Executive Summary - Informational

TO: State Investment Board

FROM: Dave Hunter

DATE: January 17, 2020

SUBJECT: SIB Meeting Materials – January 24, 2020

The January SIB meeting will cover the following topics:

- 1. <u>Interim Investment Update</u> SIB client assets under management are at or near all-time highs given very favorable capital market and economic conditions in 2019. SIB clients earned over \$2 billion of net investment income in 2019 with the Legacy Fund earning over 16% (\$925 million) and PERS (\$450 million) and TFFR (\$365 million) each earning over 15.9% for the 11 months ended November 30, 2019. The vast majority of our clients earned at least 0.50% of positive excess return in 2019 based on preliminary valuations as of November 30, 2019.
- 2. Fixed Income Update RIO recommends the SIB increase our existing \$200 million Ares direct lending strategy by \$100 million in order to retain our desired target allocations to the direct lending sector. The SIB originally approved a \$200 million commitment with Ares in early 2017 in order to improve risk adjusted returns in our fixed income portfolios. Since then, the Legacy Fund has increased by over 50% (from \$4.4 billion to \$6.8 billion) while the Pension Pool has increased by over 20% (from \$5.1 billion to \$6.3 billion). Since inception in 2017, Ares direct lending strategy has generated a Net Internal Rate of Return (IRR) of 8.1% and Last Twelve Month (LTM) Net IRR of 8.4% (as of 9/30/2019) in line with RIO's expectations (of 7% to 9%). Our decision to invest in direct lending in 2017 coincided with our desire to improve risk adjusted returns by eliminating dedicated sector allocations to international fixed income given a generally unfavorable forward outlook and low (or negative) fixed interest rates.
- 3. Investment Consulting Update RIO recommends the SIB maintain our existing investment consulting relationship with Callan given their proven track-record in delivering high quality professional investment management consulting services at a reasonable price while enabling the SIB to generate over 0.50% (or ½ of 1 percent) of positive excess return versus board approved Policy Benchmarks for the 3, 5 and 10 year periods ended June 30, 2019. Based on \$10 billion of investments and 0.50% of positive excess return for the 10-years ended June 30, 2019, the SIB, RIO and Callan have successfully collaborated to generate approximately \$500 million of incremental income and wealth for the vast majority of our valued SIB clients over the past decade.

- 4. <u>U.S. Small Cap Equity Search</u> RIO recommends the SIB engage Callan to conduct a U.S. small cap equity search to replace the Parametric Russell 2000 synthetic index mandates with (U.S. small cap equity) strategies that have a greater potential for outperformance. Parametric manages over \$1 billion for the SIB including \$432 million of U.S. small cap futures exposure in the Legacy Fund, Pension and Insurance pools. In late-2019, the SIB approved expanding an existing \$160 million relationship with Atlanta Capital in U.S. small cap and the proposed search activity will be aligned to complement our existing manager structure, preserve downside risk protection and efficiently capture upside appreciation in a prudent and cost effective manner. RIO notes this search could result in expanding relationship exposures with existing investment firms.
- 5. Enhanced Proxy Vote Auditing RIO recommends the SIB engage Broadridge Financial Solutions and utilize their "ProxyDisclosure" service to enhance our ability to efficiently audit the proxy voting practices of our equity managers in 2020. In connection with our annual Governance Manual Review in late-2019, the SIB and RIO sought to adopt emerging best practices with regards to efficiently monitoring various proxy voting practices on topics such as executive compensation and board diversity in addition to certain shareholder led initiatives which could potentially be misaligned with the best interests of our stakeholders and constituents.
- 6. <u>Board Meeting Schedule and Self-Assessment</u> The SIB will be asked to approve a Board meeting schedule for the next fiscal year and decide if they desire to complete a Board Self-Assessment in 2020.
- 7. <u>RIO Compensation Study</u> The SIB will be asked to consider the merits of a RIO compensation study in order to improve our ability to attract and retain a dedicated team of top performing professionals who are responsible for administering a \$4 billion retirement benefits system and \$16 billion of SIB client investments.
- **8.** <u>Committee Meetings</u> RIO will highlight recent discussions with various legislative committees including the Employee Benefits Program Committee, Legacy Fund Earnings Committee and Legacy and Budget Stabilization Fund Advisory Board.
- 9. <u>Agency Update</u> RIO will provide an update of recent and upcoming staffing changes including succession planning for RIO's Deputy Executive Director and Chief Retirement Officer Fay Kopp and Retirement Program Manager Shelly Schumacher.



ND STATE INVESTMENT BOARD MEETING

Friday, January 24, 2020, 8:30 a.m. Fort Union Room, State Capitol 600 E Blvd, Bismarck, ND

AGENDA

- CALL TO ORDER AND ACCEPTANCE OF AGENDA I.
- II. **ACCEPTANCE OF MINUTES (November 22, 2019)**
- III. **INVESTMENTS** (enclosed unless otherwise noted)
 - A. Interim Investment Update & New Client Inquiry Mr. Hunter Board Action (10 minutes)
 - B. Fixed Income Update (45 minutes)
 - 1. Direct Lending Background and Overview Mr. Darren Schulz and Mr. Eric Chin
 - 2. Ares Presentation* Mr. Mitchell Goldstein, Ms. Jana Markowicz and Ms. Kara Herskowitz
 - 3. Staff Recommendation* Mr. Darren Schulz Board Action
 C. Investment Consulting Update* Mr. Hunter Board Action (20 minutes)
 - D. U.S. Small Cap Equity Search Recommendation Mr. Darren Schulz Board Action (10 minutes) *Possible Executive Session - Pursuant to N.D.C.C. § 44-04-18.4 to discuss confidential commercial or financial information.

- IV. **GOVERNANCE** (enclosed unless otherwise noted)
 - A. Proxy Voting Policy Update Mr. Hunter (20 minutes)
 - 1. Broadridge Financial Solutions* Mr. Sam Caust
 - 2. Staff Recommendation* Mr. Hunter Board Action
 - B. 2020-21 Board Meeting Schedule Mr. Hunter Board Action (10 minutes)
 - C. 2020 Board Self-Assessment Mr. Hunter Board Action (10 minutes)
 - D. RIO Compensation Study Mr. Hunter Board Action (10 minutes)
 - E. Executive Review Committee Mr. Hunter *Informational* (10 minutes)
 - *Possible Executive Session Pursuant to N.D.C.C. § 44-04-18.4 to discuss confidential commercial or financial information.
- ٧. QUARTERLY MONITORING (enclosed unless otherwise noted) (10 min) Board Acceptance
 - A. Budget and Financial Condition Ms. Flanagan (enclosed)
 - B. Executive Limitations / Staff Relations Mr. Hunter (enclosed)
 - C. Investment Program Mr. Schulz
 - D. Retirement Program Ms. Kopp
- VI. **OTHER**

Next Meetings: SIB Securities Litigation - February 4, 2020, 1:00 pm - RIO Conference Room SIB Audit Committee - February 27, 2020, 3:00 pm - RIO Conference Room

SIB meeting - February 28, 2020, 8:30 a.m. - Capitol, Ft. Union Room

VII. **ADJOURNMENT** NORTH DAKOTA STATE INVESTMENT BOARD MINUTES OF THE

NOVEMBER 22, 2019, BOARD MEETING

MEMBERS PRESENT: Brent Sanford, Lt. Governor, Chair

Rob Lech, TFFR Board, Vice Chair

Troy Seibel, PERS Board, Parliamentarian

Toni Gumeringer, TFFR Board

Keith Kempenich, Legacy/Budget Stab. Adv. Board

Bryan Klipfel, Director of WSI

Adam Miller, PERS Board Mel Olson, TFFR Board

Kelly Schmidt, State Treasurer

Yvonne Smith, PERS Board

MEMBERS ABSENT: Jon Godfread, Insurance Commissioner

Jodi Smith, Commissioner of Trust Lands

PRESENT: Amy Carlson, Investment Acct

Eric Chin, Chief Risk Officer (tlcf) Connie Flanagan, Chief Financial Officer

Bonnie Heit, Admin Svs Suprv David Hunter, Exec Dir/CIO

Sara Sauter, Suprv of Internal Audit

Darren Schulz, Dep CIO

Susan Walcker, Senior Financial Acct

GUESTS: Alex Browning, Callan Associates LLC

Paul Erlendson, Callan Associates LLC Pete Keliuotis, Callan Associates LLC

Bryan Reinhardt, PERS

CALL TO ORDER:

Lt. Governor Sanford, Chair, called the State Investment Board (SIB) regular meeting to order at 8:30 a.m. on Friday, November 22, 2019, at the State Capitol, Ft. Union Room, Bismarck, ND.

AGENDA:

The Board considered the agenda for the November 22, 2019, meeting,

IT WAS MOVED BY DR. LECH AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT THE AGENDA FOR THE NOVEMBER 22, 2019, MEETING.

AYES: MR. KLIPFEL, MS. GUMERINGER, MS. SMITH, MR. SEIBEL, MR. MILLER, DR. LECH, MR.

OLSON, TREASURER SCHMIDT, AND LT. GOVERNOR SANFORD

NAYS: NONE MOTION CARRIED

ABSENT: COMMISSIONER GODFREAD, COMMISSIONER SMITH

MINUTES:

IT WAS MOVED BY MS. SMITH AND SECONDED BY DR. LECH AND CARRIED BY A VOICE VOTE TO APPROVE THE OCTOBER 25, 2019, MINUTES AS DISTRIBUTED.

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AYES: MS. GUMERINGER, MS. SMITH, TREASURER SCHMIDT, DR. LECH, MR. OLSON, MR. SEIBEL,

MR. MILLER, MR. KLIPFEL, AND LT. GOVERNOR SANFORD

NAYS: NONE MOTION CARRIED

ABSENT: COMMISSIONER SMITH, COMMISSIONER GODFREAD

INVESTMENTS:

Asset/Performance - Mr. Hunter highlighted the growth in the SIB client assets and investment results for each of the 25 client portfolios. RIO notes that 99% of the clients, based on Assets Under Management, generated net investment returns which exceeded their approved policy benchmark for the 5-years ended September 30, 2019, while adhering to approved risk levels. Excess returns for the five largest clients - the Legacy Fund (\$6.4 billion), Public Employees Retirement System (PERS) (\$3.1 billion), Teachers' Fund for Retirement (TFFR) (\$2.6 billion), Workforce Safety & Insurance (WSI) (\$2.1 billion) and Budget Stabilization Fund (\$669 million) surpassed approved performance benchmarks by at least 0.44% (and up to 1.02%) per annum for the 5-years ended September 30, 2019.

<u>Callan Associates LLC Review</u> - Representatives reviewed the investment performance of the Pension Trust, Insurance Trust, and Legacy Fund for the period ending September 30, 2019.

Callan also provided an educational segment on private markets and reviewed the SIB's private equity portfolio.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. KLIPFEL AND CARRIED BY A VOICE VOTE TO ACCEPT CALLAN ASSOCIATES LLC PERFORMANCE MEASUREMENT REPORTS OF THE PENSION TRUST, INSURANCE TRUST, AND LEGACY FUND FOR THE PERIOD ENDING SEPTEMBER 30, 2019.

AYES: MR. OLSON, MS. GUMERINGER, MR. MILLER, MS. SMITH, MR. SEIBEL, MR. KLIPFEL, DR.

LECH, TREASURER SCHMIDT, AND LT. GOVERNOR SANFORD

NAYS: NONE MOTION CARRIED

ABSENT: COMMISSIONER GODFREAD, COMMISSIONER SMITH

The Board recessed at 10:24 a.m. and reconvened at 10:45 a.m.

<u>Investment Consulting</u> - Mr. Hunter reached out to the ten largest investment consulting firms to determine which firms were most interested in working with the SIB and to gain an understanding of which firms appear to be most well suited to assist the SIB in future investment consulting engagements. At the January 24, 2020, SIB meeting, Mr. Hunter will share the presentations from the two highest rated general investment consultants from the following field - Aon, Callan, NEPC, RVK, and Wilshire.

GOVERNANCE:

<u>Audit Committee</u> - Ms. Sauter reviewed activities of the Audit Committee for the period of July 1, 2019 - September 30, 2019.

<u>Audit Activities Completed on Behalf of the SIB</u> - The SIB Customer Satisfaction Survey was completed and the results were provided to the SIB in October 2019.

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The Investment Due Diligence Audit was completed in July 2019.

<u>Audit Activities Completed on Behalf of TFFR</u> - Three Employer Audits were completed and one was in progress.

The TFFR File Maintenance Audit fieldwork has been completed and a report will be issued in November 2019.

<u>Audit Activities Completed on Behalf of RIO</u> - Assistance was provided to CliftonLarsonAllen (CLA) during the GASB 68 Census Data Audits. Internal Audit notified twelve Employers of the audit in July 2019. Internal Audit also sent out twenty-four Employer confirmations as part of the financial statement audit.

The Administrative Expense Audit is currently in progress. Internal Audit is reviewing RIO's policies pertaining to travel and office expenses and comparing those to the Office of Management and Budget (OMB) policies and state purchasing requirements.

The Audit Committee's Charter was revised and presented to the SIB for their review and approval.

CLA's financial audit of RIO for the fiscal year ended June 30, 2019, was presented to the SIB for their review and approval. CLA issued an unmodified "clean" opinion that the financial statements were presented fairly, in all material respects, in conformity with US Generally Accepted Accounting Principles (GAAP).

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE SIB AUDIT COMMITTEE REPORT FOR THE PERIOD ENDING SEPTEMBER 30, 2019, TO APPROVE THE REVISED AUDIT COMMITTEE CHARTER, AND APPROVE CLA'S FINANCIAL STATEMENT AUDIT OF RIO FOR THE FISCAL YEAR ENDED JUNE 30, 2019.

AYES: MR. KLIPFEL, MR. OLSON, TREASURER SCHMIDT, MR. SEIBEL, DR. LECH, MR. MILLER, MS. SMITH, MS. GUMERINGER, AND LT. GOVERNOR SANFORD

NAYS: NONE MOTION CARRIED

ABSENT: COMMISSIONER GODFREAD, COMMISSIONER SMITH

Securities Litigation Committee - Mr. Hunter and Mr. Seibel sought confirmation to confirm the Securities Litigation Committee is authorized to make decisions on the level of participation the SIB will take in direct litigation, opt-in or group litigation, anti-trust and other class actions. The Securities Litigation Committee is seeking this confirmation given the practical time constraints inherent in pursuing opt-out securities litigation cases in the U.S. The opt-out claim filing period of 60-days impairs, if not prohibits, the SIB from seeking direct litigation in the U.S. unless the Securities Litigation Committee is authorized to take this action during interim periods between scheduled SIB meetings.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO CONFIRM THE SECURITIES LITIGATION COMMITTEE IS AUTHORIZED TO MAKE DECISIONS ON BEHALF OF THE SIB REGARDING THE LEVEL OF PARTICIPATION THE SIB WILL TAKE IN DIRECT LITIGATION, OPT-IN OR GROUP LITIGATON, ANTI-TRUST AND OTHER CLASS ACTIONS.

AYES: MS. GUMERINGER, TREASURER SCHMIDT, MR. MILLER, MR. OLSON, MR. KLIPFEL, MS. SMITH, DR. LECH, MR. SEIBEL, AND LT. GOVERNOR SANFORD

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NAYS: NONE MOTION CARRIED

ABSENT: COMMISSIONER GODFREAD, COMMISSIONER SMITH

Legacy Fund Earnings Committee - Mr. Hunter updated the SIB on the November 13, 2019, meeting of the Legacy Fund Earnings Committee. Mr. Hunter presented an overview of U.S. Sovereign Wealth Funds and the benefits of the Percent of Market Value (POMV) approach as a prudent, responsible and transparent method for defining future earnings. Mr. Hunter also indicated the POMV is utilized by most other U.S. Sovereign Wealth Funds, including ND Common Schools Trust Fund, in developing a sustainable spending policy.

<u>Informational Request</u> - Mr. Hunter handed out a page from a report researched and written by an individual expressing their views on private equity. The page was for informational purposes only and Mr. Hunter wanted the SIB to be aware that he occasionally receives information from individuals interested in the SIB's program and he does his best to address their views.

OTHER:

The next meeting of the SIB for regular business has been scheduled for January 24, 2020, at 8:30 a.m., at the State Capitol, Ft. Union Room.

The next meeting of the Securities Litigation Committee is scheduled for February 4, 2020, at 1:00 p.m. at the Retirement and Investment Office.

The next meeting of the SIB Audit Committee is scheduled for February 27, at 3:00 p.m. at the Retirement and Investment Office.

ADJOURNMENT:

IT WAS MOVED BY MS. SMITH AND SECONDED BY MR. KLIPFEL AND CARRIED BY A VOICE VOTE TO ADJOURN THE MEETING.

AYES: DR. LECH, TREASURER SCHMIDT, MR. OLSON, MR. SEIBEL, MR. MILLER, MS. GUMERINGER, MS. SMITH, MR. KLIPFEL, AND LT. GOVERNOR SANFORD

NAYS: NONE MOTION CARRIED

ABSENT: COMMISSIONER SMITH, COMMISSIONER GODFREAD

With no further business to come before the SIB, Lt. Governor Sanford adjourned the meeting at 11:35 a.m.

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Lt. Governor Sanford, Chair State Investment Board

Bonnie Heit Recorder

Board Action Requested

Interim Investment Update

As of November 30, 2019

January 24, 2020

Dave Hunter, Executive Director / CIO

Darren Schulz, Deputy Chief Investment Officer
Fay Kopp, Deputy Executive Director / Chief Retirement Officer

Connie Flanagan, Chief Financial Officer

Eric Chin, Chief Risk Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

Interim Investment Update as of November 30, 2019

SIB investments exceeded \$16 billion as of November 30, 2019, at or near all-time highs, given very favorable capital market and economic conditions and strong oil & gas production levels.

SIB Interim Investme	ent Returns					Since July 1,	
Calendar Year To Da	2019						
30-Nov-19						Fiscal YTD	Calendar YTD
	3/31/2019	6/30/2019	9/30/2019	10/31/2019	11/30/2019	11/30/2019	11/30/2019
Legacy Fund	7.72%	3.24%	1.01%	1.79%	1.65%	4.52%	16.23%
Policy Benchmark	7.67%	3.38%	0.97%	1.48%	1.43%	3.93%	15.68%
TFFR	7.46%	3.53%	0.40%	2.04%	1.74%	4.25%	15.96%
Policy Benchmark	7.66%	3.40%	0.64%	1.51%	1.48%	3.70%	15.41%
PERS	7.46%	3.50%	0.37%	2.07%	1.74%	4.26%	15.93%
Policy Benchmark	7.53%	3.42%	0.61%	1.49%	1.48%	3.62%	15.23%
wsı	5.29%	3.26%	1.70%	1.07%	0.77%	3.57%	12.61%
Policy Benchmark	4.89%	3.10%	1.60%	0.80%	0.65%	3.08%	11.47%

Note: Net investment returns are deemed to be materially accurate, but are unaudited and subject to change.

1. SIB clients earned over \$2 billion of net investment income for the 11 months ended November 30, 2019, including the following interim results for our four largest investment clients:

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- Legacy +16.2% or $925 million - TFFR + 15.9% or $365 million

- PERS +15.9% of $450 million - WSI +12.6% of $235 million
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2) Net investment returns for the Legacy Fund, TFFR and PERS exceeded their respective *Policy Benchmarks* by over 0.50% (or ½ of 1 percent) on both a current fiscal year to date basis (July 1 to November 30, 2019) and calendar year to date basis (January 1 to November 30, 2019).

