FileNet account
- Reissued check has cleared

Findings for Audit of Outstanding Checks

- Finding 4: Letters were not sent to two members who had checks outstanding for four months. The checks cleared at four months.

No IA Recommendation

- Finding 5: Documents for a reissued check were not scanned to the Employer's FileNet account.

IA Recommendation: Scan all documents to the FileNet account once the check has been reissued.

RS Response: Although all documentation was scanned to the employer file, in the future Retirement Services will be more timely and documents will be scanned when the check is reissued.

Audit Scope/Purpose for Long-Term Annuitants

The purpose of the audit is to review retiree accounts that have been in payment status over an unusually long period of time to determine the propriety of payment. The following sources will be used:

- CPAS, Annuitant FileNet account, Microfiche
- Retirement Services Quarterly Over 90 Monitoring reports for 2018/19
- IA generated Over 90 report dated on or around July 1st.

Audit Procedures for Long-Term Annuitants

1) Sample – 5 out-of-state annuitants from the 90 and Over Report:

- Verified retirement documents on microfiche/FileNet
- Reviewed more recent correspondence on FileNet – Beneficiary forms. Direct Deposit Authorization, Tax Withholding Form, and Power of Attorney

2) Reviewed quarterly 90 and Over Report reviews by Retirement Services – manual obituary searches for out-of-state annuitants

3) Reviewed LifeStatus 360 reports – compared databases on a quarterly basis

Findings and Recommendation for Long - Term Annuitants

Finding 6: The routing number on the Direct Deposit Authorization form is different from CPAS.

IA Recommendation: RS should verify bank routing number.

RS Response: RS's has verified the bank routing number with Wells Fargo Bank. This documentation was scanned to the Member's Account.

Finding 7: The beneficiary SSN is not listed on CPAS

IA Recommendation: Add the Beneficiary SSN listed on form in microfiche to CPAS.

RS Response: RS's added the beneficiary's SSN to the member's CPAS account and has added the Beneficiary Form to FileNet; the SSN is not needed since there will be no payment paid to the beneficiary.

Recommendation for Long Term Annuitants

IA Recommendation to Procedure: If the LifeStatus 360 searches are increased, RS could discontinue the manual obituary searches for the long-term annuitants that live out-of-state. In 2018/19, the price per search was \$250.00. The price per search decreased to \$200.00 starting August 1, 2019. See Slide 6 for other supporting data. Again, IA would be happy to research the different plans available and the cost associated to determine if the change would be cost effective.

RS Response: Retirement Services will explore various options such as daily obituary look-ups from LifeStatus 360, ND Vital Records, or other death audit service during the fiscal year 2020-21.

Results Summary

To Close:

Deaths – Findings 1-3 and 1 procedural recommendation – pages 1 through 4

Long-Outstanding Checks – Findings 4-5 – pages 4 through 5

Long-Term Annuitants - Findings 6-7 and 1 procedural recommendation on pages 5 through 6

Closing and Questions

In summary, IA commends the work of Retirement Services staff as they adjusted to the challenges with new staff and new procedures. The audit confirmed that Retirement Services staff are following the newly established procedures in processing deaths, long outstanding checks, and monitoring long term annuitants.

Questions?