Monthly Asset Class Returns in 2019

Callan Periodic Table of Investment Returns

7	L	/

-0.07%

5.09%

						Monthly	Returns						Annual Returns
	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	Dec 2019	2019
Best	Small Cap Equity	Small Cap Equity	Real Estate	Large Cap Equity	U.S. Fixed Income	Small Cap Equity	Large Cap Equity	U.S. Fixed Income	Dev ex-U.S. Equity	Emerging Market Equity	Small Cap Equity	Emerging Market Equity	Large Cap Equity
	11.25%	5.20%	3.51%	4.05%	1.78%	7.07%	1.44%	2.59%	2.81%	4.22%	4.12%	7.46%	31.49%
	Real Estate	Large Cap Equity	Large Cap Equity	Small Cap Equity	Glbl ex-U.S. Fixed	Large Cap Equity	Small Cap Equity	Real Estate	Real Estate	Dev ex-U.S. Equity	Large Cap Equity	Dev ex-U.S. Equity	Small Cap Equity
	10.87%	3.21%	1.94%	3.40%	1.04%	7.05%	0.58%	1.87%	2.35%	3.23%	3.63%	3.19%	25.52%
	Emerging Market Equity	Dev ex-U.S. Equity	U.S. Fixed Income	Dev ex-U.S. Equity	Real Estate	Emerging Market Equity	High Yield	Glbl ex-U.S. Fixed	Small Cap Equity	Small Cap Equity	Dev ex-U.S. Equity	Large Cap Equity	Dev ex-U.S. Equity
	8.77%	2.57%	1.92%	2.83%	-0.29%	6.24%	0.56%	1.59%	2.08%	2.63%	1.25%	3.02%	22.49%
	Large Cap Equity	High Yield	High Yield	Emerging Market Equity	High Yield	Dev ex-U.S. Equity	Real Estate	High Yield	Emerging Market Equity	Real Estate	High Yield	Small Cap Equity	Real Estate
	8.01%	1.66%	0.94%	2.11%	-1.19%	5.94%	0.35%	0.40%	1.91%	2.50%	0.33%	2.88%	21.91%
	Dev ex-U.S. Equity	Emerging Market Equity	Emerging Market Equity	High Yield	Dev ex-U.S. Equity	Glbl ex-U.S. Fixed	U.S. Fixed Income	Large Cap Equity	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Emerging Market Equity
	7.14%	0.22%	0.84%	1.42%	-4.73%	2.98%	0.22%	-1.58%	1.87%	2.17%	-0.05%	2.00%	18.44%
	High Yield	U.S. Fixed Income	Glbl ex-U.S. Fixed	U.S. Fixed Income	Large Cap Equity	High Yield	Glbl ex-U.S. Fixed	Dev ex-U.S. Equity	High Yield	Glbl ex-U.S. Fixed	Emerging Market Equity	Glbl ex-U.S. Fixed	High Yield
	4.52%	-0.06%	0.71%	0.03%	-6.35%	2.28%	-0.72%	-2.46%	0.36%	0.96%	-0.14%	1.09%	14.32%
	Glbl ex-U.S. Fixed	Real Estate	Dev ex-U.S. Equity	Glbl ex-U.S. Fixed	Emerging Market Equity	Real Estate	Dev ex-U.S. Equity	Emerging Market Equity	U.S. Fixed Income	U.S. Fixed Income	Real Estate	Real Estate	U.S. Fixed Income
	1.86%	-0.15%	0.51%	-0.61%	-7.26%	1.56%	-1.21%	-4.88%	-0.53%	0.30%	-1.22%	0.49%	8.72%
Worst	U.S. Fixed Income	Glbl ex-U.S. Fixed	Small Cap Equity	Real Estate	Small Cap Equity	U.S. Fixed Income	Emerging Market Equity	Small Cap Equity	Glbl ex-U.S. Fixed	High Yield	Glbl ex-U.S. Fixed	U.S. Fixed Income	Glbl ex-U.S. Fixed

Sources:

Bloomberg Barclays Aggregate
Bloomberg Barclays Corp High Yield
Bloomberg Barclays Global Aggregate ex US

1.26%

-7.78%

1.06%

-2.09%

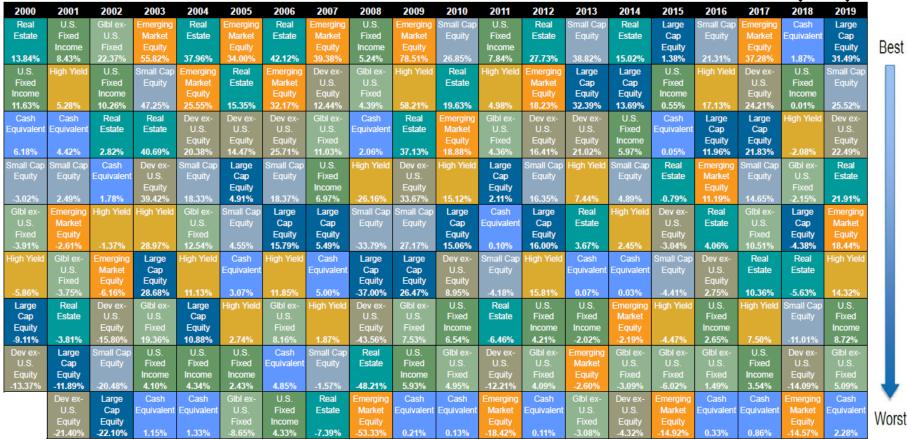
-1.32%

 [■] EPRA/NAREIT Developed
 ■ MSCI World ex USA
 ■ MSCI Emerging Markets
 ■ Russell 2000
 ■ S&P 500

Cash was King in 2018 and Everything Performed Well in 2019

The Callan Periodic Table of Investment Returns

Annual Returns for Key Indices Ranked in Order of Performance (2000–2019)

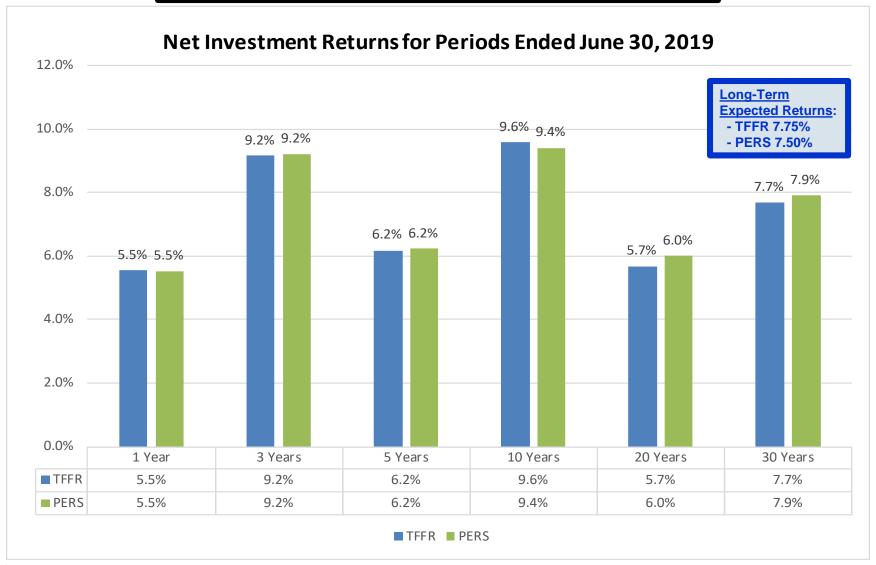


The Callan Periodic Table of Investment Returns conveys the strong case for diversification across asset classes (stocks vs. bonds), capitalizations (large vs. small), and equity markets (U.S. vs. global ex-U.S.). The Table highlights the uncertainty inherent in all capital markets. Rankings change every year. Also noteworthy is the difference between absolute and relative performance, as returns for the top-performing asset class span a wide range over the past 20 years.

A printable copy of The Callan Periodic Table of Investment Returns is available on our website at www.callan.com

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TFFR and PERS Returns have approximated their actuarial return assumptions the last 30 years.



Net Investment Performance Summary

For the Fiscal Year End Periods Ended June 30, 2019

SIB CLIENT INVESTMENT PERFORMANCE SUMMARY As of the Fiscal Year End Period Ended June 30, 2019

				Rat	es of Retu	rn (net of	fees)				
		For Fis	cal Year E	nded 6/30		Periods ended 6/30/19 (Annualized)					
	2019	2018	2017	2016	2015	3 Years	5 Years	10 Years	20 Years	30 Years	
TFFR	5.54%	9.11%	12.92%	0.28%	3.52%	9.15%	6.18%	9.57%	5.68%	7.68%	
Policy Benchmark	6.35%	7.90%	11.63%	0.61%	2.15%	8.61%	5.66%	8.89%	5.74%	7.87%	
PERS	5.52%	9.19%	13.05%	0.28%	3.53%	9.21%	6.22%	9.41%	6.00%	7.90%	
Policy Benchmark	6.40%	7.82%	11.88%	0.56%	2.15%	8.68%	5.69%	8.96%	6.05%	8.09%	
WSI	6.87%	5.34%	8.29%	3.58%	3.27%	6.83%	5.45%	7.82%	5.87%	7.39%	
Policy Benchmark	7.05%	3.77%	5.20%	3.41%	2.66%	5.33%	4.41%	6.05%	5.46%	*	
Legacy Fund	4.98%	7.57%	12.03%	1.06%	3.31%	8.15%	5.72%	*	*	*	
Policy Benchmark	6.12%	6.50%	9.90%	1.03%	2.38%	7.49%	5.14%				

Net investment returns for the vast majority of our SIB clients have outperformed their respective Policy Benchmarks by over 0.50% for the 3, 5 and 10 year periods ended June 30, 2019, including TFFR, PERS and WSI.

Board Action Requested

New SIB Client Inquiry – Veterans Cemetery Fund

New Client Inquiry: State Treasurer Kelly Schmidt inquired if the SIB could accept the Office of the State Treasurer as a new client to oversee the "Veterans Cemetery Fund". RIO understands the SIB previously invested money for the Veterans Cemetery Fund in the early-2000's.

RIO Response: Based on prior discussions with the Office of the Attorney General, RIO does not have any immediate concerns and seeks SIB input with regards to this new client inquiry. RIO understands the existing investment portfolio is approximately \$500,000. RIO understands the incremental income from this fund would be used to fund maintenance expenses of the U.S. Veterans Cemetery, but invite State Treasurer Kelly Schmidt to offer additional background.

<u>Board Action Requested</u>: If the SIB desires, RIO will inform the Officer of the State Treasurer of the Board's willingness to work towards accepting them as a contractual investment client for the U.S. Veterans Cemetery Fund (with a potential transition date of March 31, 2020) and subject to the final approval of the SIB and Industrial Commission in February and/or March.

<u>Background</u>: RIO believes the State Treasurer (Client) has the right to enter into a contract with the SIB for investment services as allowed under NDCC 21-10-06. It is the responsibility of the Client to establish policies on investment goals and asset allocation of the Fund. The SIB is charged with implementing these policies and asset allocation and investing the Fund in the manner provided in Section 21-10-07-the prudent institutional investor rule. The fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income.

Management responsibility for the investment program not assigned to the SIB in Chapter 21-10 is hereby delegated to the SIB, which must establish written policies for the operation of the investment program consistent with this investment policy.

The SIB may delegate investment responsibility to professional money managers, which are also required to employ investment strategies consistent with the investment policy. Where a money manager has been retained, the SIB's role in determining investment strategy and security selection is supervisory not advisory. At the discretion of the SIB, the Fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset class pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and the objectives of the funds participating in the pool. The SIB is responsible for establishing criteria, procedures, and making decisions with respect to hiring, retaining, and terminating money managers. The SIB investment responsibility also includes selecting performance measurement services, consultants, report formats, and frequency of meetings with managers. The SIB will implement changes to this policy as promptly as is prudent.

SIB Governance Policy Section E-13 - Accepting New Clients

NDCC 21-10-06 states "The state investment board may provide investment services to, and manage the money of, any agency, institution, or political subdivision of the state, subject to agreement with the industrial commission. The scope of services to be provided by the state investment board to the agency, institution, or political subdivision must be specified in a written contract. The state investment board may charge a fee for providing investment services and any revenue collected must be deposited in the state retirement and investment fund."

When a request is received by staff from a potential new investor requesting investment services from the State Investment (SIB), the following steps shall be followed.

- 1. Staff will conduct initial discussions with the potential client regarding type of fund, risk tolerance, size of fund, services to be provided, costs, etc.
- 2. Staff will recommend that an Asset/Liability study be conducted by the potential client if one has not been done recently. This discussion will include a description of the asset classes available for investment with the SIB to be included in their study.
- 3. If the potential client is still interested in participating in the SIB program, staff will bring the preliminary request to the SIB for acceptance. It shall be the policy of the SIB to take the following into consideration when determining if a new investor request will be accepted.
 - a. Internal staff administrative capacity.
 - b. Compatibility of new investor's goals and risk tolerances with existing SIB clients.
 - c. Whatever other factors the SIB determines to be appropriate to the decision.
- 4. If the SIB chooses to accept the preliminary request, staff will provide the necessary template documents to the potential client for review and completion. These documents include a contract for services and investment guidelines.
- 5. Once documentation is completed, staff will request to have the issue included on the Industrial Commission's agenda for their approval. Copies of all documentation will be provided for their review.
- 6. If approved by the Industrial Commission, final documentation will be presented to the SIB for final acceptance.
- 7. If accepted, staff will work with the new client to set up transfer of funds and implementation of asset allocation as directed. All new clients will be brought in as of the last day of a calendar quarter.
- 8. Fees will be charged with the intention of covering all associated costs as described in RIO Fiscal Management procedure "Investment Fee Allocations".

Policy Implemented: November 20, 2009

Trustee Education offered by Council of Institutional Investors (CII)



CII Spring 2020 Conference & 35th Anniversary

Summary Agenda Speakers
Trustee Events Master Class
Board Meetings Advisory Council Meetings
Advertising Opportunities
Conference Sponsors

Register Now

Already Registered?

Trustee Events

CII hosts educational and networking events in conjunction with semi-annual conferences for pension fund trustees and staff. Please contact CII Deputy Director Amy Borrus for more information or Kylund Arnold for assistance in registering for either event.

Pension Fund Trustee Training -Education Trustees Can Use

Monday, March 9, from 8:30 AM - 2:30 PM ET | Hosted by CII in partnership with the CFA Institute | See the full curriculum here

WHAT: CII and the CFA Institute are pleased to offer a one-day training program tailored for public pension fund trustees.

The newly refreshed course starts with fiduciary duties and ethics training based on real-life case studies that provide instruction and encourage critical thinking. Trustees will hone their investment skills in "basic training" and in seminars on advanced topics such as private equity and the pros and cons of

Trustee Dinner & Roundtable

Monday, March 9, from 7:30-9:00 PM ET

A private dinner and discussion just for pension fund trustees. After a short update on CII initiatives from senior staff, trustees will have ample time to talk among themselves and to discuss issues of mutual interest.

timing the market. The course wraps up with a panel discussion on hot issues in fund governance. Instructors are seasoned professionals with an appreciation for the challenges fund trustees face.

WHY: The course is an entertaining and interactive program that is updated annually to reflect changing market trends. It covers fiduciary ethics, investment oversight skills and fund governance challenges delivered by CFA Institute experts and experienced fund trustees and staff. The course explores issues that are vital for both new and experienced trustees.

COST: With CFA Institute's support, CII is able to offer trustee training at an extremely low price (\$395 for CII Members, \$595 for non-members).

Please Note: Early bird pricing ends Friday, February 14. No refunds for cancelled registrations will be given after Friday, February 14. Conference registration closes Thursday, March 5.

Contact CII Staff

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Trustee Education offered by Council of Institutional Investors (CII)

Trustee Education & CII Conference Background:

If SIB or TFFR board members are interested in obtaining additional pension fund trustee training, the Council of Institutional Investors is offering education on "fiduciary ethics, investment oversight skills and fund governance challenges" the day before their Spring 2020 conference in Washington, DC, on Monday, March 9 from 8:30 AM -2:30 PM ET. More information on that session is available here.

If SIB or TFFR board members would like to attend the "Pension Fund Trustee Training" or CII Spring Conference, please reach out to myself or Bonnie in the upcoming weeks (preferably by February 14th). CII allows trustees from public pension funds to attend their conferences without any fee for registration. The full conference <u>agenda is here</u>.

RIO will highlight the educational benefits of attending CII's Pension Fund Trustee Training at our next board meeting and compare the background of the typical attendee at the training session versus the conference.



CII Spring 2020 Conference & 35th Anniversary

Summary **Agenda** Speakers Trustee Events Master Class Board Meetings Advisory Council Meetings Advertising Opportunities Conference Sponsors

Register Now

Already Registered?

Agenda

Please Note: The conference program is subject to change. Some sessions (such as constituency meetings) are open only to certain types of attendees or CII Members - please expand the session descriptions for more information. CII provides time for members to host panels during the conference but the views expressed in these member-hosted panels do not necessarily reflect those of CII or its member-approved policies. Please contact CII Staff at 202.822.0800 with any questions.

March 9, 2020

Member Lounge Open

8:00 AM-7:45 PM

Registration Open

8:00 AM-7:45 PM

Pension Fund Trustee Training

8:30 AM-2:30 PM

Governance Master Class: Fifty Shades of Stewardship - Proxy Voting, Engagement and Sustainability

12:00 PM-2:00 PM

Member-Hosted Panel: Driving SDG Adoption on a Global Scale: A Case Study

3:00 PM-4:00 PM

Note: Callan will highlight additional board member education options at our February 28th SIB meeting.

Projected 10% Portfolio Growth

Informational

TO: State Investment Board

FROM: Dave Hunter, Darren Schulz and Eric Chin

DATE: January 24, 2020

SUBJECT: Direct Lending Background and Overview

At the October 25, 2019 board meeting, Staff highlighted the underweight to direct lending strategies in the Pension Pool and the Legacy Fund. This underweight was a result of the significant growth in assets experienced by both entities. Staff's recommendation, and the Board's approval of a \$100 million increase to the Cerberus ND Private Credit Fund, LLC was the first step taken to address this underweight. The table below illustrates the current underweight to direct lending strategies, and also exhibits a forward looking scenario that projects a modest 10% growth in Pension Pool and Legacy Fund assets.

							PI	ojected 10% P	orti	folio Growth
		January-17*	N	lovember-19	ount required to maintain ginal target %	Projected Allocations	t	ount required to maintain ginal target %		Projected Allocations
Pension Pool AUM	\$ 4	4,969,054,385	\$	6,140,074,547		\$ 6,140,074,547			\$	6,754,082,002
Cerberus Direct Lending AUM	\$	120,000,000	\$	120,000,000	\$ 28,279,509	\$ 148,279,509	\$	43,107,460	\$	163,107,460
Ares Direct Lending AUM	\$	120,000,000	\$	120,000,000	\$ 28,279,509	\$ 148,279,509	\$	43,107,460	\$	163,107,460
Total Direct Lending AUM	\$	240,000,000	\$	240,000,000	\$ 56,559,019	\$ 296,559,019	\$	86,214,920	\$	326,214,920
% of total		4.83%		3.91%		4.83%				4.83%
Legacy Fund AUM	\$ 4	4,278,092,406	\$	6,698,362,597		\$ 6,698,362,597			\$	7,368,198,857
Cerberus Direct Lending AUM	\$	80,000,000	\$	80,000,000	\$ 45,258,867	\$ 125,258,867	\$	57,784,754	\$	137,784,754
Ares Direct Lending AUM	\$	80,000,000	\$	80,000,000	\$ 45,258,867	\$ 125,258,867	\$	57,784,754	\$	137,784,754
Total Direct Lending AUM	\$	160,000,000	\$	160,000,000	\$ 90,517,734	\$ 250,517,734	\$	115,569,507	\$	275,569,507
% of total		3.74%		2.39%		3.74%				3.74%
Total Underweight					\$ 147,076,753		\$	201,784,428		
Approved Cerberus Increase**					\$ 100,000,000		\$	100,000,000		
Remaining Underweight					\$ 47,076,753		\$	101,784,428		

^{*}Assumes the direct lending mandates are fully invested upon initial commitment

Even with the Cerberus addition, the table shows that if the Pension Pool and Legacy Fund grew by 10%, the portfolios would still be underweight direct lending strategies by approximately \$100 million. **Staff believes that up to an additional \$100 million to direct lending strategies is appropriate** given that:

- 1) it takes time for direct lending managers to invest capital
- a conservative 10% growth projection is applicable given that the Pension Pool has grown 23.6% and the Legacy Fund has grown 56.6% from January 2017 through November 2019

Today, as the next step in addressing the remaining underweight to direct lending strategies, Staff has brought in Ares to present to the Board.

^{**}Additional commitment with Cerberus was signed on December 11, 2019. Capital will be drawn as Cerberus identifies new loan opportunities



Ares U.S. Direct Lending Presentation to North Dakota Retirement and Investment Office January 24, 2020

PROVIDED PURSUANT TO YOUR REQUEST; NOT FOR FURTHER DISTRIBUTION.

Represents an illustrative SMA for discussion purposes only. Actual and recommended SMAs can vary in asset types, targeted investments and returns achieved. Any investment is subject to the execution of definitive subscription and investment documentation. The potential investment opportunity presented herein could be structured one of several ways and thus, this presentation is not intended to specify any single way in which the potential portfolio or strategy described herein could be undertaken. This presentation is meant as a conceptual introduction to an investment opportunity that could include some, all or none of the assets mentioned herein.

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Presenter Biographies



Mitch Goldstein, Partner and Co-Head of Credit Group

Mr. Goldstein is a Partner and Co-Head of the Ares Credit Group and a member of the Management Committee of Ares Management. He additionally serves as Co-President of ARCC and Vice President and interested trustee of CION Ares Diversified Credit Fund. He is a member of the Ares Credit Group's U.S. Direct Lending and Commercial Finance Investment Committees and the Ivy Hill Asset Management Investment Committee. Prior to joining Ares Management in May 2005, Mr. Goldstein worked at Credit Suisse First Boston, where he was a Managing Director in the Financial Sponsors Group. At CSFB, Mr. Goldstein was responsible for providing investment banking services to private equity funds and hedge funds with a focus on M&A and restructurings as well as capital raisings, including high yield, bank debt, mezzanine debt, and IPOs. Mr. Goldstein joined CSFB in 2000 at the completion of the merger with Donaldson, Lufkin & Jenrette. From 1998 to 2000, Mr. Goldstein was at Indosuez Capital, where he was a member of the Investment Committee and a Principal, responsible for originating, structuring and executing leveraged transactions across a broad range of products and asset classes. From 1993 to 1998, Mr. Goldstein worked at Bankers Trust. He also serves on the Board of Managers of Ivy Hill Asset Management GP, LLC. Mr. Goldstein graduated summa cum laude from the State University of New York at Binghamton with a B.S. in Accounting, received an M.B.A. from Columbia University's Graduate School of Business and is a Certified Public Accountant.



Jana Markowicz, Partner and Head of Product Management and Investor Relations for U.S. Direct Lending

Ms. Markowicz is a Partner in the Ares Credit Group and serves as Head of Product Management and Investor Relations, U.S. Direct Lending and is a member of the Management Committee of Ares Management Prior to joining Ares in 2005, Ms. Markowicz was an Analyst in the Global Power Investment Banking Group and the Leveraged Finance Group at Citigroup, where she focused on financings for companies across a broad range of industries. Ms. Markowicz holds a B.S. from the University of Pennsylvania in Engineering, with a concentration in Economic and Financial Systems.



Kara Herskowitz, Principal

Ms. Herskowitz is a Principal in the Ares Credit Group, where she focuses on credit investor relations. Prior to joining Ares in 2017, Ms. Herskowitz was a Principal in the Client and Partner Group at KKR, where she was a Product Specialist focused on private equity. Previously, Ms. Herskowitz worked at The Blackstone Group where she was a member of the private equity project management team at Park Hill Group. In addition, Ms. Herskowitz was an Investment Banking Analyst at BMO Capital Markets in the Business Services and Media Group. Ms. Herskowitz holds a B.B.A., with highest honors, from Emory University in Finance and Accounting.



North Dakota Credit Strategies – Executive Summary

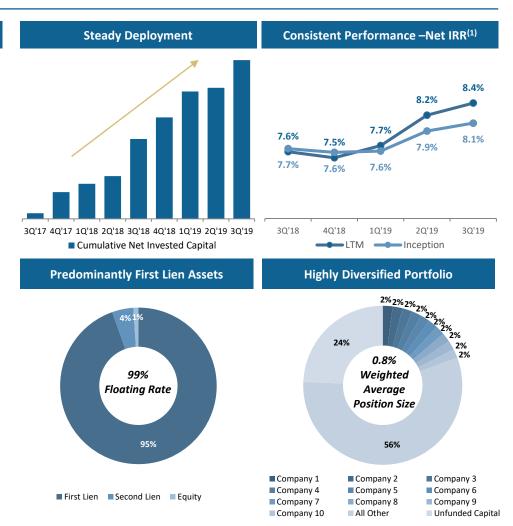


North Dakota Credit Strategies – Executive Summary

Ares Direct Lending is pleased to present to the North Dakota Retirement and Investment Office

Summary

- North Dakota Retirement and Investment Office is a key client of Ares and we are excited to potentially expand our partnership
- The Ares ND Credit Strategies Fund commenced operations in June 2017 with a \$200 million commitment from the North Dakota Retirement and Investment Office
- Ares ND Credit Strategies Fund's existing portfolio seeks to achieve attractive risk-adjusted returns by investing in predominantly first lien loans (with a small allocation to junior investments) to North American middle market companies
- Since its first investment in September 2017, the portfolio has performed in line with expectations – generating an 8.1% net IRR as compared to the fund's targeted range of 7.0% - 9.0%
 - Additionally, there have been no defaults or material investment impairments reported to date
- As of September 30, 2019, the fund had a par value of \$302.9 million across 95 borrowers and a 0.8% weighted average position size
- As of December 31, 2019, 74% of the fund's capital had been deployed with a total of 79% committed inclusive of unfunded commitments, backlog and pipeline



Note: As of September 30, 2019 unless otherwise noted.