ANNUAL TFFR EXPENSE REPORT
SEPTEMBER 24, 2020

Connie Flanagan
Chief Financial Officer

**RETIREMENT AND INVESTMENT OFFICE
EXPENDITURE SUMMARY REPORT
FISCAL YEAR ENDED JUNE 30, 2020**

	TFFR		SIB		Total RIO	
	Actual Expenses	% of Total	Actual Expenses	% of Total	Actual Expenses	% of Total
<u>CONTINUING APPROPRIATIONS</u>						
INVESTMENT EXPENDITURES	\$ 13,802,301	5.6%	\$ 49,727,337	96.5%	\$ 63,529,638	21.3%
MEMBER CLAIMS						
ANNUITY PAYMENTS	224,361,530		-		224,361,530	
REFUND PAYMENTS	6,489,704		-		6,489,704	
TOTAL MEMBER CLAIMS	230,851,234	93.6%	-	0.0%	230,851,234	77.4%
OTHER CONTINUING APPROPRIATIONS	482,960	0.2%	738,234	1.4%	1,221,194	0.4%
TOTAL CONTINUING APPROPRIATIONS	245,136,495	99.3%	50,465,571	98.0%	295,602,066	99.1%
<u>APPROPRIATED EXPENDITURES</u>						
SALARIES AND BENEFITS	1,159,638	0.5%	1,162,863	2.3%	2,322,501	0.8%
OPERATING EXPENSES	237,617	0.1%	95,712	0.2%	333,329	0.1%
SIB EXPENSES ALLOCATED TO TFFR	215,190		(215,190)		-	
TOTAL APPROPRIATED EXPENDITURES	1,612,445	0.7%	1,043,385	2.0%	2,655,830	0.9%
TOTAL EXPENDITURES	\$ 246,748,940		\$ 51,508,956		\$ 298,257,896	

**RETIREMENT AND INVESTMENT OFFICE
2019-2021 BIENNIUM APPROPRIATION STATUS REPORT
AS OF JUNE 30, 2020**

	2019-2021 BUDGET	ADJUSTED APPROPRIATION	BIENNIUM TO DATE ACTUAL	EXPENDITURES		
				BUDGET AVAILABLE	% BUDGET AVAILABLE	% OF BIENNIUM REMAINING
SALARIES AND BENEFITS	\$ 4,978,230	\$ 4,978,230	\$ 2,322,501	\$ 2,655,729	53.35%	50.00%
OPERATING EXPENDITURES	3,538,934 *	3,538,934	333,329	3,205,605	90.58% **	50.00%
CAPITAL ASSETS	6,300,000	6,300,000	0	6,300,000	100.00%	50.00%
CONTINGENCY	52,000	52,000	0	52,000	100.00%	50.00%
TOTAL	\$ 14,869,164	\$ 14,869,164	\$ 2,655,831	12,213,333	82.14%	50.00%

* In addition to the Capital Assets line, the operating expenditure budget includes \$2,650,000 for the TFFR Pension Administration System Project.

** Remaining base budget available (excluding PAS one-time funding) is \$563,361 or 63.37% as of 6/30/2020.

**RETIREMENT AND INVESTMENT OFFICE
SCHEDULE OF CONSULTING EXPENSES
FOR THE YEARS ENDED JUNE 30, 2020 and 2019**

	Pension Trust		Investment Trust	
	2020	2019	2020	2019
Actuary fees:				
Segal Consulting	\$152,873	\$108,000	\$ -	\$ -
Auditing/Accounting fees:				
CliftonLarsonAllen LLP	71,986	97,514	49,494	30,587
Disability consulting fees:				
Sanford Health	150	350	-	-
Legal fees:				
Office of Administrative Hearings	2,100	3,383	-	-
K&L Gates LLP	10,363	12,880	13,841	17,066
Kasowitz, Benson, Torres & Friedma	125	239	163	313
Jackson Walker LLP	3,594	3,105	10,781	54,804
ND Attorney General	12,385	37,798	12,593	50,746
Total legal fees:	<u>28,567</u>	<u>57,405</u>	<u>37,378</u>	<u>122,929</u>
Total consultant expenses	<u>\$253,576</u>	<u>\$263,269</u>	<u>\$ 86,872</u>	<u>\$153,516</u>