1. The inception date for the since inception internal rate of return ("IRR") is September 14, 2017. The IRR is the discount rate that makes the net present value of all cash flows equal to zero and is annualized for periods greater than one year. The IRR is based on capital contributed to the Fund, distributions from the Fund, and the net asset value of the Fund, which includes the unrealized fair value of investments. Because such valuations, and particularly valuations of private investments and private companies, are inherently uncertain, may fluctuate over short periods of time and may be based on estimates, Ares' determinations of fair value may differ materially from the values that would have been used if a ready market for these investments existed and may differ materially from the values that may ultimately be realized.

Ares Management Overview



Overview of Ares Management

With approximately \$144 billion in assets under management, Ares Management Corporation is a leading global alternative asset manager with three distinct but complementary investment groups

Profile	
Founded:	1997
AUM:	\$144bn
Employees:	1,200+
Investment Professionals:	~465
Global Offices:	20+
Direct Institutional Relationships:	935+
Listing: NYSE – Market Capitalization (1):	~\$8.3bn



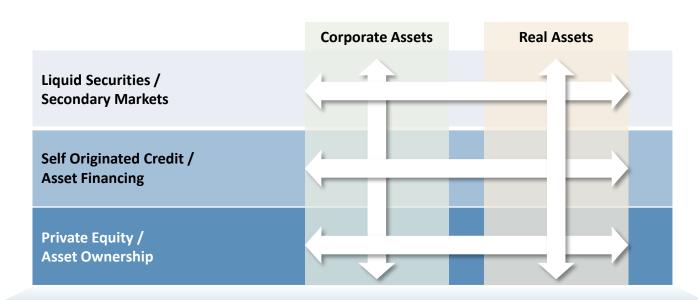
Founded with consistent	Dann managamant tagm
credit based approach to	Deep management team with integrated and
investments	collaborative approach
	apprount
20	B's seed of a local color
20+ year track record of	Pioneer and a leader in
compelling risk adjusted	leveraged finance and
returns through market	private credit

	Credit	Credit Private Equity					
AUM	\$106.3bn	\$25.5bn	\$12.5bn				
	Direct Lending	Corporate Private Equity	Real Estate Equity				
egies	Liquid Credit	Special Opportunities	Real Estate Debt				
Strategies	Alternative Credit	Energy Opportunities					
		Infrastructure and Power					

Note: As of September 30, 2019. AUM amounts include funds managed by Ivy Hill Asset Management, L.P., a wholly owned portfolio company of Ares Capital Corporation and registered investment adviser. Past performance is not indicative of future results.

"Ecosystems" Drive Investing Advantages

We believe the breadth and scale of our activities drive value and investment performance

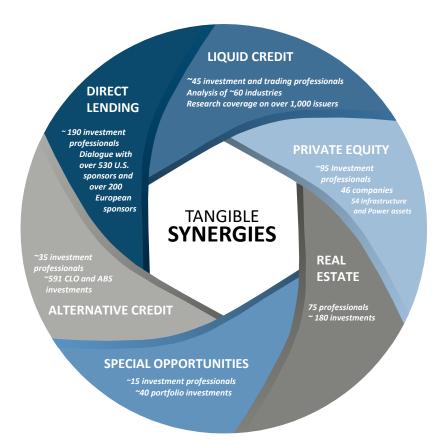


Sourcing Benefits	Evaluation Benefits	Execution Benefits
Complete capital structure solutions drive originations • Broad platform to help meet client needs Deep domain experience and networks • Highly experienced teams and large market presence facilitate transaction flow Power of incumbency • Large portfolio and strong relationships provide attractive future opportunities	 Information and research advantages Differentiated information enhances investment decisions Shared research across the platform Better relative value lens Identify attractive risk adjusted return opportunities across capital structures and markets 	Disciplined structuring and pricing



Ares Platform in Action

Cross-platform collaboration drives synergies in idea generation, diligence, sourcing and trading



Advantages for Credit

- Capital markets insights across regions and asset classes yields a differentiated perspective on absolute and relative value and portfolio allocations
- Depth of due diligence enhanced by fulsome coverage of industry verticals, proprietary research on more than 1,700 portfolio companies, and close partnerships with C-suite executives
- Coverage of over 650 financial sponsors facilitates access and preferred allocations in primary market
- Experience in asset-backed markets that influence technicals and the pricing of bank loans and high yield bonds
- Access to market insights and off-the-run opportunities as a leading counterparty to Wall Street
- Dedicated workout and restructuring resources for idea exchange and transaction support
- Ability to include complementary assets to improve return and/or risk management
- Breadth of resources and skill sets to effectively manage across market environments and through discrete credit events
- Ability to make investments across the capital structure in both liquid and illiquid securities
- · Capabilities and flexibility seeks to consistently perform to high standards in the best interest of our clients

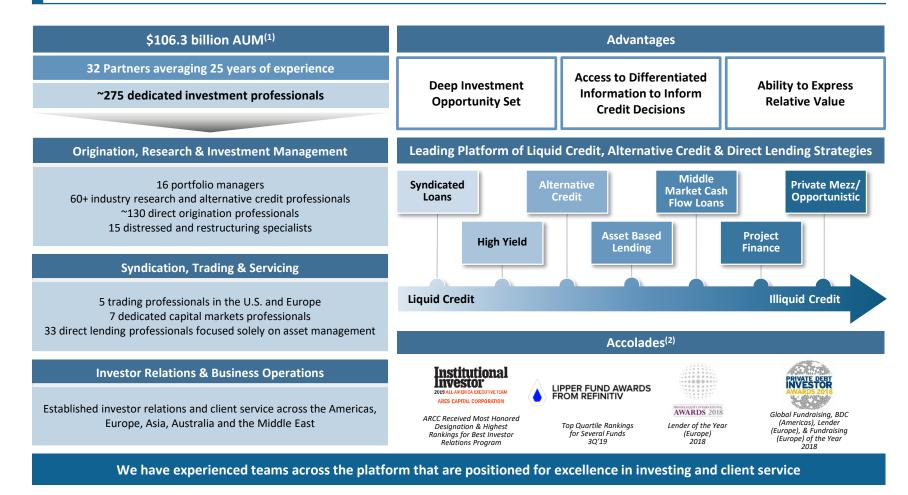


Ares Credit Group Overview



Ares Credit Group

Integrated scaled global platform combines direct origination, deep fundamental credit research and broad perspective of relative value



- 1. AUM amounts include funds managed by Ivy Hill Asset Management, L.P., a wholly owned portfolio company of Ares Capital Corporation and a registered investment adviser.
- 2. The performance, awards/ratings noted herein relate only to selected funds/strategies and may not be representative of any given client's experience and should not be viewed as indicative of Ares' past performance or its funds' future performance. All investments involve risk, including loss of principal.

Please see the Notes at the end of this presentation.

Note: As of September 30, 2019, unless otherwise noted.

Experienced Leadership Team

Long-tenured team with breadth of experience investing across the liquidity spectrum

Kipp deVeer Global Head of Credit 24 years of experience									
Mitch Go <i>Co-Head c</i> 25 years of e	of Credit	Michael Smith <i>Co-Head of Credit</i> 24 years of experience							
LIQUID	CREDIT	DIRECT I	.ENDING						
U.S.		U.S.							
Seth Brufsky 29 years of experience	Jason Duko 20 years of experience	Mark Affolter 30 years of experience	Kevin Braddish 36 years of experience						
Daniel Hayward 11 years of experience	Jennifer Kozicki 22 years of experience	Ryan Cascade 23 years of experience	Michael Dieber 33 years of experience						
Christopher Mathewson 15 years of experience	Samantha Milner 19 years of experience	Daniel Katz 24 years of experience	Jana Markowicz 17 years of experience						
Laura Rogers 25 years of experience	Michael Schechter 16 years of experience	Jim Miller 20 years of experience	Kort Schnabel 21 years of experience						
Kapil Singh 26 years of experience	lan Smith 17 years of experience	Dave Schwartz 19 years of experience							
Europe		Europe							
Francois Gauvin 28 years of experience	Peter Higgins 23 years of experience	Tyrone Cooney 29 years of experience	Michael Dennis 22 years of experience						
Boris Okuliar 22 years of experience		Andrea Fernandez 16 years of experience	Kai Gebauer 26 years of experience						
ALTERNAT	IVE CREDIT	Carl Helander 23 years of experience	Blair Jacobson 23 years of experience						
Keith Ashton 21 years of experience	Joel Holsinger 22 years of experience	Daniel Sinclair 16 years of experience	Matthew Theodorakis 20 years of experience						
Jeffrey Kramer 33 years of experience	Sonya Lee 17 years of experience								



Summary of Market Themes

Ares closely monitors the following headwinds and tailwinds to identify compelling opportunities

	HEADWINDS	TAILWINDS
MACRO / Geopolitical Environment	 Expected slowdown in global growth Global political turmoil expected to continue, particularly with 2020 being an election year in the U.S. 	 Synchronized global growth projected to be 3.0% for 2019⁽¹⁾ Low unemployment in the U.S., decreasing unemployment in EU Historically mild inflationary environment
INTEREST RATES	Investor apprehension around resurfacing policy uncertaintyPotential for a central bank misstep	 Dovish tone from the Federal Reserve through 2019 Demonstrated patience from central banks
CORPORATE Fundamentals	 Current and forward P/E multiples are reaching cycle highs Rising idiosyncratic risks and earnings misses in cyclical sectors Recoveries are projected to be lower in default scenarios⁽²⁾ 	 Credit metrics remain stable Default rates are expected to remain below historical averages
REGULATORY	 Regulatory changes have driven out liquidity Capital markets activity limited by bank regulations 	 Performing banking sector with healthy leverage Continued bank retrenchment creates opportunity for investors
TECHNICAL Backdrop	 Continued outflows as retail investors exit loan market Covenants and documentation are relatively weaker 	 Hunt for yield continues amid lack of supply Enhanced volatility in CCC's and BB's

GIVEN THESE DYNAMIC MARKET CONDITIONS, WE BELIEVE CREDIT SELECTION IS PARAMOUNT

Note: Projections and forward looking statements are not reliable indicators of future events and there is no guarantee that such activities will occur as expected or at all.



^{1.} International Monetary Fund World Economic Outlook, October 2019.

^{2.} Moody's Monthly Default Report, September 2019.

U.S. Direct Lending Strategy Overview



Evolution of U.S Direct Lending

- Historically, banks were meaningful underwriters / lenders to middle market companies. More recently, bank consolidation coupled with stringent banking regulations have significantly curtailed bank underwriting, with non-bank lenders filling the void
 - o Today, banks are typically focused on fees (advisory, syndication, etc.) and have little desire or ability to retain significant investment exposure

Pre-Crisis 2004-2007

Credit Crisis and Fallout 2008-2012

Era of Bank Regulation and DL Acceptance 2013+

- Consolidation wave large banks acquire smaller banks
- Regulators increase capital and risk standards
- Growing demand from borrowers underserved by current banking system

Capacity leaves market

- Banks refocus towards lower risk lending
- Global demand from retail and institutional investors

- Diminishing lending capabilities of mid market banking platforms
- Growing borrower acceptance of non-bank lenders
- Absolute returns in pursuit of yield

 Rise of non-bank lenders and institutional investors

The U.S. opportunity has developed broadly over the last twenty years and is institutionalized



Secular Trends Drive Opportunity in Direct Lending

Over the last 20 years, the non-bank lending markets have evolved, driven by several long running trends

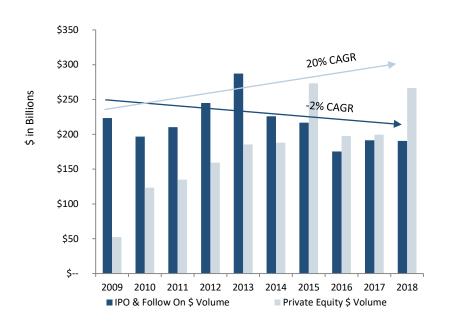
Bank Holdings of Commercial & Industrial (C&I) Loans(1)

30% % of Commercial Bank Loans and Leases 26% **Leveraged Lending** Guidelines (2013) 22% **Dodd Frank** Basel III (2010)(2014)18% 14% 10% 2011 2002 2005 2008 2014

Multidecade trends of bank consolidation has left a void for middle market companies

 Just as banks have retrenched, capital markets have also focused on larger borrowers, further expanding the middle market opportunity

U.S. Public vs. Private Dollar Volume (2)



- Since 2009, the growth in private market equity deal volume has grown 20% per year, while the dollar volume of public market equity deal volume has shrunk
- 2015 was the first time more equity capital was raised than the IPO and follow on markets



^{1.} Source: Standard and Poor's LCD Leveraged Lending Review Q3-19. Excludes left and right agent commitments (including administrative, syndication and documentation agent as well as arranger).

^{2.} Source: Public market follow on and IPO data per Refinitiv and PE transaction volume data per Preqin.

Scale Drives Sourcing Advantages

Multi-channel deal sourcing effort across the U.S. yields significant deal flow and a high degree of selectivity

Deep Relationships

Relationships with **500+** sponsors

Multiple investments with **175+** sponsors

Scale Supports Differentiation

Commit \$500mm+ in a single transaction

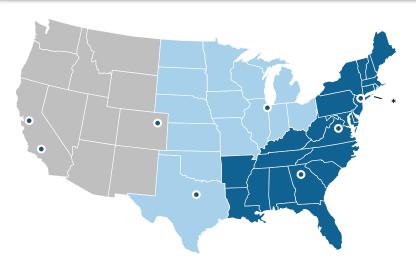
Arranger role in 90% of transactions⁽¹⁾

Proprietary Origination Channels

40-60% of commitments to **existing** borrowers⁽²⁾

Dedicated origination effort with non-sponsored companies

Large Direct Origination Platform



Ares office locations

110+ Investment Professionals9 U.S. Offices

Comprehensive Sourcing Capabilities Enable Optimal Asset Selectivity with a ~4% Closing Rate (4)

Note: All data as of September 30, 2019, unless otherwise stated. *Office locations in New York, NY and Tarrytown, NY.

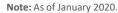
- 1. Calculated based on the cost basis of ARCC's portfolio as of September 30, 2019, excluding our investment in the subordinated certificates of the SDLP, equity-only investments and legacy investments from portfolio acquisitions.
- 2. Over the past 5 years. Range based on the total number of commitments completed during each quarter.
- At amortized cost.
- . Calculation based on ARCC's reviewed and closed transactions with new portfolio companies (excludes any investments in existing portfolio companies) in each calendar year or twelve month period and excludes equity-only investments and legacy investments from portfolio acquisitions.



Large and Experienced Direct Lending Focused Team in the U.S.

Long tenured team with substantial investment experience and access to quality deal flow

			Investn	nent Committee					
Mark Affolter	Michael Arougheti	Kipp deVeer	Mitch Goldstein	Jim Miller	Kort Schnabel	Dave Schwartz	Michael Smith		
Partner	Partner	Partner	Partner	Partner	Partner	Partner	Partner		
30 Years	26 Years	24 Years	25 Years	20 Years	22 Years	19 Years	24 Years		
	New `	York		Chi	cago	Los Angeles			
Karen De Castro	Greg Galligan	Brian Goldman	Mark Liggitt	Rajiv Chudgar	Brian Moncrief	Mike Zugay	Douglas Dieter		
Partner	Partner	Partner	Partner	Managing Director	Managing Director	Partner	Managing Director		
Jana Markowicz	Brian O'Connor	Peter Ogilvie	Craig Shirey	Christine Campanelli	Andrew Kenzie	Brian Kim	Neil Laws		
Partner	Partner	Partner	Partner	Principal	Principal	Managing Director	Managing Director		
Ryan Brauns	Damayra Cacho	Josh Lewis	Scott Rosen	Amy Klemme	Ankur Patel	Jason Park	Andrew Chen		
Managing Director	Managing Director	Managing Director	Managing Director	Vice President	Vice President	Managing Director	Principal		
Mike Roth	Adam Schatzow	Damian Sclafani	Matthew Slaughter	Robert Brown	Will Code	James Granello	Matt Stoner		
Managing Director	Managing Director	Managing Director	Managing Director	Senior Associate	Associate	Principal	Principal		
Chrissy Svejnar	Nick Walters	Chris York	Josh Bellet	Daniel Graber	Michael Kmiec	Tara Arens	John Clark		
Managing Director	Managing Director	Managing Director	Principal	Associate	Associate	Vice President	Vice President		
Joseph Carvalho	Dan DiBona	Dan Dirscherl	Brooke Epstein	Brendan Moran		Vishal Gandhi	Kris Talgo		
Principal	Principal	Principal	Principal	Associate		Vice President	Vice President		
Kara Herskowitz Principal	Bruce Hodges Principal	Andrea Kim Principal	Arjun Misra Principal	Atlanta	/ Dallas	Hiren Bahal Senior Associate	Brandon Vo Senior Associate		
Matthew Tworecke	Joan Fang	Jordan Graumann	Ryan Helfrich	Carl Drake	John Balzer	William Barth	Brett Candland		
Principal	Vice President	Vice President	Vice President	Partner	Managing Director	Associate	Associate		
Joseph Koerwer	Zachary Schwartz	Molly Shulman	James Vena	Owen Hill	Joseph Allio	Albert Lin	Kalan Patel		
Vice President	Vice President	Vice President	Vice President	Managing Director	Principal	Associate	Associate		
Pianpian Adelson	Emily Burke	Oliver Chase	Nicholas Gratto	Jainif Marediya		Jake Pompeo	Dom Smith		
Senior Associate	Senior Associate	Senior Associate	Senior Associate	Associate		Associate	Associate		
Evan Heroux	Christian Segars	Julia Wein	Craig Barone	Portfolio Management – New York					
Senior Associate	Senior Associate	Senior Associate	Associate						
David Engelbert Associate	Alexandra Furlo Associate	Michael Gadsden Associate	Benjamin Harland Associate	Michael Dieber Partner & Co-Head	Daniel Katz Partner & Co-Head	Adam Ferrarini Managing Director	Philip LeRoy Managing Director		
William Hendrickson Associate	Miles Jackson	Jennifer Liu	Weeza Miller	Joe Urciuoli	Stephen Chehi	Andrew Hua	Jenna Cerbone		
	Associate	Associate	Associate	Principal	Vice President	Vice President	Senior Associate		
Alan Rice Associate	Simon Song Associate	Thomas Vosbeek Associate	McKean Tompkins Associate	Anthony Galli Senior Associate	Casey Holland Senior Associate	Sean Joy Senior Associate	Daniel LaWare Senior Associate		
Ben Brezel Analyst	Associate	Associate	Associate	Drew Murphy Senior Associate	Andrew Wood Senior Associate	Danyal Ayaz Associate	Matt Boozan Associate		
				Aaron Chinn Associate	Nicole Cifferello Associate	Annabelle Cox Associate	Brett Gourlay Associate		
	years with the firm			Jillian Hostettler Associate	Timothy Krumsiek Associate	Allen Lo Associate	Maeve Manley Associate		
Key Indicates 5+ y	ears with the firm			Gabriel Sturzoiu Associate			~ .		



Differentiated Portfolio Management Capabilities and Focus

Longstanding Process with Clear Differentiation

- 25 person dedicated portfolio management team is enhanced by Ares firm wide resources such as legal, industry experts, etc.
- 8 have restructuring experience
- Team has deep capabilities:
 - Restructuring
 - Valuation
 - Due diligence

Large Portfolio Management Team Proprietary

Technology

- Ares has spent a significant amount of time and effort creating a web based platform which enhances access, speed and quality of information
 - System architecture provides extensive reporting capabilities and data to support investment and portfolio management decisions

- Investment teams work
 alongside portfolio management
 team once loan is originated –
 life of loan approach
- Ongoing dialogue with company and sponsors/owners
- Ares Management provides operational and informational advantages to maximize value

Active Management Approach Extensive Workout Restructuring Experience

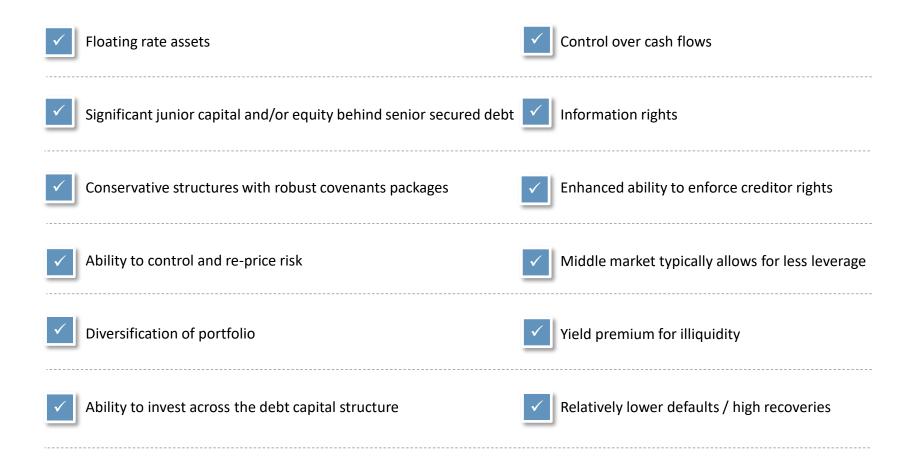
- Be early, be smart, be flexible
- Deep ability to protect capital while avoiding unnecessary damage to sponsor relationships
- Generated net positive realized gains vs losses since inception⁽¹⁾





Direct Lending Presents an Attractive Investment Opportunity

We believe that direct lending continues to be an attractive investment opportunity that provides significant investor benefits







Performance Notes to Ares Credit Group Slide

- ARCC received the 2019 All-America Executive Team award alongside 66 other companies. Various Ares personnel received first place awards in the following category: IR program. 152 other institutions also received a first-, second-, or third-place ranking in this category. Institutional Investor based these awards on the opinions of 2,742 portfolio managers and buy-side analysts, and 655 sell-side analysts who participated in this survey.
- Institutional Investor logo from Institutional Investor, ©2019 Institutional Investor, LLC. All rights reserved. Used by permission and protected by the Copyright Laws of the United States. The printing, copying, redistribution, or retransmission of this Content without express written permission is prohibited.
- Lipper Rankings reported in Lipper Marketplace Best Money Managers, September 30, 2019. Lipper Marketplace is the source of the long-only and multi-strategy credit rankings. Lipper's Best Money Managers rankings consider only those funds that meet the following qualification: performance must be calculated "net" of all fees and commissions; must include cash; performance must be calculated in U.S. dollars; asset base must be at least \$10 million in size for "traditional" U.S. asset classes (equity, fixed income, and balanced accounts); and, the classification of the product must fall into one of the categories which they rank. Lipper defines Short Duration as 1-5 years. Lipper's Active Duration definition does not specify a time period but rather refers to an Active rather than Passive strategy. Ares Institutional Loan Fund was ranked 12 out of 62 for the 20 quarters ended September 30, 2019. Composites for Ares U.S. Bank Loan Aggregate and Ares U.S. High Yield additionally received rankings of 11 of 62 and 3 of 36, respectively, for the 20 quarters ended September 30, 2019.
- Private Equity International selected Ares Management as Lender of the Year in Europe 2018. Awards based on an industry wide global survey across 60 categories conducted by Private Equity International. Survey participants voted independently. In addition, survey participants could nominate another firm not listed in the category.
- Private Debt Investor selected Ares Management for Global Fundraising of the Year, Lender of the Year in Europe, and Fundraising of the Year in Europe and selected Ares Capital Corporation for BDC of the year in the Americas. Awards based on an industry wide global survey across 43 categories conducted by Private Debt Investor. Survey participants voted independently. In addition, survey participants could nominate another firm not listed in the category





BOARD ACTION REQUESTED

TO: State Investment Board

FROM: Dave Hunter, Darren Schulz and Eric Chin

DATE: January 24, 2020

SUBJECT: Ares Commitment Increase Recommendation

RIO Recommendation:

RIO recommends that the SIB expand the existing \$200 million commitment to the Ares ND Credit Strategies Fund LLC ("the Fund" or "the Ares ND Fund") (North Dakota's customized direct lending mandate with Ares) by up to \$100 million. This increase in commitment will help bring the allocation to direct lending strategies closer to target in both the Pension Pool and the Legacy Fund.