RETIREMENT AND INVESTMENT OFFICE BUDGET REQUEST FOR 2021-2023 BIENNIUM

	2019-2021 Biennium Approved Budget (Base before PAS Project)			2021-2023 Biennium Requested Base Budget			Change from 2019-21 Approved Budget						2021-2023 Biennium Requested Optional Packages**			2021-2023 Biennium Total Budget Request		
	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total			
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			
SALARIES & WAGES	1,685,496	1,863,413	3,548,909	1,676,662	2,001,766	3,678,428	(8,834)	-0.5%	138,353	7.4%	129,519	3.6%	25,000	-	25,000			
TEMPORARY SALARIES	50,000	-	50,000	-	-	-	(50,000)	-100.0%	-	0.0%	(50,000)	0.0%	-	-	-			
BENEFITS	751,322	627,999	1,379,321	742,472	667,264	1,409,736	(8,850)	-1.2%	39,265	6.3%	30,415	2.2%	-	-	-			
TOTAL SALARIES & BENEFITS	2,486,818	2,491,412	4,978,230	2,419,134	2,669,030	5,088,164	(67,684)	-2.7%	177,618	7.1%	109,934	2.2%	25,000	-	25,000			
IT - DATA PROCESSING	911,990	37,951	949,941	137,278	47,000	184,278	(774,712)	-84.9%	9,049	23.8%	(765,663)	-80.6%	41,488	29,432	70,920			
IT - COMMUNICATIONS	12,000	6,960	18,960	12,158	10,426	22,584	158	1.3%	3,466	49.8%	3,624	19.1%	-	-	-			
TRAVEL	84,340	15,447	99,787	75,610	17,100	92,710	(8,730)	-10.4%	1,653	10.7%	(7,077)	-7.1%	-	-	-			
SUPPLIES - IT SOFTWARE	444	456	900	444	456	900	-	0.0%	-	0.0%	-	0.0%	-	-	-			
POSTAGE	59,757	5,435	65,192	57,406	5,410	62,816	(2,351)	-3.9%	(25)	-0.5%	(2,376)	-3.6%	-	-	-			
IT CONTRACT SERVICES	157,112	4,158	161,270	60,284	7,984	68,268	(96,828)	-61.6%	3,826	92.0%	(93,002)	-57.7%	-	-	-			
LEASE/RENT - BLDG./LAND	114,724	64,506	179,230	109,520	75,423	184,943	(5,204)	-4.5%	10,917	16.9%	5,713	3.2%	-	-	-			
PROFESSIONAL DEVELOPMENT	39,543	6,772	46,315	39,932	5,548	45,480	389	1.0%	(1,224)	-18.1%	(835)	-1.8%	-	-	-			
OPERATING FEES & SERVICES	29,324	18,455	47,779	27,379	19,356	46,735	(1,945)	-6.6%	901	4.9%	(1,044)	-2.2%	-	-	-			
REPAIRS	1,266	898	2,164	635	365	1,000	(631)	-49.8%	(533)	-59.4%	(1,164)	-53.8%	-	-	-			
PROFESSIONAL SERVICES	1,897,504	9,106	1,906,610	25,062	9,828	34,890	(1,872,442)	-98.7%	722	7.9%	(1,871,720)	-98.2%	-	-	-			
INSURANCE	1,299	748	2,047	1,743	1,002	2,745	444	34.2%	254	34.0%	698	34.1%	-	-	-			
OFFICE SUPPLIES	3,378	2,092	5,470	2,796	1,844	4,640	(582)	-17.2%	(248)	-11.9%	(830)	-15.2%	-	-	-			
PRINTING	30,030	5,320	35,350	17,578	2,533	20,111	(12,452)	-41.5%	(2,787)	-52.4%	(15,239)	-43.1%	-	-	-			
PROFESSIONAL SUPPLIES	850	850	1,700	1,100	1,100	2,200	250	29.4%	250	29.4%	500	29.4%	-	-	-			
MISCELLANEOUS SUPPLIES	2,603	1,497	4,100	2,456	1,744	4,200	(147)	-5.6%	247	16.5%	100	2.4%	-	-	-			
IT EQUIPMENT < \$5000	3,176	4,324	7,500	-	-	-	(3,176)	-100.0%	(4,324)	-100.0%	(7,500)	-100.0%	-	-	-			
OFFICE EQUIP & FURNITURE < \$5000	2,119	2,500	4,619	1,462	1,038	2,500	(657)	-31.0%	(1,462)	-58.5%	(2,119)	-45.9%	-	-	-			
TOTAL OPERATING	3,351,459	187,475	3,538,934	572,843	208,157	781,000	(2,778,616)	-82.9%	20,682	11.0%	(2,757,934)	-77.9%	41,488	29,432	70,920			
CONTINGENCY	26,000	26,000	52,000	-	-	-	(26,000)	-100.0%	(26,000)	-100.0%	(52,000)	-100.0%	62,500	62,500	125,000			
CAPITAL ASSETS	6,300,000	-	6,300,000	-	-	-	(6,300,000)	-100.0%	-	0.0%	(6,300,000)	0.0%	-	-	-			
TOTAL BUDGET	\$ 12,164,277	\$ 2,704,887	\$ 14,869,164	\$ 2,991,977	\$ 2,877,187	\$ 5,869,164	\$ (9,172,300)	-75.4%	\$ 172,300	6.4%	\$ (9,000,000)	-60.5%	\$ 128,988	\$ 91,932	\$ 220,920			
Base Budget (without PAS)			5,869,164			-					Note below							