Ares has built a well-diversified portfolio for the SIB. As of September 30, 2019 the Ares ND Credit Strategies Fund LLC. has 95 funded borrowers with 273 unique investment tranches/loans. The Ares ND Fund has performed well generating an 8.1% net IRR since inception (September 2017 through September 30, 2019). The fund's performance compares favorably to the Bloomberg Corporate High Yield Index and the S&P Leveraged Loan B Index which generated a 4.95% and a 4.35% annualized return (over the same time frame) respectively.

Ares ND Credit Strategies Fund LLC								
Portfolio Characteristics (As o	f September 30, 2019)							
Fund Level Leverage	93.94%							
Net IRR Since Inception	8.1%							
Weighted Average Yield (All In Rate)	7.5%							
Number of Borrowers	95							
Number of Unique Investment	273							
Tranches/Loans	213							
1st Lien	95.0%							
2nd Lien/Subordinate	4.0%							
Equity	1.0%							

Staff remains positive on Ares' direct lending capabilities and believes that the key competitive advantages detailed in the initial Ares recommendation dated January 27, 2017 continue to exist. Highlights of the initial memo are below (with updated information):

- 1. Size: With roughly \$47.4 billion of assets under management in U.S. Direct Lending, Ares is one of the largest non-bank lender's in the U.S. Size is a competitive advantage in the middle market space, as borrowers oftentimes seek the simplicity and efficiency of a one-stop solution for their financing needs. Ares's ability to write sizeable loans and invest across the capital structure is attractive to potential borrowers. As a result, Ares oftentimes sees a greater level of deal flow compared to smaller lending platforms.
- 2. Breadth and depth of the U.S. Direct Lending Platform: Ares employs over 134 investment professionals across its U.S. direct lending business. With one of the largest U.S. direct lending

- teams in the industry, Ares can maintain active dialogue with over 500 sponsors, and produce indepth analysis on a greater number of loans than smaller sized competitors.
- **3. Deep back office infrastructure:** The Ares platform is supported by over 630 professionals across operations, legal, compliance, and business development. This infrastructure is necessary to navigate the operational complexities of the direct lending strategy.
- **4.** Long and successful track record of lending in the middle market space: Ares has been lending to middle market companies since 2004. Since then, Ares has developed valuable relationships with borrowers. These relationships are beneficial in the lending space as they often lead to the origination of new loans. In Ares case this has been a key part of their business—over the last 5 years approximately 47% of yearly commitments have been to existing borrowers.

Board Action Requested

Investment Consulting Update

January 24, 2020

Board Action Requested: RIO recommends the SIB maintain our existing general investment consulting relationship with Callan given their proven track-record in delivering high quality professional investment management consulting services at a reasonable price while enabling the SIB to generate over 0.50% (or ½ of 1 percent) of positive excess return versus board approved Policy Benchmarks for the 3, 5 and 10 year periods ended June 30, 2019. Based on \$10 billion of investments and 0.50% of positive excess return for the 10-years ended June 30, 2019, the SIB, RIO and Callan have successfully collaborated to generate approximately \$500 million of incremental income and wealth for the vast majority of our valued SIB clients over the past decade.

Coı	Consultants Ranked by Assets Under Advisement (AUA)							
	As of June 30, 2019							
		Assets Under Advisement						
	••	(\$ in trillions)						
1	Mercer	\$15.0						
2	Aon	\$3.5						
3	Willis Towers Watson	\$2.6						
4	Callan	\$2.5						
5	Russell Investments	\$2.5						
6	RVK	\$2.4						
7	Cambridge Associates	\$2.2						
8	Meketa Investments (PCA)	\$1.4						
9	NEPC	\$1.1						
10	Wilshire Associates	\$1.0						

Source: Pensions & Investments data deemed to be materially accurate but unaudited.

During the past year, RIO engaged with the top 10 investment management consulting firms to learn more about how they conduct their business and the areas in which each firm focuses its resources, efforts and expertise. Please note that several firms do not aggressively pursue public fund clients for general investment consulting and several firms have a strong desire to focus on higher fee, private market (or OCIO) engagements or projects.

Based on this review, RIO ranked Callan (1), RVK (2) and Aon (3) as our top three general investment consulting firms for U.S. public pension plans and U.S. sovereign wealth funds which are similar in size, complexity and structure to the North Dakota State Investment Board (SIB) and Retirement and Investment Office (RIO).

The presentations shared by our top three firms – Aon, Callan and RVK, are highlighted later in these materials.

State Investment Offices with Over \$2 billion in SWF AUM		U.S. \$ in Billions			Latest Asset	General
Ranked by Total Assets Under Management (AUM)	T	otal \$	s	WF\$	Report Date	<u>Consultant</u>
1 Alaska Permanent Fund Corporation (APFC)	\$	68.0	\$	68.0	1/16/2020	Callan
2 University of Texas Investment Management Co. (UTIMCO)	\$	50.4	\$	38.0	12/31/2019	-
3 Texas Permanent School Fund	\$	46.5	\$	46.5	9/30/2019	NEPC
4 New Mexico State Investment Council (ND SIC)	\$	26.3	\$	25.0	9/30/2019	RVK
5 Wyoming's Treasurer Office 1	\$	21.0	\$	12.1	6/30/2019	RVK
6 Arizona State Treasurer Office 2	\$	17.5	\$	6.4	1/16/2020	-
7 North Dakota State Investment Board 3	\$	16.4	\$	6.9	1/16/2020	Callan
8 North Dakota Department of Trust Lands 4	\$	5.8	\$	5.0	11/30/2019	RVK
9 Alabama Treasurers' Office 5	\$	5.8	\$	3.3	9/30/2019	Callan
10 Utah School & Institutional Trust Funds Office (USITFO)	\$	2.6	\$	2.6	6/30/2019	F.E.G.
11 Idaho Endowment Fund Investment Board (IEF) 6	\$	2.5	\$	2.5	12/31/2019	Callan

^{1 -} Wyoming Treasurer's Office oversees the \$8 billion Perm. Mineral Trust, \$4 billion Common Schools Permament Land Fund and \$2 billion Workers Comp. Fund

RIO sought to identify the largest state investment offices or organizations which manage over \$2 billion in sovereign wealth fund type investments. RIO engaged with the U.S. Sovereign Wealth Fund (SWF) community in addition to the Sovereign Wealth Fund Institute (SWFI) to gather this data. The information provided in this section is deemed to be materially accurate, but is preliminary, unaudited and subject to change. It is difficult to compare the absolute returns of various organizations given differences in their investment objectives, asset allocation, investment restrictions, liquidity needs, governance structure, and staffing and compensation levels. As example, the Alaska Permanent Fund employs nearly 50 staff with \$68 billion of investments, while the Idaho Endowment Fund has two investment professionals with oversight of \$2.5 billion of assets.

^{2 -} Arizona Treasurer's Office reports \$17.5 billion in Assets Under Management (AUM) and \$6.4 billion in the Permanent Land Endowment Fund.

^{3 -} ND SIB oversees \$16.4 billion including the \$6.9 billion Legacy Fund, \$6.3 Pension Pool and 2.9 billion Insurance Pool as of January 16, 2020.

^{4 -} ND DTL oversees \$5 billion in Permanent Trust Funds and \$729 million in the Strategic Investments & Improvements Fund as of November 30, 2019.

 $⁵⁻A labama's \ \textit{Treasurer Office} \ is \ \textit{responsible} \ \textit{for cash management duties} \ \textit{and investing all state} \ \textit{funds including the Alabama} \ \textit{Trust Fund}.$

^{6 -} The Idaho Endowment Fund asset allocation is 66% public equity, 26% fixed income and 8% real estate.

Disclaimer:

- Return comparisons are difficult between various funds due to different asset allocations, return goals and liquidity as stated previously.
- 2) Longer term investment returns are generally more indicative of overall fund success, with most investors focusing on periods of 3, 5 or 10 years.
- The investment funds shown on this page represent long-term clients of Callan LLC.
- 4) The NDSIB and RIO generally prefer to focus on net investment returns versus approved policy benchmarks (over gross returns).
- 5) The data shown is public information and deemed to be materially accurate, but is subject to change, preliminary and unaudited.
- 6) "All Public Funds" data obtained from RVK by RIO and is deemed to be presented on a net of fees basis.

N.D. State Investment Board		Rates of Return (net of fees)					
Top Four SIB Clients based on \$	Net Position at	Periods E	nded June 30	0, 2019 (Ann	ualized)		
State Fund	Sep. 30, 2019	1-Year	3 Years	5 Years	10 Years		
ND TFFR	\$2,657,858,605	5.54%	9.15%	6.18%	9.57%		
Policy Benchmark		6.35%	8.61%	5.66%	8.89%		
ND PERS	\$3,262,764,613	5.52%	9.21%	6.22%	9.41%		
Policy Benchmark		6.40%	8.68%	5.69%	8.96%		
ND WSI	\$2,106,560,655	6.87%	6.83%	5.45%	7.82%		
Policy Benchmark		7.05%	5.33%	4.41%	6.05%		
ND Legacy Fund	\$6,695,315,534	4.98%	8.15%	5.72%	-		
Policy Benchmark		6.12%	7.49%	5.14%	-		
RVK - All Public Fu	nds - Fund Median	6.42%	8.75%	5.87%	8.93%		
	Population	505	484	435	368		
RVK - All Public Funds > \$1 bill	ion - Fund Median	5.31%	8.69%	5.56%	8.92%		
	Population	35	35	33	33		
Alaska Permanent Fund (APFC) 1	\$66,819,900,681	6.32%	9.96%	7.13%	See		
APFC Passive Index Benchmark		5.59%	7.87%	4.69%	next		
APFC Performance Benchmark		7.51%	8.97%	6.00%	slide		
Alabama Trust Fund	\$3,296,802,648	7.91%	8.77%	6.17%	8.49%		
Toal Fund Benchmark		6.12%	8.21%	5.74%	7.82%		
Idaho Endowment Fund (IEF) 2	\$2,454,835,210	7.60%	10.12%	6.56%	10.52%		
Total Fund Benchmark		7.21%	9.45%	6.40%	9.86%		

^{1 -} APFC returns reported gross of fees (Investment Management Fees reported as 0.52% in FY 2019).

^{2 -} IEF returns reported gross of fees estimated at roughly 0.40% to 0.45% per annum the last decade.

STEWARDSHIP!

APFC

ALASKA PERMANENT FUND CORPORATION

OUR PERFORMANCE



APFC's stewardship of the Fund is founded on governing principles that include: fiduciary oversight by a Board of Trustees, defined legal and regulatory responsibilities, strict adherence to accountability measures, and use of recognized best practice standards.

Strategic performance benchmarks are set by the Board of Trustees and are an integral part of managing the Fund, as they allow for a balanced approach to evaluating asset class performance. The Fund's portfolio is measured against three benchmarks that are incorporated into APFC's Investment Policy:

PASSIVE INDEX BENCHMARK

This short-term performance indicator for the Fund is based on a blend of passive indices reflective of a traditional portfolio consisting of public equities, fixed income, and real estate investments.

BLENDED PERFORMANCE BENCHMARK

This indicator is a blend of indices reflective of the target asset allocation and is used to assess the Fund's performance against peer investor results.

TOTAL FUND RETURN OBJECTIVE

The Board's long-term investment goal for the Fund is to achieve an average real rate of return of five percent per year, CPl/Inflation +5%, at risk levels consistent with large public and private funds.

The APFC team works to actively manage the Fund and meet or exceed the established benchmarks. The outperformance of the Total Fund versus the Passive Index Benchmark represents the value-added growth to the Fund that APFC's staff generates through active asset allocation and portfolio management. This value-added performance is reflective of APFC's commitment to actively manage the portfolio on a global scale to maximize returns for Alaska.

VALUE ADDED IN FY19 RETURNING OVER THE PASSIVE INDEX BENCHMARK

\$473.7M | 0.73%

VALUE ADDED OVER 5 YEARS RETURNING OVER THE PASSIVE INDEX BENCHMARK

\$6.2B | 2.44%

PORTFOLIO PERFORMANCE

Asset classes are managed by a dedicated team of investment professionals focused on achieving best-inclass overall performance. APFC's investment approach is designed to generate investment returns that efficiently reward the investment risks undertaken through the production of both regularized income, and capital gains. The advantage of the Fund's long-term horizon, stable construct, and size are leveraged to create value and produce compelling returns for Alaska.

Benchmarks for each asset class are included on the monthly performance report posted on our website at apfc.org.

Success is measured against strategic benchmarks over three time horizons:

LONG-TERM (5+ YEARS)

Generate total returns in excess of inflation/CPI + 5%,

MEDIUM-TERM (3 YEARS)

Alm to achieve top-quartile investment returns in relation to institutional investor peers,

SHORT-TERM (I YEAR)

Earn regularized income sufficient to support the liquidity needs of the Fund while outperforming a passive global index portfolio of stocks and bonds.

JUNE 30TH 2019	Mark	et Value	FY19	3 Years	5 Years
TOTAL FUND	\$	66.3 B	6.32%	9.96%	7.13%
Passive Index Benchmark			5.59%	7.87%	4.69%
Performance Benchmark			7.51%	8.97%	6.00%
Total Fund Return Objective CPI+5%			6.65%	7.05%	6.45%
PUBLIC EQUITY	\$	25.2 B	2.96%	11.49%	5.61%
MSCI ACWI IMI Benchmark			4.56%	11.42%	6.03%
FIXED INCOME PLUS	\$	16.0 B	9.28%		
Public Income Benchmark			8.60%		
PRIVATE EQUITY & SPECIAL OPPORTUNITIES	\$	8.7 B	19.18%	21.56%	23.09%
Cambridge Private Equity Benchmark			12.71%	14.68%	12.30%
REAL ESTATE	\$	4.1 B	-1.29%	5.25%	7.47%
NCREIF Total Index Benchmark			6.83%	7.07%	9.13%
INFRASTRUCTURE & PRIVATE INCOME	\$	5.1 B	10.94%	13.19%	11.94%
60% FTSE/40% BC US Corp HY Benchmark			13.61%	10.36%	7.27%
ABSOLUTE RETURN	\$	3.8 B	1.94%	5.27%	2.64%
Custom Absolute Return Benchmark			1.52%	4.45%	4.97%
ASSET ALLOCATION	\$	3.4 B	2.50%	3.29%	1.95%
Custom Asset Allocation Benchmark			5.47%	6.65%	4.64%

Disclaimer:

- Return comparisons are difficult between various funds due to different return objectives, asset allocations and liquidity as noted previously.
- 2) Longer term investment returns are generally more indicative of overall fund success, with most investors focusing on periods of 3, 5 or 10 years.
- The investment funds shown on this page represent non-Callan general investment consulting clients.
- 4) Long-term RVK clients includes the New Mexico State Investment Council and Wyoming Treasurers Office. RIO does not believe the Arizona Treasurer's Office has a dedicated consultant on retainer.
- 5) The Utah School and Institutional Trust Fund Office engages F.E.G.
- 6) The University of Texas
 Investment Management
 Company (UTIMCO) and Texas
 Permanent Fund have August
 31 Fiscal Year Ends.
- 7) All data is public and deemed to be materially accurate, but is subject to change, preliminary and unaudited.

		Rates of Return (net of fees)						
	Net Position at	Periods E	nded June 3	0, 2019 (Ann	nualized)			
State Fund	June 30, 2019	1-Year	3 Years	5 Years	10 Years			
New Mexico SIC - Land Grant	\$18,575,071,762	5.72%	8.98%	6.04%	9.40%			
NM Land Grant Interim Policy Index		6.07%	8.51%	6.08%	9.45%			
New Mexico SIC - Severance Tax	\$5,273,566,309	5.37%	8.83%	5.93%	8.97%			
Severance Interim Policy Index		6.15%	8.65%	6.16%	9.44%			
WY Perm. Mineral Trust Funds	\$7,971,971,056	5.1%	6.3%	4.4%	7.1%			
WPMTF Actual Allocation Index		5.5%	6.2%	4.6%	6.8%			
WY Comm. Schools Perm. Land	\$4,078,488,970	5.2%	6.3%	4.5%	7.3%			
WCSPLF Acutal Allocation Index		5.6%	6.2%	4.7%	6.9%			
WY Workers' Comp. Fund	\$2,234,257,336	8.5%	5.5%	4.1%	6.0%			
WWC Actual Allocation Index		9.0%	5.3%	4.3%	5.7%			
AZ Treasurer - Total Endowment	\$6,066,850,827	5.86%	8.71%	6.88%	9.55%			
Total Endowment Benchmark		6.38%	8.78%	7.05%	9.92%			
Utah School & Inst. Trust Fund	\$2,584,894,140	3.7%	6.1%	4.9%	9.5%			
Market Policy Index		4.7%	6.2%	4.8%	9.3%			

		Rates of Return				
	Net Position at	Periods En	ded August 3	31, 2019 (An	nualized)	
State Fund	Aug. 31, 2019	1-Year	3 Years	5 Years	10 Years	
UTIMCO Permanent Univ. Fund	\$22,830,000,000	4.48%	8.58%	5.97%	8.39%	
UTIMCO Implied Benchmark (Value Added)		4.43%	7.86%	5.17%	7.10%	
Net Position (and Returns) as of	August 31, 2018	Periods En	ded August 3	31, 2018 (An	nualized)	
Texas Permanent School Fund	\$44,074,197,940	7.23%	8.92%	7.68%	6.92%	
Benchmark		6.89%	8.27%	7.16%	6.44%	

Investment Return Comparison of Callan and Non-Callan Long Term Clients As of June 30, 2019 and August 31, 2018 and 2019

Long-Term Callan Consulting Clients	Rates of Return (net of fees) Periods Ended June 30, 2019 (Annualized)						
State Fund	1-Year	3 Years	5 Years	10 Years			
ND TFFR	5.54%	9.15%	6.18%	9.57%			
Policy Benchmark	6.35%	8.61%	5.66%	8.89%			
ND PERS	5.52%	9.21%	6.22%	9.41%			
Policy Benchmark	6.40%	8.68%	5.69%	8.96%			
ND WSI	6.87%	6.83%	5.45%	7.82%			
Policy Benchmark	7.05%	5.33%	4.41%	6.05%			
ND Legacy Fund	4.98%	8.15%	5.72%	-			
Policy Benchmark	6.12%	7.49%	5.14%	-			
Alabama Trust Fund	7.91%	8.77%	6.17%	8.49%			
Toal Fund Benchmark	6.12%	8.21%	5.74%	7.82%			
Long-Term Callan		es of Return					
Consulting Clients	Periods E	nded June 3	0, 2019 (Anı	nualized)			
State Fund	1-Year	3 Years	5 Years	10 Years			
Alaska Permanent Fund (APFC) 1	6.32%	9.96%	7.13%	See			
APFC Passive Index Benchmark	5.59%	7.87%	4.69%	prior			
APFC Performance Benchmark	7.51%	8.97%	6.00%	slide			
Idaho Endowment Fund (IEF) 2	7.60%	10.12%	6.56%	10.52%			
Total Fund Benchmark	7.21%	9.45%	6.40%	9.86%			

^{2 -} IEF returns reported gross of fees.

Non-Callan Long Term	Ra	tes of Retur	n (net of fee	es)
Investment Consulting Clients	Periods E	nded June 3	0, 2019 (Anr	nualized)
State Fund	1-Year	3 Years	5 Years	10 Years
New Mexico SIC - Land Grant	5.72%	8.98%	6.04%	9.40%
NM Land Grant Interim Policy Index	6.07%	8.51%	6.08%	9.45%
New Mexico SIC - Severance Tax	5.37%	8.83%	5.93%	8.97%
Severance Interim Policy Index	6.15%	8.65%	6.16%	9.44%
WY Perm. Mineral Trust Funds	5.1%	6.3%	4.4%	7.1%
WPMTF Actual Allocation Index	5.5%	6.2%	4.6%	6.8%
WY Comm. Schools Perm. Land	5.2%	6.3%	4.5%	7.3%
WCSPLF Acutal Allocation Index	5.6%	6.2%	4.7%	6.9%
WY Workers' Comp. Fund	8.5%	5.5%	4.1%	6.0%
WWC Actual Allocation Index	9.0%	5.3%	4.3%	5.7%
AZ Treasurer - Total Endowment	5.86%	8.71%	6.88%	9.55%
Total Endowment Benchmark	6.38%	8.78%	7.05%	9.92%
Utah School & Inst. Trust Fund	3.7%	6.1%	4.9%	9.5%
Market Policy Index	4.7%	6.2%	4.8%	9.3%

	Rates of Return								
	Periods Ended August 31, 2019 (Annualized)								
State Fund	1-Year	3 Years	5 Years	10 Years					
UTIMCO Permanent Univ. Fund	4.48%	8.58%	5.97%	8.39%					
IMCO Implied Benchmark (Value Add	4.43%	7.86%	5.17%	7.10%					
State Fund	Periods En	ded August	31, 2018 (Ar	nualized)					
Texas Permanent School Fund	7.23%	8.92%	7.68%	6.92%					
Benchmark	6.89%	8.27%	7.16%	6.44%					

ı	Net Returns for NDSI	B Cli	ients	AUM	> \$1	billio	on – J	lune	30, 20	019	
State Fund	For the FYE period ended June 30 >	2019	2018	2017	2016	2015	3 Years	5 Years	10 Years	20 Years	30 Years
ND TFFR	\$2,647,826,535	5.54%	9.11%	12.92%	0.28%	3.52%	9.15%	6.18%	9.57%	5.68%	7.68%
Policy Benchn	nark	6.35%	7.90%	11.63%	0.61%	2.15%	8.61%	5.66%	8.89%	5.74%	7.87%
ND PERS	\$3,263,943,356	5.52%	9.19%	13.05%	0.28%	3.53%	9.21%	6.22%	9.41%	6.00%	7.90%
Policy Benchn	nark	6.40%	7.82%	11.88%	0.56%	2.15%	8.68%	5.69%	8.96%	6.05%	8.09%
ND WSI	\$2,107,167,353	6.87%	5.34%	8.29%	3.58%	3.27%	6.83%	5.45%	7.82%	5.87%	7.39%
Policy Benchn	nark	7.05%	3.77%	5.20%	3.41%	2.66%	5.33%	4.41%	6.05%	5.46%	-
									_		
ND Legacy Fu	and \$6,698,362,597	4.98%	7.57%	12.03%	1.06%	3.31%	8.15%	5.72%	-		
Policy Benchn	nark	6.12%	6.50%	9.90%	1.03%	2.38%	7.49%	5.14%			

Net investment returns for the vast majority of our SIB clients have outperformed their Policy Benchmarks by over 0.50% for the 3, 5 and 10 year periods ended June 30, 2019, including TFFR, PERS and WSI.