**** Optional Package Requests:**

- #1 - Reinstate the \$25,000 reduction to the Base Budget: 1 FTE in salary line (no specific position was identified in the cuts)
- #2 - NDIT Desktop Support \$70,920 - this would be the first step in RIO joining the IT Unification initiative for the State.
- #3 - Reinstate contingency funding (\$52,000) plus add additional contingency funding (\$73,000) to provide for reasonable contingency planning (\$125,000 total request).

Note: One-time funding authority for the TFFR PAS Project was not considered part of the base budget for purposes of determining the base budget limit for the 2021-23 biennium. However, any unexpended amounts at the end of the 2019-21 biennium will be requested for carry-over into the next biennium in order to complete the project. That carry-over authority will be included in the RIO budget bill.

	TFFR	SIB	RIO
Salaries	\$ 50,000	\$ -	\$ 50,000
Operating	2,650,000	-	2,650,000
Capital Assets	6,300,000	-	6,300,000
Total PAS One-time Funding	\$ 9,000,000	\$ -	\$ 9,000,000

Board Travel Budget Assumptions: Each board member will be allotted at least two trips for the biennium and it is anticipated additional trips may be authorized based on budget availability, particularly for new board members.

In-State Reimbursement Rates:

Lodging rate is 90% of Federal GSA rate for ND (\$96 - no change from current rate) so rate is \$86.40, plus tax.

Mileage is linked to Federal GSA rate which is currently \$0.575 per mile.

In-state meal rates : Breakfast: \$7.00; Lunch: \$10.50; Dinner: \$17.50

Eligibility for meal reimbursement is based on the time of day you are in travel status.

First Quarter (Breakfast) 6:00 am to noon; Second Quarter (Lunch) noon to 6 pm; Third Quarter (Dinner) 6 pm to midnight; Fourth Quarter (overnight) midnight to 6 am

You are entitled to claim a meal if you are in travel status one hour before the start of the quarter AND one hour into the quarter being claimed (for breakfast you must be in travel status before 7 am). Please be sure to indicate which meals you are requesting reimbursement for on the board meeting reimbursement form. If nothing is indicated, you will not be paid.

Conference Travel Reimbursement:

When traveling by air, you are considered to be on travel status one hour prior to your departure time and one hour after your arrival time.

Receipts must be included with your travel reimbursement request for all expenses over \$10 (except for meals which are reimbursed at the GSA rates by location).

When attending a conference, please attach a copy of the conference agenda to enable staff to confirm start and end times and whether or not meals are included with the conference fees.

As stated above, if meals are not specifically requested on the reimbursement form, you will not be paid.



MEMORANDUM

TO: TFFR Board

FROM: Jan Murtha

DATE: September 18, 2020

SUBJ: Quarterly Monitoring Report on TFFR Ends

I. Retirement Program Operations (Quarter ended June 30, 2020)

- RIO issued an RFP for a consultant in the Pension Administration System (PAS) project in June 2020. Discussion regarding an award of that RFP will be provided at the meeting.
- In preparation for the Business Process Modeling provided by the consultant in Stage 1 of the PAS project, and in an effort to digitize more agency processes in response to the Covid-19 pandemic, agency staff in multiple divisions began a review of all retirement service processes.
- RIO staff began a review of Board reporting processes and content.
- TFFR member education workshops were canceled due to social distancing efforts, and staff is reviewing alternative methods of education.
- RIO is open to the public by appointment; members and employers experienced no break in service during RIO's transition to a remote work environment.
- RIO was awarded the 2019 Certificate of Achievement for Excellence in Financial Reporting – awarded by the Government Finance Officers Association (GFOA) for its Comprehensive Annual Financial Report (CAFR) for fiscal year ended June 30, 2019 (enclosed).
- TFFR was awarded the 2019 Certificate of Transparency – awarded by the National Council on Public Employee Retirement Systems (NCPERS) for participation in the 2019 NCPERS Public Retirement Systems Study.
- TFFR was awarded the 2019 Recognition Award for Administration – awarded by the Public Pension Coordinating Council (PPCC) in recognition of meeting professional standards for plan administration as set forth in the Public Pension Standards.