Interim Investment Update as of November 30, 2019

SIB investments exceeded \$16 billion as of November 30, 2019, at or near all-time highs, given very favorable capital market and economic conditions and strong oil & gas production levels.

SIB Interim Investme	ent Returns					Since July 1,	
Calendar Year To Da	te - Top Four					2019	
30-Nov-19						Fiscal YTD	Calendar YTD
	3/31/2019	6/30/2019	9/30/2019	10/31/2019	11/30/2019	11/30/2019	11/30/2019
Legacy Fund	7.72%	3.24%	1.01%	1.79%	1.65%	4.52%	16.23%
Policy Benchmark	7.67%	3.38%	0.97%	1.48%	1.43%	3.93%	15.68%
TFFR	7.46%	3.53%	0.40%	2.04%	1.74%	4.25%	15.96%
Policy Benchmark	7.66%	3.40%	0.64%	1.51%	1.48%	3.70%	15.41%
PERS	7.46%	3.50%	0.37%	2.07%	1.74%	4.26%	15.93%
Policy Benchmark	7.53%	3.42%	0.61%	1.49%	1.48%	3.62%	15.23%
wsı	5.29%	3.26%	1.70%	1.07%	0.77%	3.57%	12.61%
Policy Benchmark	4.89%	3.10%	1.60%	0.80%	0.65%	3.08%	11.47%

Note: Net investment returns are deemed to be materially accurate, but are unaudited and subject to change.

1. SIB clients earned over \$2 billion of net investment income for the 11 months ended November 30, 2019, including the following interim results for our four largest investment clients:

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- Legacy +16.2% or $925 million - TFFR + 15.9% or $365 million

- PERS +15.9% of $450 million - WSI +12.6% of $235 million
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2) Net investment returns for the Legacy Fund, TFFR and PERS exceeded their respective *Policy Benchmarks* by over 0.50% (or ½ of 1 percent) on both a current fiscal year to date basis (July 1 to November 30, 2019) and calendar year to date basis (January 1 to November 30, 2019).

UTIMCO Performance Summary

November 30, 2019

	Net	Periods Ended November 30, 2019 (Returns for Periods Longer Than One Year are Annualized)							
	Asset Value 11/30/2019		Short Term Year to Date Hist			storic Returns			
ENDOWMENT FUNDS	(in Millions)	1 Mo	3 Mos	Fiscal	Calendar	1 Yr	3 Yrs	5 Yrs	10 Yrs
Permanent University Fund	\$ 23,577	1.26%	3.43%	3.43%	11.88%	9.90%	9.25%	6.82%	7.96%
General Endowment Fund		1.23	3.41	3.41	11.86	9.89	9.47	7.08	8.13
Permanent Health Fund	1,232	1.20	3.39	3.39	11.78	9.82	9.38	6.98	8.03
Long Term Fund	12,399	1.20	3.39	3.39	11.79	9.83	9.39	6.98	8.04
Separately Invested Funds	218	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Endowment Funds	37,426								
OPERATING FUNDS									
Intermediate Term Fund	9,350	1.13	2.80	2.80	12.56	10.99	6.80	4.05	5.24
Debt Proceeds Fund	453	0.15	0.50	0.50	2.15	2.36	1.78	1.20	N/A
Short Term Fund	<u>2,613</u>	0.14	0.46	0.46	2.08	2.28	1.70	1.10	0.62
Total Operating Funds	12,416								
Total Investments	<u>\$ 49,842</u>								
VALUE ADDED (1) (Percent)	1								
Permanent University Fund		0.80%	1.22%	1.22%	1.78%	1.58%	0.70%	1.01%	1.21%
General Endowment Fund		0.77	1.20	1.20	1.76	1.57	0.92	1.27	1.38
Intermediate Term Fund		0.59	1.40	1.40	2.39	2.57	1.03	0.88	1.62
Debt Proceeds Fund		0.03	0.01	0.01	0.02	0.04	0.15	0.15	N/A
Short Term Fund		0.02	(0.03)	(0.03)	(0.05)	(0.04)	0.07	0.05	0.05

^{(1) -} Value added is a measure of the difference between actual returns and benchmark or policy portfolio returns for each period shown. Value added is a result of the active management decisions made by UTIMCO staff and external managers.



Request for Information for Investment Consulting Services

North Dakota State Investment Board

May 2, 2019

Contact:

Kristen Doyle, CFA
Partner
200 E. Randolph St., Suite 1500
Chicago, IL 60601
m +1.773.372.6153
kristen.doyle@aon.com

Stephen Cummings, CFA
NA Chief Executive Officer
200 E. Randolph St., Suite 1500
Chicago, IL 60601
t +1.847.442.0064
steve.cummings@aon.com

aon.com



May 2, 2019

Mr. David Hunter
Executive Director
North Dakota State Investment Board
1930 Burnt Boat Dr.
Bismarck, ND 58503-805

Dear David,

Thank you for considering Aon Hewitt Investment Consulting, Inc., an Aon Company ("AHIC") as a candidate in your search for Investment Consulting Services for the North Dakota State Investment Board ("SIB"). We believe that AHIC has the right experience and the capabilities necessary to be an outstanding long-term partner for the SIB's investment consulting needs.

Our firm has a long history of serving public plans, so we understand the challenges that come with that important responsibility. We believe that one of our key strengths and differentiating capabilities is our ability to provide comprehensive asset allocation, investment policy, and implementation advice to our clients drawing from a global well of knowledge, experience, research, and quantitative analysis. We believe our even greater experience lies in tailoring that advice to each individual client. All advice that we provide is customized to help ensure that it's right for each public plan's circumstances, risk tolerance, and financial objectives. We believe we can bring this level of experience to SIB.

We believe the generalist consultants and asset class specialists in our firm have great insight into the everchanging issues faced by those managing public funds, as well as other large institutional investors. Our fiduciary services consultants are well versed in legislative matters. We believe that our depth of resources, our breadth of capabilities, and our experience working with other public funds makes us qualified to work with the SIB.

Perhaps one of the most distinguishing characteristics of AHIC is the way we interact with clients. We take a genuine interest in their success. We strive to understand and appreciate the complexities of the environment in which our clients operate. We believe that, as fiduciaries, the best approach is a collaborative one and that the best results will come from sharing our best thinking and thoroughly vetting investment opportunities. Our advice and approach will reflect this.

This response to a request for information is being signed by our NA Chief Executive Officer, Stephen Cummings. Steve is authorized to submit and represent the information contained in this response on behalf of AHIC. In accordance with our standard practice, this bid and any award is subject to the final approval of Aon leadership and subsequent execution of a definitive agreement between us.

Stephen Cummings, NA Chief Executive Officer

Aon Hewitt Investment Consulting, Inc., an Aon company 200 East Randolph Street, Suite 1500 Chicago, IL 60601 t +1.847.442.0064 | f +1.312.381.1368 steve.cummings@aon.com



Please contact us if there is any additional information you require or if we can make this proposal more responsive to your needs. We hope to have the opportunity to discuss our capabilities in more detail with you in person in the near future. Thank you again for your consideration.

Sincerely,

Aon Hewitt Investment Consulting, Inc.

Kristen Doyle, CFA

Partner

Stephen Cummings, CFA NA Chief Executive Officer

Tapla Cips

Timothy E. McEnery, CFA Associate Partner

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A. White Paper - Public Plans Can Still Compete



Executive Summary

Aon Hewitt Investment Consulting

Aon Hewitt Investment Consulting, Inc. (AHIC) is a U.S. investment consulting practice of Aon, with headquarters in Chicago, Illinois. We are a full-service investment consulting firm that serves a wide array of clients, including public retirement systems, state investment boards, nonprofits, state and federal oversight entities, corporate pension funds, endowments, and foundations. Our history goes back to 1974 through our legacy organizations. AHIC is an indirect, wholly owned subsidiary of Aon plc, and is a Registered Investment Advisor with the U.S. Securities and Exchange Commission (SEC) under the Investment Advisers Act of 1940, as amended. AHIC is also registered with the Commodity Futures Trading Commission (CFTC) as a commodity pool operator and commodity trading advisor and is a member of the National Futures Association (NFA).

Aon Hewitt Investment Consulting is one of the largest firms of its type in the U.S.¹, with clients having combined assets of \$2.354 trillion (as of 9/30/2018, represents \$2,240 B in advised US retainer non-discretionary assets and \$114 B in discretionary assets under management). While our size affords us efficiencies and depth of resources, we pride ourselves on high-touch, client centric consulting.

We have carefully managed the growth in our firm and acquired specific experience to cater to the wide range of specialized services that government entities seek. The quality and depth of our professional resources, alignment of our interests with our clients, and wide range of experience we have developed are well respected in the industry.

We Are Experienced Investment Consultants

Our investment knowledge is solid and based on rigorous research and analysis. We are proud of the steady stream of topical research papers we have published that the institutional investment community values. Many times the topics we cover come from challenges raised or suggestions made by our clients. In that way, we benefit not only our clients but also the larger investment community.

We also have internal actuarial expertise available to our investment consultants. We have an appreciation of the financial and investment challenges that the SIB's Board and Investment Professionals face, and we believe we have the experience to navigate such challenges. By leveraging our investment and actuarial experience and our comprehensive analytic and modeling tools, databases, and decision resources, we will work to ensure that you receive investment consulting services that meet your needs².

We Understand the Public Sector

As of 9/30/2018, we serve \$1.560 trillion of public fund assets across 31 clients. We understand the many challenges and significant opportunities facing public retirement systems and state investment boards. We appreciate the funding challenges and the pressure to reach ever-increasing investment returns while also being

Source: Pensions & Investments 2017 Consultant Survey. Pension & Investments, 2017 Investment Consultant Survey, 68 firms participated in the survey. The rankings are based on the industry data reported by Pensions & Investments as of 03/31/2017. The rankings are based on the worldwide assets under management in investment outsourcing programs reported by each advisor who supplied data to Pensions & Investments. The survey does not report on any undisclosed facts about any of the advisors who participated in the survey that could call into question the validity of the underlying data. The survey does not state or imply that the rankings represent the quality of advice provided by any advisor who participated in the survey. The survey discloses the complete list of advisors who participated in the survey. The data may not represent any one client's experience because the data reflects the cumulative asset growth across the entire sampling of the clients of each advisor who participated in the survey. The data is not indicative of the future performance of advisors who participated in the survey. The survey was conducted by Pensions & Investments. No advisor paid a fee to participate in the survey.

Actuarial services provided by an Aon Hewitt Investment Consulting, Inc. affiliate.



mindful of risks. We understand the "fishbowl" environment in which public funds operate, where investment decisions are far more visible than they would be with a private-sector entity. We understand and fully appreciate that governing a public retirement system and managing its assets are difficult jobs.

Aon has spoken extensively regarding the unique needs of public pensions and has recently presented to the Pennsylvania Public Pension Management and Asset Review Commission (in September of 2018) as an expert witness on the topic of asset allocation principles and trends in public plans. We have also spoken recently at Pension Bridge, and will be speaking at the National Council on Teacher Retirement (NCTR). We are also on the Board of the National Institute on Retirement Security (NIRS) and support their efforts in the public sector as a significant member of that organization. We are also members of NASRA and NCPERS as well as some local state public pension associations in Florida, Texas, Georgia, and Pennsylvania. Our extensive knowledge of public plans given our long experience working with many plans enables us to provide forward-looking advice regarding many of the challenging topics facing public plan boards such as asset allocation, investment structures (active/passive), fee reduction ideas and governance structures.

We Promote Governance Best Practices

AHIC has demonstrated a genuine sensitivity to the complex elements of good governance processes. This is reflected in the way we approach our work. We first seek to fully understand the way your investment decisions are made, what responsibilities are retained by the Board and what are delegated, how oversight and monitoring activities are performed, and how you define success.

With our clients, we don't just look at numbers. We look at policies, procedures, accountability, and future planning. AHIC is experienced in problem solving at investment team and board levels and has significant experience in both strategic and tactical contexts. We are skilled in assisting our clients to achieve smooth, efficient decision making, resolving concerns promptly, helping our clients to implement changes on schedule and on budget, and advising complex portfolios forward as planned.

Aon understands SIB's governance needs. Jeanna Cullins, Leader of AHIC's Fiduciary Practice, which is a dedicated team with expertise across governance and fiduciary-related best practices, has worked with the SIB over the past few years, providing critical fiduciary education, as well has facilitating the Board's self-evaluation process. Given this existing relationship and prior work, Aon can continue the SIB's efforts to maintain governance best practices.

Our Research Capabilities Benefit Our Clients

We have structured our firm to focus heavily on research that's relevant to our clients. This includes a dedicated global asset allocation team, an investment policy services group, a global investment management team, and fiduciary services. These teams focus their efforts on issues such as market research, investment program structure, portfolio modeling, investment manager research, policy development, and governance best practices.

Producing thoughtful research papers is highly valued and rewarded in our firm. Therefore, research isn't merely an afterthought or a secondary function for our investment professionals—it is core to our business.

Our global manager research team is focused on identifying investment managers and strategies across both traditional and alternative asset classes for our clients to use and monitoring existing managers in clients' portfolios. This team conducts ongoing due diligence on existing client managers, actively seeks new managers that may have the ability to add value to client portfolios and is responsible for issuing recommendations on managers to our broad client base. Our investment manager search process is completely customized to meet the needs and desires of our clients.



Our research capabilities are not limited to understanding the investment capabilities of asset management firms, but includes our dedicated operational due diligence team which is led by Rian Akey. Rian and his team conduct comprehensive operational due diligence on all Buy rated investment products.

Our Databases and Tools Are Extensive

Over 23,000 investment manager strategies and thousands of market indices are covered in our databases (as of September 30, 2018). This means we offer clients broad coverage of the investment manager universe and have access to return and portfolio data not only for the strategies included in their plans but also for appropriate market indices. We also have sophisticated tools that allow us to screen, monitor, analyze, and understand investment products and benchmarks.

We Offer North Dakota an Experienced Team

As our firm has continued to expand, we have made a conscious effort to ensure that the complex needs of public fund plan sponsors are met. Our professional staff includes industry experts spanning the full range of consulting disciplines, including asset/liability modeling, asset allocation studies, investment policy development, analytical research, portfolio construction, investment manager searches and monitoring, custodian bank searches and monitoring, governance matters, risk analysis, and regulatory compliance. We do in-house training where we share information among partners and senior-level consultants. And we are constantly making investments to improve our capabilities.

We know that this is just a request for information, but we still wanted to proactively propose a strong team that would work with the SIB. The proposed lead consultants for the SIB have extensive experience working with multi-billion dollar public pension plans. They work well together and with boards and investment teams. They have assisted clients in developing and monitoring strong investment programs. They will be readily accessible, offer you their best independent judgment, and work tirelessly on your behalf. Kristen Doyle is a Partner at AHIC and not only works with public fund clients as a general consultant but also leads the public fund business for AHIC in the U.S. Tim McEnery is an Associate Partner who works with some of our largest and most complex clients including those in the public sector. Given the size and importance of this engagement, Steve Cummings, Head of North America Investment Consulting, would serve as the Executive Sponsor for this relationship. Steve has 30 years of investment consulting experience with large investors similar to the SIB.

Biographies (as of March 31, 2019) for Steve Cummings, Kristen Doyle, and Tim McEnery are listed below.

Stephen Cummings, CFA

Senior Partner, Head of North America Investment Consulting, Executive Sponsor

Steve is the Global Investment Officer and Head of North America Aon Hewitt Investment Consulting, one of the largest providers of investment consulting services to institutional investors. He leads over 400 investment consulting professionals with over 470 clients. Steve serves as the primary consultant for select retainer and project clients. Steve is ultimately responsible for the success of the North America investment consulting practice.

Steve's client work has included the coordination and implementation of multiple defined benefit and defined contribution plans into a consolidated structure for a multi-billion dollar corporate client and the oversight of complex alternatives programs for several large public funds. He also served as the team leader for Aon Hewitt Investment Consulting's work with the U.S. Treasury Department during its TARP initiative and served as advisor to the State Treasurer and interim CIO of a multi-billion dollar state retirement system during a transition period between CIOs.



Steve co-leads the firm's Global Investment Executive Function, the group responsible for setting the strategic direction of the global investment consulting practice and coordinating consulting efforts around the world. He is responsible for thought leadership within the firm and serves in an advisory capacity on research efforts such as those related to derivatives, private equity, and emerging investment opportunities. He frequently speaks before industry groups on a broad range of topics including soft dollars, public fund oversight, portfolio construction, and the evolution of the consulting industry.

Steve joined EnnisKnupp (the predecessor firm to Aon Hewitt Investment Consulting) in 1989 as a consultant and later rejoined in 2000 as the president and Chief Executive Officer. Prior to rejoining EnnisKnupp, Steve was the president of Marquette Associates from 1997–2000. He holds a B.S. degree from the University of Texas and an M.B.A. degree from the University of Chicago. He is a CFA charterholder and is a member of the CFA Institute and Investment Analyst Society of Chicago (IASC). Steve is also a member of the Board of Trustees of Kohl Children's Museum of Greater Chicago.

Kristen H. Doyle, CFA

Partner, Client Practice Leader for U.S. Public Funds, Co-Lead Consultant

Kristen is a Partner within Aon Hewitt Investment Consulting (AHIC), leads the firm's public-sector business as the Public Fund Client Practice Leader, and is a member of the firm's client advisory group. Kristen is also on AHIC's U.S. Investment Executive Committee. She is located in Chicago, Illinois. As the public sector business lead, Kristen is responsible for new business development and ensuring that AHIC has the right resources, research, and expertise available for the public sector.

She also works directly with clients and currently works with five retainer consulting clients, where she is either the lead or co-lead. These clients range from \$200 million to \$200 billion in assets under management and are primarily public pension plans. She is responsible for assisting these plans with asset allocation advice, risk budgeting, asset/liability reviews, investment policy development, benchmarking, manager selection and structure, and asset class structure. She is also responsible for reporting and monitoring the investment programs and has been instrumental in structuring public fund performance reports for staff and the board as well as other reports such as risk exposure reporting for both traditional and alternative asset classes and risk management reporting.

Kristen previously led the trust services team in the U.S. focused on custody, securities lending, and transition management. This team also supports the firm in other areas that include foreign exchange, transaction cost analysis, and commission recapture. The team assists clients with searching for vendors in these three areas, structuring a custody or securities lending relationship, and assessing the risks associated with these programs from an operational perspective. With regard to transition management, Kristen was also previously the global head of transition management, responsible for managing the transition management research and implementation team in the U.S., UK, and Canada.

In 2014, Kristen was awarded The Rising Stars of the Profession 35 Under 35 Award by Consulting Magazine and in 2016, was named to the list of Knowledge Brokers: New Guard published by AiCIO Magazine, which recognizes five star consultants that will transform their firms and industry in the next five years. Kristen is also a member of the Board of Governors for Opportunity International, a leading micro-finance organization that provides loans and other financial services to the world's most impoverished, and empowers them to work their way out of poverty. Prior to joining the firm in 2005, Kristen worked at Northern Trust in the custodial operations group for more than two years. She has a Bachelor of Arts in economics from Denison University. She is a CFA charterholder and member of CFA Institute and the CFA Society of Chicago.



Timothy E. McEnery, CFA

Associate Partner, Co-Lead Consultant

Tim is an Associate Partner, located in Aon Hewitt Investment Consulting's Chicago, IL office. He serves as a primary consultant and manages consulting assignments for several retainer and project clients. His client base includes primarily public retirement systems and not for profit institutions (endowments and foundations). Tim currently provides consulting services to ten retainer clients with assets ranging from \$200 million to \$70 billion.

Tim has assisted clients with varying circumstances in all aspects of their investment programs – asset allocation, development of implementation structure, selection and monitoring of managers across all major asset classes, and ongoing monitoring and reporting.

Recent professional experience includes:

- Assisted one of the nation's largest public pension funds in restructuring their public markets equity allocation and helped with the evaluation and selection of external investment managers
- Developed an opportunistic component for a \$3 billion pension fund, assisting with the evaluation and selection of external investment managers
- Assisted with the development and structure of a private markets program for a large endowed pool of assets;
 assisted with the evaluation and selection of investment managers

Tim is a member of the firm's Client Service Team and assists with client projects that require his expertise. He also manages a team of Senior Consultants located in the Chicago and Philadelphia offices. Tim spent several years participating in the firm's manager research team where he was responsible for managing the firm's approved fixed income managers as well as researching prospective managers to bring forward for approval.

Tim joined Aon Hewitt Investment Consulting via its predecessor firm, EnnisKnupp & Associates, in 2007. He earned his B.S. degree in finance from Eastern Illinois University. Tim is a CFA charterholder and member of CFA Institute and the CFA Society of Chicago. He is also a member of the Emerging Leaders Board at Misericordia, a residential facility in Chicago that serves over 600 developmentally delayed adults and children.

The chart below illustrates how AHIC staffs and structures our client teams, and it would be no different for SIB. We provide a senior level direct team that has expertise in many areas including investment policy setting, governance, asset allocation, asset liability studies, and manager selection and structure. These senior professionals are then able to utilize a deeper set of specialists from our various subject matter expert teams and bring those capabilities to bear for our clients. This chart illustrates the depth of resources that we have in Manager Research with 148 professionals³ focused on conducting due diligence on the investment management community on behalf of our clients. It is notable that with the acquisition of the Townsend Group, an Aon company, we now have 83 professionals as of December 31, 2018 dedicated to the private markets, an increasingly important component to a public funds' asset allocation. We also have other specialty areas like Global Asset Allocation and Investment Policy Services that are critical to our clients' success. We provide a description of those teams below.

³ Total combined research staff as of 12/31/2018 includes 48 GIC Manager Research Staff (AHIC and Aon affiliates manager research colleagues), 19 operational due diligence colleagues (offshore + onshore), 83 Townsend colleagues from advisory, portfolio management strategy, and private equity teams. Offshore, Innovation, and Support staff represent additional colleagues. Some team members have cross team responsibilities or reporting lines outside the manager research function, includes AHIC and its global Aon affiliates.



Our Resources¹–Delivering the firm to North Dakota SIB

Client Services Steve Voss Leader			North Dakota SIB CONSULTING TEAM		Global Asset Allocation Tapan Datta Leader		
80+ Professionals		Неа	Steve Cummings, CFA Head of NA Investment Consu		8 Professionals Fiduciary Services Jeanna Cullins Leader 3 Professionals Trust & Custody Greg Korte Leader 4 Professionals		
Client Solutions Russ Ivinjack Leader 12 Professionals Investment Policy Services Phil Kivarkis Leader		Kristen Doyle, CFA Partner Tim McEnery, CFA Associate Partner Consulting Manager & Performance Analyst(s		ž			
14 Professionals					41 Totessionals		
		Globa	l Investment Manager Re	search			
Liquid Investment Mana			search	Private Asset Manager Research			
Equities	Fixed Income		Liquid Alternatives	Real Assets, Private Equity, and Infrastructure			
Chris Riley Leader	Elijah Reese Leader		Chris Walvoord Leader	Terry Al Co-Lead	nern and Karen Rode Iers		
17 Professionals	Professionals 14 Professionals		14 Professionals		83 Professionals		

Rian Akey (Global Head of ODD)

1 Total combined research staff as of 12/31/2018 includes 48 GIC Manager Research Staff (AHIC and Aon affiliates manager research colleagues), 19 operational due diligence colleagues (offshore + onshore), 83 Townsend colleagues from advisory, portfolio management, strategy, and private equity teams. Offshore, Innovation, and Support staff represent additional colleagues. Some team members have cross team responsibilities or reporting lines outside the manager research function, includes AHIC and its global Aon affiliates.

Operational Due Diligence -

• Investment Policy Services (IPS): AHIC's IPS team (consisting of 14 employees as of December 31, 2018) is focused on risk management and policy development. The team is responsible for managing risk in general, such as: performing asset-liability analyses, asset allocation studies, investment structure reviews, benchmark reviews, and spending analyses. The team also provides top-down, strategic investment advice and researches new investment strategies. The IPS team is active in developing webinars, blog pieces and white papers on investment recommendations made to our client base. The research is original and may come from a brain-storming group—such as the Idea Development Forum—or from client questions and projects that are brought to IPS's attention. Content comes from across the firm, and the most experienced thought leaders are involved with writing and presenting pieces.

19 Professionals

Global Asset Allocation Team (GAA): A global team of economists and allocation specialists (consisting of 8 employees, as of December 31, 2018) who discuss asset class trends and develop our firm's medium-term views based upon their analysis. The GAA has been in existence for over 10 years as of March 31, 2018.



Asset Liability Analysis

Our theory and methodology for setting asset allocation centers on integrated asset-liability management. We believe optimal decisions regarding pension plan management are made when they are based on a clear understanding of the assets and liabilities of the public plan and how they interact. It is because of this conviction that we formed a dedicated team of pension risk specialists comprised of both actuarial and investment consultants, to not only support plan sponsors during an asset-liability study but also on an ongoing basis so that pension risks can be managed effectively over time.

In order to give the SIB a window into how we consult and the types of tools and expertise we possess, we have prepared a high-level pension risk analysis and asset allocation study for the SIB. We have utilized public documents to run this analysis. We limited this analysis for the purposes of this request for information to the North Dakota PERS ("NDPERS").

Key Findings for NDPERS



Current State Overview

- Pension plan is 75.0%¹ funded on a market value of assets basis as of July 1, 2018
- 7.75%¹ Actuarial Assumed Rate of Return
- Asset hurdle rate of 14.64%, via cash funding and investment returns, needed to maintain or improve actuarial funded status



Asset Allocation

- 82% return-seeking assets with 18% riskreducing/safety assets to withstand stressed markets
- Current Policy has an expected return assumption of 7.42% over the next 30 years²
- Current investment strategy can be enhanced with additional diversification, potentially increasing the expected return of the Plan



Asset-Liability Projections

- Relative to the Current Policy, optimized asset allocations (in the 50th percentile outcomes) are expected to result in...
 - 5% improvement in median funded ratio



Liquidity

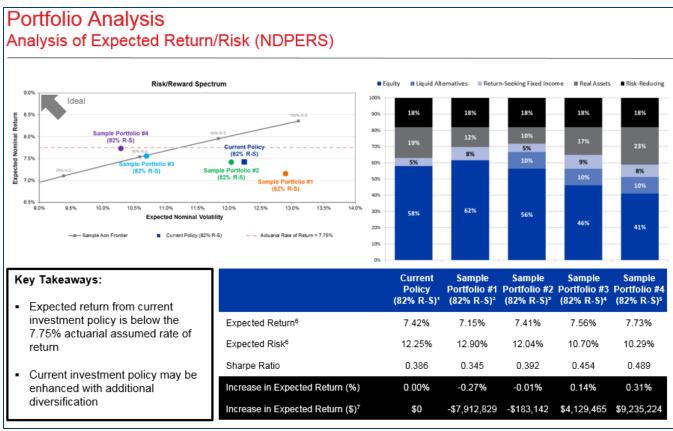
- Could look to add illiquid assets to improve diversification
- Recommend doing a full liquidity study

Diversification does not ensure a profit nor does it protect against loss of principal. Diversification among investment options and asset classes may help to reduce overall volatility.



¹ Current State Asset-Liability Profile based July 1, 2018 actuarial valuation report

² Expected returns based on AHIC's Q1 2019 30 year Capital Market Assumptions assuming the asset allocations illustrated above. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Pension Risk Analysis in Appendix for the Capital Market Assumptions.



1,2,3,4,5 See Appendix for portfolio builds.

Upon an initial review, we believe the structure of the NDPERS investment program generally appears reasonable. However, the current investment policy may have difficulty consistently achieving a 7.75% return. As shown above, we forecast the current investment policy to earn 7.42% based on AHIC's Q1 2019 capital market expectations⁴.

In addition to the current investment policy, we have modeled a set of alternative asset allocation scenarios ("Sample Portfolio #1 through #4) for illustrative purposes only. Each of these scenarios incorporate AHIC's investment beliefs but have varying implementations based on investor circumstances (e.g., governance structure, oversight resources, tolerance for complexity, tolerance for illiquidity, cost structure, plan size, etc.).

In the case of NDPERS, we believe that additional diversification can help to increase the expected return and reduce the overall risk of the Plan⁵. Additional considerations should be given to the desired balance between funding and investment returns in order to determine the most appropriate asset allocation.

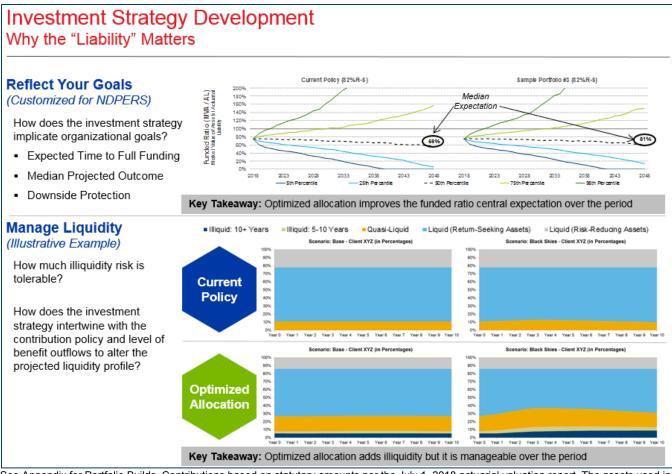
⁵ Diversification does not ensure a profit nor does it protect against loss of principal. Diversification among investment options and asset classes may help to reduce overall volatility.



⁶ Expected returns based on AHIC's Q1 2019 30 year Capital Market Assumptions assuming the asset allocations illustrated above. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Pension Risk Analysis in Appendix for the Capital Market Assumptions.

⁷ Increased dollars determined by market value of assets as of June 30, 2018 (\$2,970.2 million)

⁴ Expected returns based on AHIC's Q1 2019 30-year Capital Market Assumptions assuming the asset allocations illustrated above. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Pension Risk Analysis in Appendix for the Capital Market Assumptions.

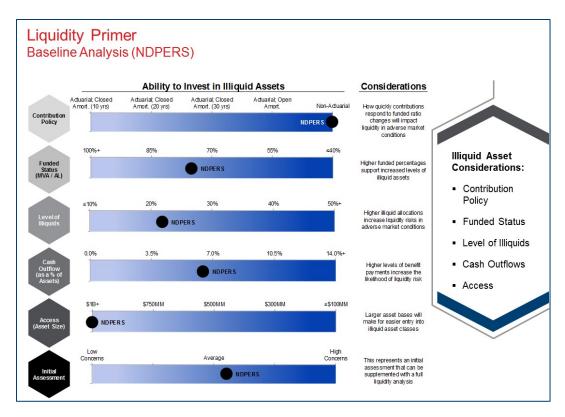


See Appendix for Portfolio Builds. Contributions based on statutory amounts per the July 1, 2018 actuarial valuation report. The assets used in the contribution calculations reflect the smoothed, actuarial value of assets noted in the latest actuarial valuation report. Contributions made to the plan were assumed to be equal to the statutory amounts. Illustrative charts based on preliminary projections of market scenarios and combined plan circumstances. Not a guarantee of future results. Based on 1,000 simulation trials. Present values measured at 7.75%.

We believe it is critically important to consider the asset-liability effects of the pension plan risk management strategy. As such, all of our pension asset-liability studies consider the liquidity needs of the plan explicitly and quantitatively as part of the asset-liability modeling, but also qualitatively by considering the cash distribution needs on an annual basis, as well as over the next five and ten years of the life of the fund, and what portion of those needs will be covered with newly contributed funds. Liquidity is a key consideration at a number of decision points during the asset allocation and portfolio structuring process:

- In evaluating certain illiquid asset classes like private equity, private real estate, infrastructure and so on, to be sure that any allocations to these classes are appropriately sized such that they do not impair the plan's ability to make payments.
- In setting the allocation among liquid assets (i.e., public equities, bonds, etc.), to be sure that the plan will have assets that provide liquidity at the desired price level when plan disbursements need to be made. While public equities are liquid, due to the price volatility they exhibit they may not be ideal assets to cover benefit payments over the next five years as the plan may be a forced seller of those assets at inopportune times.
- In evaluating the mix of active and passive mandates. Again, assets that may need to be sold, either to provide liquidity to fund plan benefits or to fund new mandates, may be optimally structured as passive to avoid being a forced seller of an active strategy before a full market cycle over which the active manager's investment process is expected to perform.





Note: Asset allocations are based on targets with core real estate (11.0%) given half-weighting due to their quasi-liquid status along with private equity (7.0%), infrastructure (5.9%), timber (2.1%), and private debt (1.4%) illiquid assets being given full weighting.

We became familiar with your circumstances by reviewing publically available documents. Based on that information, we constructed the high-level "Baseline" liquidity analysis shown above.

NDPERS currently makes moderate use of less liquid investments. We believe there may be room to increase the allocation to less liquid investments to enhance expected returns and improve overall portfolio diversification.

However, the specific levels of illiquid investments a public pension plan can tolerate are highly dependent on the Plan's contribution policy. As we note, the current contribution policy is a static percent of payroll. As such, adverse market conditions have the potential to significantly impact the funded status of the Plan, as contributions would not fluctuate with changes in the Plan's funded status. We would suggest conducting a full liquidity analysis to determine whether the Plan can tolerate a higher level of less liquid assets.

At the onset of the relationship, we would conduct a thorough analysis and seek to understand the portfolio structure in place today. We would also conduct a more detailed review the Plan's asset-liability circumstances and conduct an asset allocation study to evaluate and affirm the current policy or help to set a different long-term direction.



Appendix

A. White Paper – Public Plans Can Still Compete



Public Funds Can Still Compete

July 2017



Key Points

- In past findings, public funds struggled to outperform endowments and foundations (E&Fs), as reported in our paper titled "Can Public Funds Compete?" dated Winter 2003/2004¹.
- In a study conducted in 2011, we confirmed that public funds can compete with returns above E&Fs².
- An update on this study through 2016 concluded that public funds have continued to outperform E&Fs on average by 100 basis points over the last five years ending December 31, 2016.
- Public funds had larger allocations to public equities—namely U.S. equities versus E&Fs, which has contributed to outperformance.
- Public funds' preference for private equity versus hedge fund exposure helped boost relative returns.
- Public funds typically have a cost advantage given their size (economies of scale).

Past Studies

Our original 2003 research¹ indicated that public funds underperformed E&Fs. In an update with data through 2011², a reversal occurred where public funds outperformed E&Fs, as shown below. We compared public funds to E&Fs given that, while they are very different in many areas, they are very similar in their total return approach to investing.

Exhibit 1

Annualized Return (Net of Fees)³

Fund Type	1987–2002 ⁴ (16 Years)	1995–2002 ⁴ (8 Years)	2003–2011 ⁵ (9 Years)	
Public Funds	8.63%	8.38%	6.55%	
E&Fs	9.17%	8.91%	6.38%	
Difference (Public Funds Minus E&Fs)	-0.54%	-0.53%	0.17%	

Past Performance is no guarantee of future results.

During the 2003–2011 time period, performance of both investor types can be separated into public fund underperformance from 2003 through 2007, representing a relatively calm market environment, and outperformance during the more volatile period from 2008 through 2011. The conclusions from these studies indicated that relative performance was driven by three factors: asset allocation, asset class structure, and investment expenses. Similar factors also influenced relative performance for public funds versus E&Fs for the period from January 1, 2012, through December 31, 2016, which we evaluate in the following section.

¹ Richard M. Ennis, "Can Public Funds Compete?," *The Journal of Investment Consulting* (Vol. 6, No. 2, Winter 2003/2004)

² Sudhakar Attaluri and Mike Sebastian, "Research Note: Public Funds Can Compete," June 2012. We excluded corporate funds from this discussion as their framework for investing has changed significantly with the passage of the Pension Protection Act of 2006 (PPA).

³ Net of investment management fees – does not include investment advisor fees

⁴ Russell/Mellon Analytical Services

⁵ Source: The Bank of New York Mellon (Performance & Risk Analytics Trust Universe); Net Returns used in the analysis are net of average fees reported by Greenwich Associates for the respective fund types

2012-2016 Update

We updated the prior studies with data through December 31, 2016. For this most recent analysis, we used a larger universe of data from PARis, a robust third party performance reporting program and universe generator from Investment Metrics that provides access to approximately 400 public funds and 300 E&Fs. We also conducted this most recent update gross of fees, instead of our preferred net-of-fees approach, as there is no longer a data source that provides total plan fees for a universe of public funds or E&Fs. However, we see no reason to believe that the cost advantage that existed in prior studies for public funds over E&Fs has changed.

The updated results in Exhibit 2 show the continued annualized outperformance of public funds versus E&Fs with public funds outperforming over the trailing five-year period ending December 31, 2016, by 1.00%, gross of fees. It is also worth noting that this return, albeit only over a five-year period, has outperformed the current average public fund actuarial assumed rate of return of 7.5%. As was the case in the prior study, relative performance was driven by two factors: a) asset allocation (i.e., greater public market versus alternative strategy exposure), and b) asset class structure (higher private equity versus hedge fund exposure). While this data reflects gross of fee returns, we also believe public funds' investment expenses remain lower.

Exhibit 27

	2012-2016
Annualized Return (Gross of Fees)	(5 Years)
Public Funds	8.47%
E&Fs	7.47%
Difference (Public Funds Minus E&Fs)	+1.00%

Past Performance is no guarantee of future results.

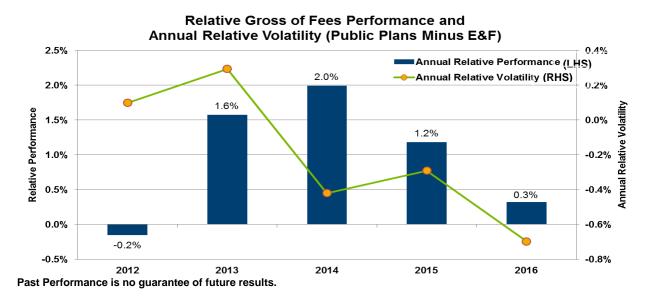
Public funds have not only outperformed E&Fs, but have achieved that outperformance at a lower level of volatility. The standard deviation over this period for the average public fund was 5.9%, and the standard deviation of the average E&F was 6.1%. This is surprising given public funds' general reliance on public equities; however, public funds have also consistently held a higher allocation to lower-risk fixed income than E&Fs, which has helped dampen volatility.

Exhibit 3 provides calendar-year comparisons of returns and risk for public funds versus E&Fs. Public funds have outperformed E&Fs for four out of the last five years with lower volatility in 2014, 2015, and 2016.

⁶ Source: NASRA Issue Brief: Public Pension Plan Investment Return Assumptions Updated February 2017

⁷ Source: Aon Hewitt/PARis, a performance reporting program and universe generator from Investment Metrics representing approximately 400 public funds and 300 E&Fs.

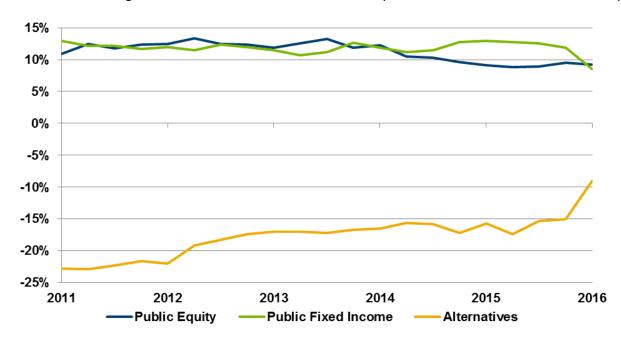
Exhibit 3: Relative Gross Performance and Annual Relative Volatility (Public Funds Minus E&Fs)⁴



Asset Allocation

As in the prior study, public funds continued to have a relatively higher allocation to public equities and a corresponding lower allocation to alternatives (private equity and hedge funds). This has benefited public fund performance over the past five years given the strong returns in public equities during this period.

Exhibit 4: Percentage Point Differences in Asset Allocation (Public Fund Allocations Minus E&Fs)⁸



⁸ Source: Aon Hewitt/PARis, a performance reporting program and universe generator from Investment Metrics representing approximately 400 public funds and 300 E&Fs.

Within their public equity allocations, public funds also have had a bias toward U.S. equities over the last five years. The typical E&F portfolio, based on the universe described above, had 28% allocated to U.S. equities versus public funds at 44%. This has contributed to the outperformance of public funds over the last five years and over the last eight years. U.S. equities exhibited strong relative outperformance versus all major asset categories as shown in Exhibit 5. U.S. equities have returned 17.8% since the end of the credit crisis, while international equities 10.0%, and U.S. fixed income 4.2%.

Exhibit 5: Annualized Performance of Market Indices

Index	Description	2012 Through 2016	Since End of Financial Crisis (3/2009 – 12/2016)
S&P 500 Index	U.S. Large Cap Equity	14.7%	17.8%
MSCI EAFE Index (Net)	Developed International Equities	6.5%	10.0%
MSCI ACWI ex USA Index (Net)	Developed & Emerging International Equities	5.0%	9.9%
Bloomberg Barclays U.S. Aggregate	U.S. Core Fixed Income	2.2%	4.2%
HFRI Fund Weighted Composite	Hedge Funds	4.5%	6.0%
Citigroup World Government Bond Index (WGBI)	Global Bonds	-1.0%	2.1%
NCREIF ODCE Index (Net)	Core Real Estate	11.2%	7.2%

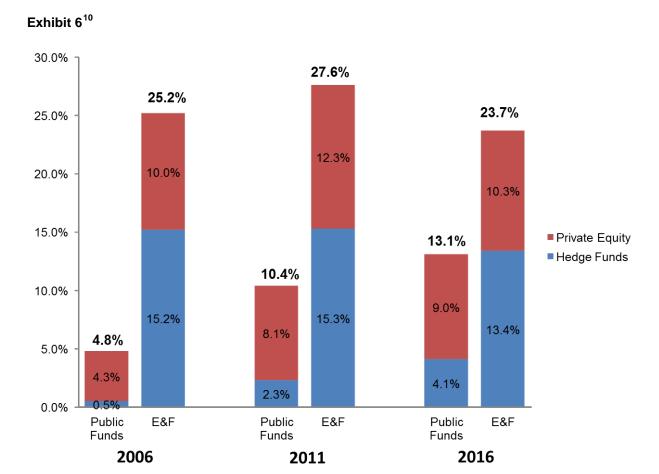
Past Performance is no guarantee of future results. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect any fees or expenses. Investors cannot directly invest in an index. Please see the Appendix for the list of benchmarks and their definitions.

Asset Class Structure

As noted previously, E&Fs historically have had a substantial portion of their investment programs allocated to alternatives, and this allocation differs significantly from public funds. Another source for survey data, Greenwich Associates⁹, indicates that while public funds have experienced an increase in allocations to hedge funds and private equity over the past 10 years, the overall allocations are still significantly lower than those of E&Fs. The aggregate allocation to hedge funds and private equity for public funds was 4.8% in 2006, 10.4% in 2011, and 13.1% in 2016. The survey indicates E&Fs' allocation to these two alternative asset categories was 25.2% in 2006, 27.6% in 2011, and 23.7% in 2016.

Exhibit 6 provides additional insight into the structure of the alternatives allocations for public funds and E&Fs. The survey indicates that public funds favor private equity versus hedge funds, whereas E&Fs allocate a greater percentage of their total alternatives allocation to hedge funds. The outperformance of private equity versus hedge funds has continued, with the Burgiss Global Private Equity Index outperforming the HFRI Fund Weighted Composite Index by an annualized 7.7% from September 30, 2011, through September 30, 2016.

⁹ Greenwich Associates is a global provider of market intelligence and survey data. Each year they produce a survey report entitled "Greenwich Market Trends – Market Trends" that provides survey information across a range of categories and market segments within the institutional investment market. When we reference Greenwich Associates in this paper, the annual Market Trends survey is where we have sourced our data.



We recognize that the next five years may not look the same as the last five years with U.S. equity and private equity dominating investment returns. In fact, we may enter a period where non-U.S. equity enjoys stronger returns and hedge funds produce more alpha than other active strategies. We still believe that public funds will be able to compete even if the future market environment looks different. It is worth noting that public funds continue to assess their public equity allocations in light of market valuations and areas for future growth, and are rigorously evaluating their allocations to hedge funds, real estate, private equity and other areas of the private market to ensure they are positioned for future success.

Investment Expenses

We see no reason to believe that the cost advantage that existed in prior studies for public funds over E&Fs has changed. Historically the average fees for public funds were approximately 31 basis points less than E&Fs (45 bps average for public funds vs. 76 bps for E&Fs)¹¹. Due to the relatively larger size of public funds versus E&F, this public fund cost advantage will continue to exist and public funds will continue to aggressively negotiate fees.