II. RIO Agency Update (current quarter)

- The Segal Company has been awarded the consultant contract for the PAS project.
- The new RIO website was launched.
- RIO transitioned to using Microsoft Teams for all virtual Board meetings.
- RIO received and distributed new technology equipment to staff, procured by ITD and paid for by CARES Act funds.
- RIO staff spent much of August working on closing out year-end reports with employers, and for members.
- Member annual statements and active and retiree newsletters are being made available digitally. Members are being mailed a tri-fold to highlight this digital access.
- RIO staff has been provided the remote workplace policy and model agreement and is in the process of developing remote work plans and finalizing agreements with all staff members.
- All staff training has been conducted on Goals, Fiduciary Responsibilities, and Open Records. Manager training is scheduled for September and October.
- RIO staff will provide a pre-recorded presentation at the 2020 NDCEL conference in October.
- RIO staff is reviewing and updating its Administrative Manual.

III. RIO Budget Preparation (current quarter)

- RIO is preparing for presentation of its budget for the 2021-2023 biennium. Enclosed please find a summary of the proposed budget goals.

BOARD ACTION REQUESTED: Board motion to approve Quarterly Monitoring Report on TFFR Ends.



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**North Dakota Retirement
and Investment Office**

For its Comprehensive Annual
Financial Report
For the Fiscal Year Ended

June 30, 2019

Christopher P. Morill

Executive Director/CEO

NDRIO Budget 2021-2023 Biennium

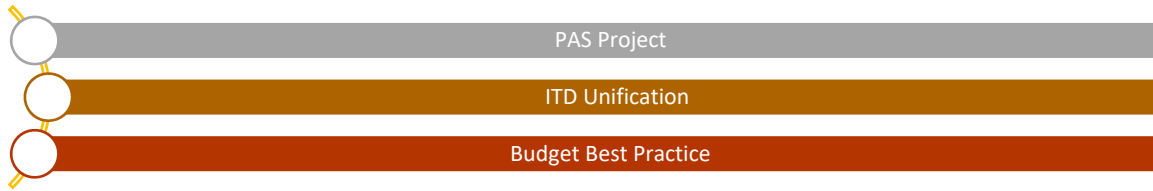


Current staff level is needed to achieve: (1) fiduciary obligations, (2) performance expectations and (3) agency initiatives.

#1 Agency Budget Goal – Maintain Current Staff Level



RIO Agency Initiatives 2021-2023

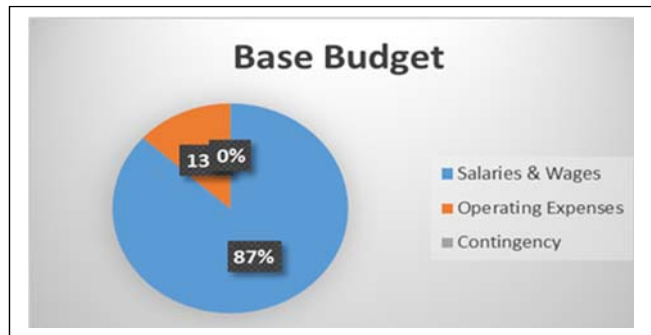


Cost/Benefit of Base Budget v. Optional Package

Base Budget Cost/Benefit:

Pros – Meets Executive Directive.