¹⁰ Source: Greenwich Market Trends 2006, 2011, 2016

¹¹ Greenwich Associates

Looking to the Future

Looking in the rearview mirror is important, but we would be remiss if we did not think about how public funds can remain competitive in the future. In general, institutional investment programs have a number of investment tools that allow them to invest their assets successfully in challenging markets to continue to generate strong returns at reasonable levels of risk. As a group, public funds are not missing out. Given their size, investment expertise, time horizon, and governance structure, many of these tools will be appropriate to pursue to remain competitive. However, this is not one size fits all, and it is imperative that public funds critically evaluate and identify their unique competitive advantages given their individual circumstances when determining which tools to use.

While many of these competitive advantages and investment tools are also available, and used by other institutional investors such as E&Fs, there are a few areas where we have seen public funds make significant progress. The first relates to governance structure. Many public funds in recent years have specifically evaluated and made changes to their governance structure to ensure that investment teams have levels of delegation that allow the funds to be more nimble and opportunistic. Along similar lines, we have seen public funds create broader asset classes or add opportunity allocations that allow the funds to take advantage of short-term market dislocations or invest in strategies that may not have historically fit into a traditional asset allocation.

Below we identify and define five tools that public funds can, and are using to navigate the current market:

- Careful and thoughtful allocation of the active risk budget. Public funds should take active risk
 only when risk tolerance exists among key stakeholders, and risk should be taken only in investment
 strategies and asset classes where there is high conviction of being able to earn alpha.
- Diversification. Diversification is a long-held tenet of investing. However, in today's environment, we
 expand the definition to mean not just asset class diversification, but also diversification across risk
 premiums, individual investment strategies (in one asset class or an opportunistic bucket), vehicle
 structures, and lockup time frames.
- Short-term market dislocations. Taking advantage of short-term market dislocations requires a public fund to be able to move quickly, to have an asset allocation that allows the inclusion of investment strategies that may not fit nicely into traditional asset class buckets, and to have the required level of expertise to identify opportunities.
- Medium-term views. Have one- to three-year views of capital markets and use these views when
 rebalancing, generating cash to pay contributions, investing contributions, or in some cases, tilting the
 portfolio.
- **Illiquidity premium.** There are strong returns available to long-term investors like public funds who can afford to act as providers of liquidity rather than demanders.

A critical guide for public funds to select the **right** tools for their circumstances is to focus on the fund's competitive advantages. There are five key areas where competitive advantages tend to exist for public funds:

Governance structure. This component speaks to the level of delegation the board has given to the investment team to make investment decisions. In general, the more delegation to the investment team, the higher the speed of execution and implementation, and the greater the ability to be more opportunistic.

- Investment team resources and expertise. We have observed that many funds have unique internal expertise in a particular investment function or area, or the ability to hire specific asset class or strategy expertise. Funds should maximize their use of this internal expertise. However, there is also an abundance of external resources, and a public fund should assess where that gives them an additional advantage in terms of new asset classes, access to compelling private market strategies, and specialized expertise.
- Board or committee expertise. While we certainly recognize that public fund board members have varying levels of investment expertise, some boards do have individuals with specialized investment expertise. In addition, some boards have a separate investment committee or a sub-set of the board that is comprised solely of investment experts. Having investment expertise or access to a particular area of the capital markets can create a unique investment advantage. Public funds should evaluate and take advantage of this edge, if it exists.
- Fund size. There are competitive advantages for both small and large funds. Larger funds have the ability to build strategic partnerships with asset managers, which brings a breadth of expertise and investment ideas to the fund. Larger funds also easily meet minimums for alternative investment strategies and are typically able to gain access to the top funds in each universe, thereby increasing alpha potential. Smaller funds have the ability to access niche funds that may be more opportunistic and nimble in a particular market with a higher potential for alpha.
- **Time horizon.** Public funds typically have long time horizons, which allows for higher levels of active risk and the ability to take illiquidity risk. This is a distinct advantage in this market environment where the best returns are typically accessed through markets and vehicles that offer lower liquidity. While most public funds have long time horizons, it is critically important, when evaluating the appropriate level of liquidity, to consider current and projected funded status and net cash flow, the fund's expected contributions, demographic projections, and key stakeholder tolerance for illiquidity.

Once a public fund identifies its unique competitive advantages, these findings then inform the investment tools that are most appropriate to consider. The following table provides a guide for connecting a fund's competitive advantages with the right tools:

Competitive Advantage	Description	Corresponding Investment Tools
Governance structure	Higher level of board delegation increases speed of execution and ability to be opportunistic	Diversification, short-term market dislocations, medium-term views
Investment team resources and expertise	Special expertise in a particular asset class or strategy – informs where to look for alpha or when/how to take advantage of short-term opportunities	Informs where to take active risk, diversification, short-term market dislocations, medium-term views
Board or committee expertise	Take advantage when board or committee member has expertise or special access – allocate active risk to this area	Informs where to take active risk
Fund size	Large: strategic partnerships, access	Large: Diversification, illiquidity premium
	Small: access to niche, nimble, smaller sized opportunities	Small: Informs where to take active risk, illiquidity premium
Time horizon	Longer time horizons allow for more active risk taking and illiquidity	Illiquidity premium

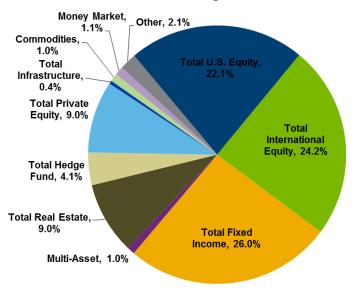
Conclusion

Public funds **can** compete. And they will **continue** to compete with other institutional investment programs like endowments and foundations. Public funds have unique, competitive advantages that enable them to use different tools for navigating a difficult, complex, and challenging future market environment.

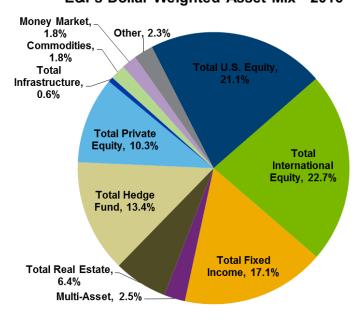
Appendix – Asset Allocation Comparison

As of December 31, 2016 12

Public Funds Dollar-Weighted Asset Mix - 2016



E&Fs Dollar-Weighted Asset Mix - 2016



¹² Greenwich Market Trends 2016

Appendix – Benchmark Definitions

S&P 500 Stock Index – A capitalization weighted index representing stocks chosen by Standard & Poor's, Inc. for their size, liquidity, stability and industry group representation. The companies in the S&P 500 Index are generally among the largest in their industries.

MSCI EAFE Index – A capitalization-weighted index of stocks representing 22 developed countries in Europe, Australia, Asia, and the Far East.

MSCI ACWI (All Country World) ex-U.S. Index – A capitalization-weighted index consisting of 23 developed and 21 emerging countries, but excluding the U.S.

Bloomberg Barclays Capital Aggregate Bond Index – This index is the broadest representation of the investment grade U.S. bond market. It includes allocations to U.S. Government bonds, investment grade corporate bonds and mortgage- and asset-backed securities.

HFRI Fund Weighted Composite Index – The HFRI Fund Weighted Composite Index is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

Citigroup WGBI – A market capitalization weighted bond index consisting of the government bond markets of the multiple countries. The index includes all fixed-rate bonds with remaining maturity of one year or longer and with amounts outstanding of at least \$25 million.

NCREIF ODCE Index – A capitalization-weighted index of investment-grade income-producing properties.

Disclaimer

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Aon Hewitt empowers organizations and individuals to secure a better future through innovative retirement, health, and talent solutions. We advise and design a wide range of solutions that enable our clients' success. Our teams of experts help clients navigate the risks and opportunities to optimize financial security; redefine health solutions for greater choice, affordability, and wellbeing; and achieve sustainable growth by driving business performance through people performance. We serve more than 20,000 clients through our 15,000 professionals located in 50 countries around the world.

For more information, please visit aon.com.

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Callan

Norti Inves

January 24, 2020

North Dakota State Investment Board

Callan Investment Consulting Services

Paul Erlendson

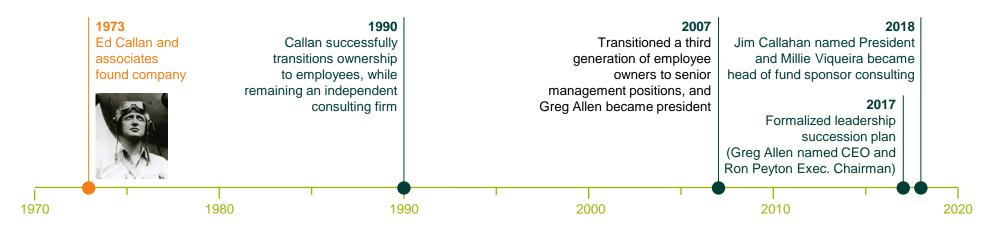
Fund Sponsor Consulting

Alexander Browning

Alexander Browning

Callan Highlights

Focus, experience, resources



Independent & Focused

Established in 1973

Investment consulting is primary focus

100% employee-owned

Third generation of private ownership

94 current owner-employees

Experienced

Over 40 years helping large institutional investors with asset allocation, designing/implementing multi-manager portfolios

\$2.5 trillion in assets under advisement across over 400 clients

Over 80 experienced research specialists in all areas of plan governance and implementation

Fully Resourced

Over 190 employees, mostly investment professionals

57 CFA and/or CAIA, FRM charter holders, and over 60 advanced degrees

Asset management effort fully supported by Callan's research, operations, and compliance groups, as well as our proprietary systems and databases

As of October 31, 2019



Callan Updates

Firm updates by the numbers, as of September 30, 2019

Total Associates: 194

Ownership

-100% employees

Broadly distributed across 94 shareholders

Leadership Changes

No executive additions or departures

No leadership changes this quarter

Total General and Fund Sponsor Consultants: more than 45

Total Specialty and Research Consultants: more than 60

Total CFA/CAIA/FRMs: more than 55

Total Fund Sponsor Clients: more than 400

AUA: more than \$2.4 trillion

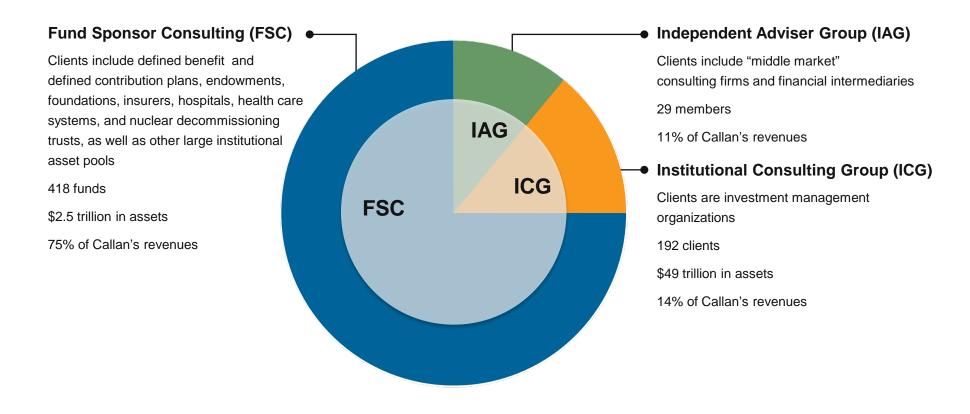
"The Callan culture that we have all built together over the years is the reason we like coming to work each day ... Our culture of supporting and caring about each other, of appreciating and respecting each other while still having some fun and good humor has been the key to our longevity and success. We never want to diminish it."

— Ron Peyton, Executive Chairman



Callan's Business Model

A diversified revenue stream has been critical to our ability to continue to reinvest in our people and our proprietary systems. It is what allows us to deliver greater capability to our clients at more competitive fees.

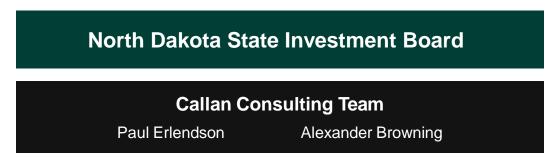


Revenue data as of December 31, 2018. Fund and asset data as of September 30, 2019



Client-Focused Consulting Model

Proactively provide our collective expertise and experience to the SIB and RIO staff



Client Policy Review Committee 13 Senior Professionals Manager Search Committee

11 Senior Professionals

Defined Contribution Committee

13 Senior Professionals

Alternatives Review Committee
12 Senior Professionals

Strategic Planning

Plan Implementation Monitoring & Evaluation

Education & Research

Capital Markets Research

8 dedicated professionals

(Also significantly contributes to our global manager research efforts.)

Global Manager Research

31 dedicated professionals

Defined Contribution Group

6 dedicated professionals

Trust, Custody & Securities Lending Group

3 dedicated professionals

7 dedicated professionals

Trust Advisory Group

Client Report Services
Proprietary Database

28 dedicated performance professionals

Supported by over 20 database, programming and systems professionals.

Callan Institute and "Callan College"

8 dedicated professionals

Most Callan professionals participate as instructors and research writers

As of October 31, 2019



What Makes Callan Different?

In addition to our culture of collaboration and peer oversight of client deliverables, Callan combines the benefits of large and small consulting firms.



Large firm benefits

Experienced consultants

Depth & breadth of specialist resources

Extensive, proprietary data & research

Small firm benefits

Employee ownership

Responsive & nimble

Personalized service

The North Dakota State Investment Board (SIB), its predecessor and related entities have been important to Callan since we began working together over 40 years ago.

Our objective is to be a trusted advisor and help North Dakota meet its investment goals

Introductions

A few of the many Callanites who work on behalf of NDSIB



Paul Erlendson

- 36th Year in the industry
- Senior Vice President and Callan Shareholder
- Member: Manager Search, Client Policy Review, Defined Contribution and Institute Advisory Committees



Alex Browning

- 21st Year in the industry
- Senior Vice President
- Member: Alternatives Review and Client Policy Review Committees



Amy Jones

- 30^{0h} year in the industry
- Senior Vice President and Shareholder
- Co-Manager, Global Manager Research
- Member: Institute Advisory Callan's Inclusion Committees



Pete Keliuotis, CFA

- 26th year in the industry
- Executive Vice President
- Member: Alternatives Review and Client Policy Review Committee Member



Isabel Marchese

- Over 30 Years in the industry
- Senior Analyst, Callan Report Services who coordinates with RIO staff to create Board and RIO staff performance reports



Sally Haskins

- More than 30 Years in the industry
- Senior Vice President, Callan Shareholder
- Co-Manager of Real Assets Consulting
- Member: ESG, Alternatives Review and Management Committees

More introductions

A few of the many Callanites who work on behalf of NDSIB



Allie Bañuelos

- 20+ Years in the industry
- Senior Vice President and Shareholder
- Manager of Client Report Services Group



John Pirone, CFA, FRM, CAIA

- 25th Year in the industry
- Senior Vice President and Shareholder
- Senior member of Capital Markets Research Group



Perry Hopper

- Third year in the industry
- Assistant Vice President in Denver office
- Provides consulting support to NDSIB's primary consulting team
- Holds right to use the Chartered Alternative Investment Analyst designation



Barb Gerraty

- Senior Vice President and Manager,
 Callan's Corporate Events, Shareholder
- Director, Callan Institute
- Member: Institute Advisory and Internship Committees; co-chair of Wellness Program



Jay Kloepfer

- 31st Year in the industry
- Executive Vice President, Callan Shareholder
- Co-Manager of Capital Markets Group
- Member: Institute Advisory Committee



Virgilio (Bo) Abesamis

- 33rd Year in the industry
- Executive Vice President, Callan Shareholder
- Manager of Trust, Custody, and Securities Lending Group

Callan's Commitment to Diversity



Percentage of Callan employees who are women or minorities



Percentage of Callan shareholders who are women or minorities



Percentage of Callan

Management Committee who are

women or minorities

Callan's Investment Consulting Process

Since every institutional investor has a distinct set of circumstances, we approach each client with an open mind. We strive to build off the strengths already embedded in a client's program without a "one-size-fits-all" position.

Strategic Planning

Asset allocation and spending analysis

Asset class and manager structure review

Investment policy development

Risk analysis

Alternatives planning

Plan Implementation

Manager review and search

Dedicated alternatives consulting

Custody review and search

Transition management

Fee / cost analysis

Monitoring & Evaluation

Customized reports

Total fund analysis

Asset class and manager analysis

Risk-adjusted returns

Pure style groups

Portfolio characteristics

Attribution

Research & Education

Callan Institute

Conferences

Research papers

Surveys

"Callan College"

Fiduciary education

Custom education sessions

How Callan has assisted the North Dakota State Investment Board

A representative sampling of consulting engagements over the last decade

4Q2019	Education	Private Markets Education	Delivered education with NDSIB by Pete Keliuotis, Head of Alternatives Consulting
3Q2019	Strategy	Global Equiity Structure Discussion	Exploring potential adjustments to global equity structure
3Q2019	Strategy	ND Board of Medicine Asset Allocation	Ran asset optimizations and spending policy projections
2Q2019	Education	Monitoring SIB's Proxy Voting	Provided RIO staff with overview of disclosure and best practices
2Q2019	Strategy	Asset Liability Sequencing	Worked with NDPERS staff regarding the prudence of scheduling the actuarial experience study prior to conducting an asset allocation study
3Q2018	Evaluation	2018 Fiscal Year Fee Study	Evaluated investment management fees paid by NDSIB
3Q2018	Education	Performance Benchmarks	Described performance benchmarking for managers and asset classes
2Q2018	Strategy	Asset Allocation and Spending Study	Evaluated alternative spending policies for Legacy Fund
2Q2018	Monitoring	Infrastructure Benchmark Development	Proposed a customized benchmark for NDSIB infrastructure investments
3Q2017	Education	Custom "Callan College" in Bismarck	Delivered investment education for NDSIB, legislators, and other entities
2Q2017	Education	Class Action Monitoring	Reviewed for RIO staff the types of services and providers of class action monitoring systems
3Q2016	Evaluation	2016 Fiscal Year Fee Study	Evaluated investment management fees paid by NDSIB
1Q2016	Monitoring	Plan-Level Performance Reporting	Callan and RIO staff worked closely together to disaggregate historical individual Plan information within the Pension and Insurance Trusts. Resulted in individual Plan performance reports for TFFR, NDPERS, WSI, Legacy, and Budget Stabilization Funds
2Q2015	Evaluation	Timber Program Evaluation	Reviewed timber portfolios, manager, and fees. Resulted in performance fee credit
2Q2014	Evaluation	Custody Fee and Service Review	Conducted on-site meetings with RIO staff in Bismarck to evaluate Northern Trust fees and services
1Q2013	Education	Public Fund Divestment Policies	Provided samples of other states' Iran and Sudan divestment policies
2Q2012	Research	On-Site Investment Meetings With SIB's then-Acting CIO	Coordinated meetings with CA-based public fund officials, asset managers, third-party risk measurement service and Callan specialists
2Q2011	Education	Overview of Investment Resources	Conducted meetings with the SIB's Chief Financial Officer & new CIO at Callan's San Francisco HQ
2Q2010	Special	Emergency Transition Plan	Presented SIB with a detailed transition plan following unexpected death of a RIO executive. Callan identified a nationally recognized professional to serve as the SIB's interim CEO/CIO



Capital Markets Research

- 30 Full asset/liability or spending studies conducted each year
- 20 Asset allocation-only studies conducted each year
- 20 Investment structure studies conducted each year
- 50 Custom research projects conducted each year

- Provides capital market research: all asset classes, all strategies
- Develops proprietary capital market expectations
- Conducts asset allocation and scenario analysis
- Reviews investment manager structure
- Provides custom client research and education



Trust, Custody and Securities Lending Group

30 Average custody searches, service benchmarking, fee reviews, securities lending, transition management consulting, and related projects conducted each year

1991 Callan began providing trust/custody consulting services, with 64 years of cumulative industry experience

\$999 Billion in total assets advised in 2018



- Respected industry leader providing thought leadership and strategic direction in trust, custody, securities lending, and transition management
- Conducts searches and reviews, and provides guidance in best practices related to back- and middle-office outsourcing and administration, governance, proxy voting, and more
- Extensive Database of Completed Searches and Negotiated Fees to assist clients with relevant fee/cost analysis for fee benchmarking.
- Distinct and thorough methodology and risk mitigation process for evaluating trust/custody, transition management pools, and securities lending providers.

Global Manager Research

Differentiators

Manager Research by the Numbers

43	Specialty consultants
----	-----------------------

- Callan shareholders
 - CFA and/or CAIA charterholders
 - Masters degrees
- Manager searches completed over the 897 last 5 years
- \$144 bn Assets represented by these searches
- Average number of manager meetings 2,500+per year
- Organizations tracked in proprietary database
- Unique products tracked in proprietary 10.000+database

Knowledge. Experience. Integrity.