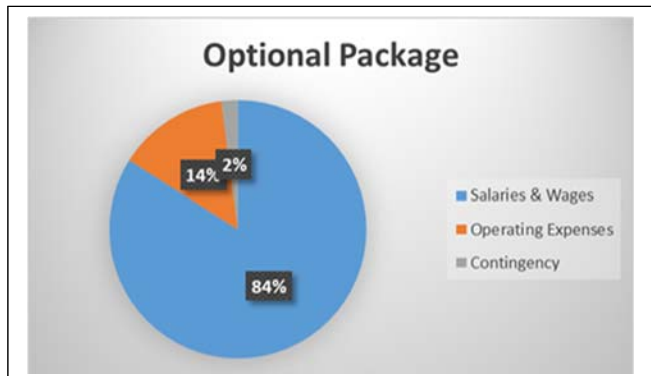
Cons – Reduces staff level, eliminates contingency funds, doesn't support achievement of agency initiatives.



Optional Package Cost/Benefit:

Pros – Supports agency initiatives, maintains staff level, provides contingency funds, general fund neutral.

Cons – Exceeds Executive Directive.



2021-2023	Base Budget	Optional Package
Salaries & Wages	\$ 5,088,164.00	\$ 5,113,164.00
Operating Expenses	\$ 781,000.00	\$ 851,920.00
Contingency	\$ -	\$ 125,000.00

Item VI.



MEMORANDUM

TO: TFFR Board
FROM: Jan Murtha
DATE: September 18, 2020
RE: PAS Project Update

I. RFP Issuance

An RFP for Consultant Services relating to the Pension Administration System was issued on June 2, 2020 and closed June 30, 2020.

II. RFP Responses & Evaluation

Procurement reviewed all responses and presented responses to the PAS Committee for review. The review and scoring process was bifurcated, where committee members individually graded the technical evaluations, and procurement graded the cost proposals. Procurement and the Committee then met to review the results.

III. Award & Next Steps

The Executive Steering Committee for the PAS project met on September 14, 2020 and voted to issue a Notice of Award to the Segal Company (Enclosed). The contract may be signed following the protest period. The project launch meeting with RIO staff is expected to occur at the start of October.

BOARD INFORMATION ONLY. No board action requested.

**STATE OF NORTH DAKOTA
NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE (RIO)
3442 East Century Avenue
BISMARCK, ND 58507-7100**

NOTICE OF INTENT TO AWARD

September 14, 2020

Solicitation Number and Title: 110.7-20-033, Technology Pension Consultant

Opening Date and Time: June 30, 2020, 2:00 P.M., CT

A response to the solicitation was submitted by:

- Enterprise Iron Financial Industry Solutions
- Linea Solutions
- Plante Moran
- The Segal Company

Responses were evaluated according to the criteria stated in the solicitation. We announce our intent to award a contract to:

- The Segal Company

We would like to thank you for your time and efforts in preparing a response to this solicitation. We invite you to contact the Procurement Officer if you would like additional information or have any questions about the evaluation process.

You are invited to contact the Procurement Officer to schedule an evaluation debrief. The debrief will provide information about the evaluation process and proposal scores.

You are reminded that any protests of this decision must be submitted to the Procurement Officer within seven (7) calendar days after the issuance of this notice. The protest must be in writing, clearly identify the solicitation number and title, and detail the nature of the protest.

The successful company is instructed not to begin work, purchase materials, or enter into subcontracts relating to the project until both the recipient and state sign the contract.

We appreciate your interest in doing business with the State of North Dakota.

Sincerely,

Angie Scherbenske
Procurement Officer
E-mail: ankscherben@nd.gov
Telephone: 701-328-2779
TTY Users call: 7-1-1

Confidential Items Sent Separately to Board Members



NDTFFR Board Reading September 2020

The theme of this month's readings is setting an asset allocation. The selected readings provide perspective on how retirement plan type and risk tolerance impact this decision in Defined Benefit and Defined Contribution plans.

1. Results from the FY 2018 Public Fund Survey published by the National Association of State Retirement Administrators (December 2019) discusses factors relevant to asset allocation. <https://www.nasra.org/publicfundsurvey>
2. Steyer, Robert, "REIT investments remain calm despite virus storm", Pensions & Investments (September 7, 2020). <https://www.pionline.com/defined-contribution/reit-investments-remain-calm-despite-virus-storm>
3. Plan Feature Comparison Chart. Publication 4484 (Rev. 2-2015) Catalog Number 47282U Department of the Treasury Internal Revenue Service. <https://www.irs.gov/pub/irs-pdf/p4484.pdf>