Commitment to dedicated resources

- Sole focus is research
- Highly valued, high-profile, career positions
- Original research, in-depth due diligence

Proprietary database and analytics

- Full control over data collection and due diligence
- Clean, detailed, continuous data is key to the accuracy and timeliness of information for decision making
- We control how products are analyzed

Searches are client-driven, customized and disciplined

- Bottom up process no buy-list
- Emphasis on qualitative research
- Existing manager structures are crucial components to the search process
- Thorough documentation of entire process

Oversight committee for manager searches

- Best thinking across the firm
- Leverages knowledge of specialists and generalists
- Ensures quality control and adherence to well-defined and robust process

Flexible capabilities allow us to work cooperatively to enhance a client's existing search process and related needs



As of June 30, 2019

Dedicated Resources

Public Market Research

U.S. Equity

Amy Jones Corey Schier Mark Stahl, CFA Irina Sushch, CFA David Wang Mark Wood, CFA

Non-U.S. Equity

Alex Hoy, CFA Ho Hwang Lauren Mathias, CFA



Fixed Income (Public & Private)

Kristin Bradbury, CFA Kyle Fekete, CFA Nathan Wong, CFA David Zee, CFA





Analysts

Dario Buechi Marina van Steen Hannah Vieira



Dedicated Resources

Public Market Research (continued)

Diversified Real Return

Mark Anderson Alex Hoy, CFA Julia Moriarty, CFA Lauren Sertich, CAIA Nathan Wong, CFA

Target Date Funds

Jason Ellement, FSA, CFA, MAAA Julia Moriarty, CFA Sweta Vaidya, FSA, CFA, EA

James Veneruso, CFA, FRM, CAIA David Wang

















Multi-Asset Class

Mark Andersen Jason Ellement, FSA, CFA, MAAA Pete Keliuotis, CFA

Jay Kloepfer Kevin Machiz, CFA

John Pirone, CFA, FRM, CAIA David Welsch, CFA













Alternatives Consulting Group

- 8 Dedicated team members for private equity and hedge funds
- **43** Data and analytics support staff
- 10 Years' average investment experience
- 36 Alternative investment clients
- 1989 Callan began providing alternatives research

- Offers strategic advice for alternative investment portfolios (private markets and hedge funds)
- Performs customized strategy allocation, capital budgeting, and cash flow modeling
- Provides sourcing and comprehensive due diligence on strategies globally
- Delivers client research and education



Real Assets Consulting

- **400** Manager research meetings conducted each year
 - **40** Searches and evaluations conducted each year
 - 20 International onsite meetings each year
 - 10 Published research pieces each year

- Provides consulting and research for real estate, infrastructure, farmland, and timberland
- Develops proprietary capital market expectations
- Conducts asset allocation and scenario analysis
- Reviews investment manager structure
- Provides custom client research and education



Monitoring & Evaluation

- 35+ Year commitment to performance measurement
- 25 Dedicated performance analysts
 - 3 Analytical solutions experts
 - 6 Investment database specialists
- 10 Programmers/system analysts

Empowers clients with performance measurement, database, and investment analytics

- Proprietary data
- Innovative analytical tools
- Customized, flexible, accurate reporting



Defined Contribution Consulting

- 9 Recordkeeper searches conducted in past three years
- **15+** Years of collective industry experience
 - 43 Investment structure evaluations conducted in past three years
 - **36** Fee studies/reviews conducted in past three years

- Generates thought leadership and strategic direction for DC plans
- Manages recordkeeper searches, fee benchmarking studies, investment structure reviews, target date suitability studies, and more
- Delivers formal testimony and commentary to regulators



Published Research Highlights from 3Q19

Callan's 2019 ESG Survey



The Callan DC Index™ in Detail



The Keys to Unlocking Private Equity Portfolio Assessment



DC Plan Hacks: Tips for an Efficient Design



Recent Blog Posts

For Corporate DB Plans, We Have Good News and Bad News

William Emmett

What Fixed Income Managers Are Thinking Now David Zee

Tips for
Emerging and
Diverse
Managers
Anne Maloney

Additional Reading

Private Equity Trends quarterly newsletter

Active vs. Passive quarterly charts

Capital Market Review quarterly newsletter

Monthly Updates to the Periodic Table

Market Pulse Flipbook quarterly markets update

Callan Institute Events

Upcoming Conferences, Workshops, and Webinars

Save the Date! Callan's 40th National Conference

January 27–29, 2020 | The Palace Hotel, San Francisco

This year's lineup of speakers will include:



Frank W. Abagnale

- Renowned cybersecurity and fraud prevention expert
- Best-selling author and subject of Catch Me If You Can



Dr. Joseph F. Coughlin

- Director of the Massachusetts Institute of Technology AgeLab
- Professor of MIT's Department of Urban Studies & Planning and the Sloan School's Advanced Management Program



Dr. Doris Kearns Goodwin

- World-renowned presidential historian and public speaker
- Pulitzer Prize-winning and New York Times #1 best-selling author



Dr. Dambisa Mayo

- Global economist and investor in the future
- Author of four New York Times best-selling books

On-Demand Webinars

Visit our website for On-Demand webinar options at https://www.callan.com/ondemandwebinar/

"Callan College" Introduction to Investments

San Francisco, April 21-22, 2020 Chicago, July 21-22, 2020

Why Retain Callan?

Our goal is to exceed your expectations and deliver results that achieve North Dakota's objectives

Quality	The quality of Callan's consulting will exceed industry standards and your expectations
Delivery	Callan's services will be delivered promptly, accurately and will be fully customized for your needs
Cost	Callan's consulting fees will be fairly priced for the services provided
Client Service	Callan's consulting team will be highly responsive, direct, professional and focused on meeting your unique needs and expectations
Innovation	Callan's heritage, culture and philosophy promote unique solutions
Ethical Conduct and Transparency	Callan will operate with the highest level of ethical conduct and transparency
Institutional Knowledge of ND	Callan has worked with North Dakotans for over four decades to create and maintain a successful investment program customized to meet the SIB and its clients' needs.

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RVK Overview



RVK Firm Overview

Established in 1985

- RVK has been providing clients with world-class investment advice for over 30 years and is one of the nation's largest and most trusted institutional investment consulting firms.
- We are 100% owned by active employees.

National Firm

 Headquartered in Portland with regional offices in Boise, Chicago, and New York.

Diverse Client Base

 RVK serves nearly 200 clients including public retirement systems, corporations, Taft-Hartley funds, non-profit organizations, and other institutional pools of capital.

Highly Effective Team Consulting Approach

 RVK's 95 investment professionals consist of a healthy mix of internally-sourced and externally-hired talent, translating to bestin-class investment advice through our team-centric approach.

Commitment to Diversity and Inclusion

- RVK is committed to diversity with nearly 60% ownership held by women and minorities.
 - 51% owned by women and 6% owned by minorities
 - Gender and ethnic diversity across shareholders and Board

Explicit No Conflicts of Interest Policy

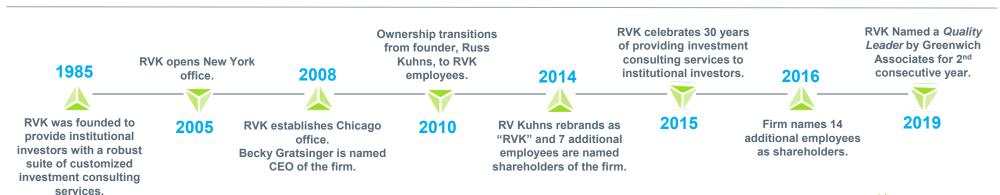
• Since inception, RVK has maintained an explicit no conflicts of interest policy, ensuring clients remain our only priority.

No Financial Relationships

RVK has no financial relationships with investment managers, brokers, investment operations vendors, or investment products.

Solely Focused

 Non-discretionary investment consulting represents our sole focus and 100% of our revenue.



RVK Receives 2nd Greenwich Quality Leader Award

- RVK is the only firm among large US consultants to receive a Greenwich Associates* Quality Leader award for a 2nd consecutive year
- This award recognizes the high level of client service RVK provides in the following areas (among others):
 - Understanding of Client Goals and Objectives
 - Advice on Long-term Asset Allocation and Liability Issues
 - Proactive Advice and Innovative Ideas
 - Credibility with Boards and/or Investment Committees
 - Knowledge of Investment Managers
 - Advice on DC Plan Structure and Design
 - Client Satisfaction with Manager Recommendations
 - Responsiveness to Client Requests and Needs
 - Competitive Fees







RVK Consulting Services

General Consulting

- Trustee Education
- Investment Policy Review and Development
- Asset Allocation Analysis
- Manager Search and Evaluation
- · Manager Monitoring and Due Diligence
- Performance Reporting Total Fund
- Performance Reporting Alternative Asset Classes
- Manager Structure Studies

Investment Operations Solutions Group

- Securities Lending Program Development
- Trade Execution Analysis
- Organizational and Compensation Analysis
- Custody/Recordkeeper Searches and Evaluation
- Prime Brokerage Due Diligence and Selection
- · Cash Management Program Development
- Transition Management

Specialty Consulting

- Real Estate Investment Program Development
- Targeted Due Diligence on Direct Alternative Investments
- Alternative Asset Due Diligence and Pacing
 - Private Equity Fund of Funds
 - Real Return Strategies
 - Hedge Fund of Funds
- · Stochastic Risk Analysis and Modeling
- Liability Driven Investing Studies
- · Asset Liability Modeling
- Legislative Issues Support
- · Strategic Planning and Organization Analysis

Defined Contribution Solutions Group

- Plan Structure
- · Industry Trend Analysis
- Third Party Administrator Evaluation
- · Investment Selection and Monitoring
- Plan Operations and Platform Analysis
- Fiduciary Policy Development and Implementation
- Participant Education



RVK Market Presence and Competitive Attributes



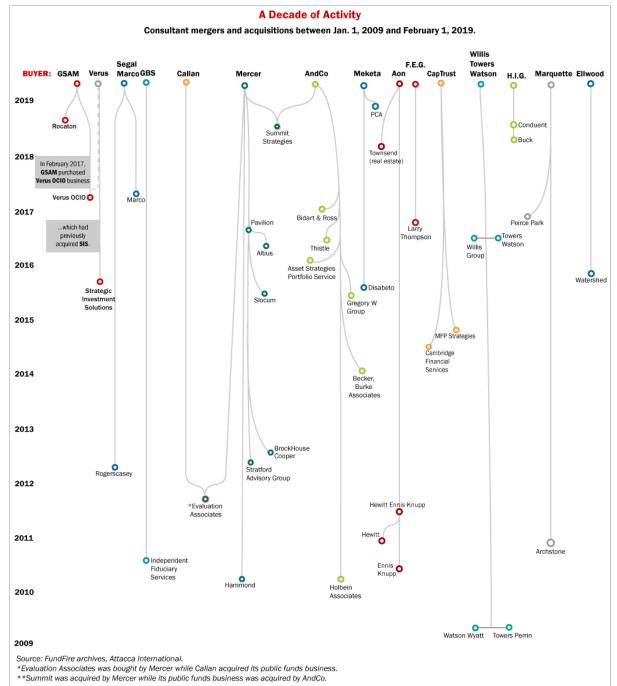
RVK Uniquely Positioned Among Large Firms

Top 10 Investment Consultants (by AUA*)

Firm	AUA* (in trillions)	Equity Ownership Discretionary/OCIO Structure Practice?		Proprietary Investment Products?	M&A Activity Since 2009?
RVK	\$2.4	Owned solely by active employees	No	No	No (Never)
А	\$15.0	Owned by public company	Yes	Yes	Yes
В	\$3.5	Publicly-traded	Yes	Yes	Yes
С	\$2.6	Owned by private equity funds	Yes	Yes	Yes
D	\$2.5	Owned by private equity funds and employees	Yes	Yes	Yes
Е	\$2.4	Owned by employees	Yes	Yes	Yes
F	\$2.2	Publicly-traded	Yes	Yes	Yes
G	\$2.0	Owned by employees	Yes	No	Yes
Н	\$1.1	Owned by employees	Yes	No	No
I	\$1.0	Owned by employees	Yes	No	No



RVK Organizational Stability



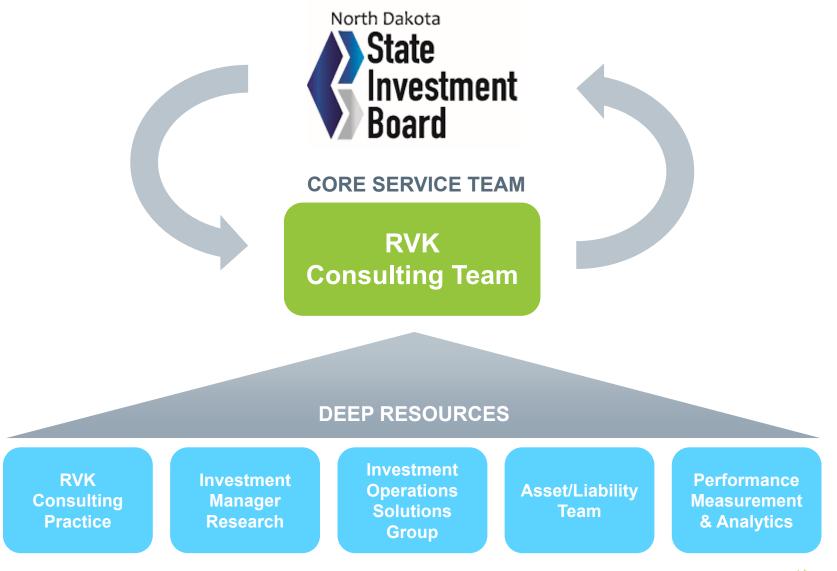
While the majority of peers have experienced a merger or acquisition, in RVK's 34-year history, we have never done so nor do we intend to.

RVK's independence and dependable organizational stability is unique relative to our peers.



Team Consulting Model

RVK embraces a team model, led by a core consulting team that helps deliver all of the Firm's specialty resources to the client





Representative Client List

Public Fund Clients

- California Dept. of Personnel Administration SPP
- Chicago Public Schools
- Fort Worth Employees' Retirement System
- · Los Angeles Dept. of Water and Power
- Los Angeles Fire and Police Pension System
- Montana Board of Investments
- New Mexico State Investment Council
- New York State Common Retirement Fund
- North Dakota Board of University and School Lands
- · Ohio Bureau of Workers' Compensation
- · Ohio Retirement Study Council
- San Diego Transit Corporation
- · San Francisco Bay Area Rapid Transit District
- Santa Barbara County Employees' Retirement System
- · Teachers' Retirement System of the State of Illinois
- Texas Municipal Retirement System
- · Wyoming State Treasurer's Office

Taft-Hartley Clients

- Alaska Carpenters
- Bledsoe Health Trust
- California Field Ironworkers
- Contra Costa County Electrical Workers
- Edison Pension Trust
- Electrical Insurance Trustees
- Idaho Plumbers & Pipefitters
- · Intermountain Retail Store Employees
- Los Angeles Hotel-Restaurant Employers Union
- Oregon-Washington Carpenters
- Retail Clerks Specialty Stores
- SIU Pacific
- UFCW Northern California and Drug Employers
- Western Metal Industry
- · Western Washington Painters

Corporate Clients

- AAA
- Blue Cross of Idaho Health Service
- Cambia Health Solutions
- Collins Pine
- Daimler Trucks & Detroit Diesel
- Louisiana-Pacific Corporation
- Mercedes-Benz U.S. International, Inc.
- Neenah Enterprises, Inc.
- Oregon Mutual Insurance
- Reser's Fine Foods
- · Samaritan Health Services, Inc.
- Slocum Orthopedics
- · St. Luke's Health System
- Vigilant Counsel for Employers
- Vigor Industrial, LLC

Endowment & Foundation Clients

- Albuquerque Community
- Boise State University
- College of Idaho
- · Humboldt State University
- Leukemia & Lymphoma Society
- · Lighthouse for the Blind and Visually Impaired

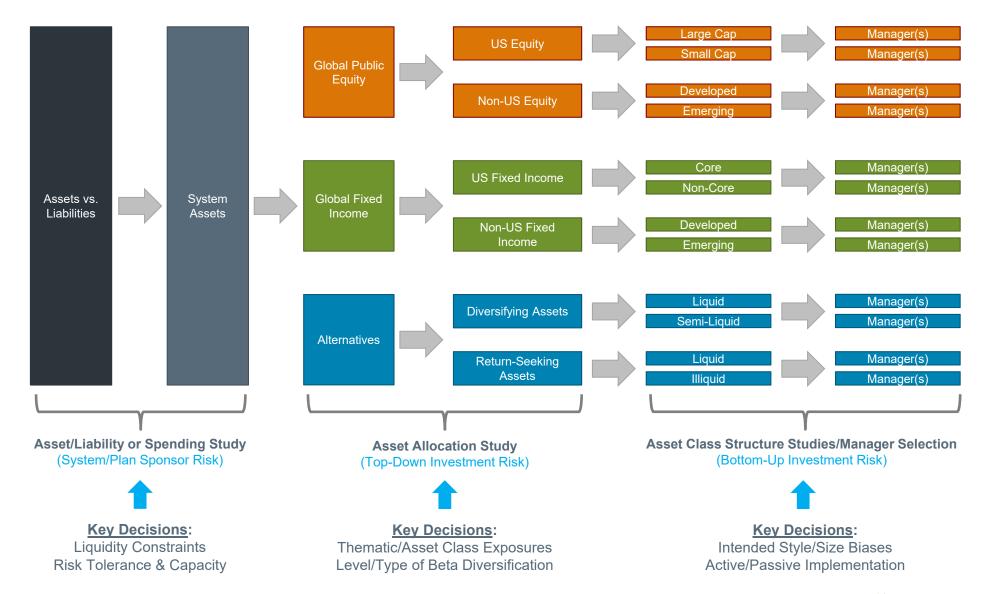
- Medical Teams International
- Montage Health & Related Corporations
- San Francisco Symphony
- Sandia Foundation
- Temple University Health System, Inc.
- UC Davis



Asset Allocation and Asset/Liability Modeling



Investment Decision-Making Hierarchy

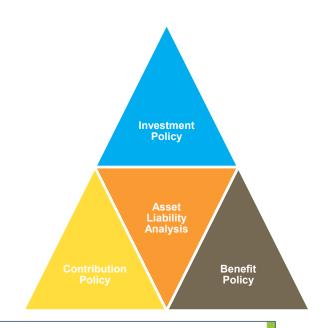




Asset/Liability Studies

Overview

- A tool to examine how well alternative investment strategies (differing asset allocations) address the objectives served by the fund – the System's "liabilities."
- A "guidepost" for the target asset allocation of the System.
- The gold standard for assessing the health of a pension plan (or prefunded long-term financial commitment) by analyzing the interrelationship of the three most important elements:
 - Investment Policy, Contribution Policy, and Benefit Policy



Asset/Liability Study The current contribution rates result in constant annual contributions (as a percentage of salary) that fall significantly short of the actuarially calculated Annual Required Contribution (ARC). Projected Employer Contributions (as a % of ABC) Asset/Liability Study 80% A true improvement of funded status can likely only be achieved by a combination of sou contribution policies and relatively high investment returns. Assumes 8% Every Year and Current Contribution Policy Key Takeaway Additional risks - namely ed changes; without the full AR Projected Annual Rate of Return Needed to Reach Full Funding

Asset/Liability Study

Continued use of a well-diversified investment portfolio that gradually focuses on increasing liquidity is warranted; an ultra-conservative or ultra-aggressive portfolio likely would not benefit the Fund and its liabilities.

	Probability of Full Funding in 2034	Probability of <62% (Current) Funding in 2034	Probability of <25% Funding in 2034	Probability of Asset Depletion by 2034	Maximum 1 Year Investment Loss
Target Allocation	10%	73%	36%	796	-27%
Conservative Portfolio	0%	100%	90%	20%	-20%
Aggressive Portfolio	28%	58%	38%	16%	-52%

Key Takeaway

· Marginal risk may be added through asset allocation, but large moves in either direction are not necessary or recommended.



Key Takeaway

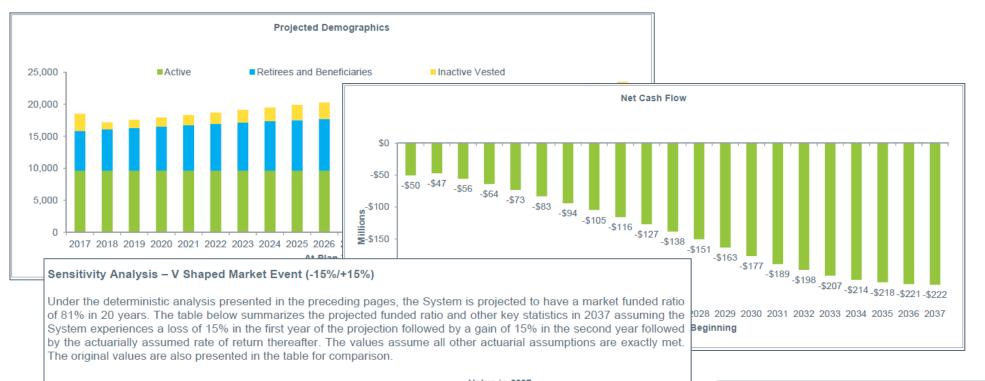
· Meeting the current assumed rate of 8% every year without fail will keep funded status relatively constant and using only investment returns to materially improve



NVK.

Asset/Liability Studies

Key Risk Metrics Explored



		Value in 2037		
	Actuarially Assumed Rate of Return	V Shaped Market Event	Impact o Reduce Return	d
Projected Payout Ratio	8%	12%	3%	
Projected Employer Contributions (millions)	\$203	\$203	\$0.0	↔
Projected Benefit Payments/Projected Total Contributions	176%	176%	0%	↔
Projected Actuarial Accrued Liabilities (billions)	\$7.5	\$7.5	\$0.0	↔
Projected Market Value of Assets (billions)	\$6.1	\$4.4	(\$1.7)	•
Projected Deficit (millions)	\$1,425	\$3,156	\$1,731	•
Projected Market Funded Ratio	81%	58%	-23%	▼
	20 Ye	ear Cumulative To	otal	
Projected Cumulative Employer Contributions (billions)	\$3,256	\$3,256	\$0	↔

RVK's comprehensive A/L studies detail key metrics of system health, ultimately leading to an enhanced understanding of risk tolerance and liquidity needs.



Asset Allocation: Annual White Paper

Capital Markets Assumptions – Annual White Paper



2019 CAPITAL MARKETS ASSUMPTIONS

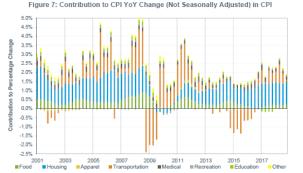
RVK, Inc. ("RVK") Asset Allocation - Capital Mark

This white paper serves as a guide to help clients i develop our 2019 capital markets assumptions. Ass investment decision our clients make, and asset dependent upon the capital markets assumptions us long-term forward-looking expected asset class as process, which involves detailed research and employ

This white paper first walks through our expectation analysis of the major asset classes utilized by our cli and risk assumptions as of December 31, 2018 are li our capital markets line on the next page in Figure 2.

Figure 1: 2019 Asset Class Retur

Figure 1: 2019 Asset C	Jiass Retur
Asset Class	(Nomi
Cash and Inflation	
US Inflation	
Cash Equivalents	
Fixed Income	
US Aggregate Fixed Income	
Non-US Developed Sovereign FI (UH)	
TIPS	
Low Duration Fixed Income	
Long Duration Fixed Income	
High Yield	
Bank Loans	
Emerging Markets Debt (Hard)	
Emerging Markets Debt (Local)	
US Equity	
Large/Mid Cap US Equity	
Small Cap US Equity	
Broad US Equity	
International Equity (Non-US)	
Dev'd Large/Mid Cap Int'l Equity	
Dev'd Small Cap Int'l Equity	
Emerging Markets Equity	
Broad International Equity	
Global Equity	
Real Estate	
Core Real Estate	
Global REITs	
Master Limited Partnerships	
Alternative Strategies	
Funds of Hedge Funds	
Multi-Strategy Hedge Funds	



Note: The year mark on the horizontal axis indicates the first quarter of a given year. Data shown is quarterly.

Measures of Inflation

The two most readily followed measures of inflation, seek to capture the price changes occurring in the US economy across goods and services. These consist of the Personal Consumption Expenditure ("PCE") measure, which reflects goods and services targeted and consumed by individuals, and the CPI-U, which captures the changes in the price of goods and services purchased by urban consumers. Policy makers and market participant utilize these economic indicators to guide their expectations for inflation risks and potential policy actions by the Federal Reserve.

Overall, these measures continue to suggest that inflation pressures remain at historically low levels, and while a few sub-sectors have experienced price volatility over time, the general trend is for inflation to remain subdued.

Expected Inflation: Why We Care and How We Measure it

The objective of using inflation expectation measures is to attempt to properly gauge the inflation trend of an economy, and limit the likelihood of reacting to short-term price volatility. Indeed, monthly inflation data is volatile, which increases the risk that policy makers make abrupt and potentially incorrect monetary policy decisions. For a similar reason, once inflation establishes itself in an economy, market participants will use the realized measure as their base and then use inflation expectations as a guide for longer-term wage and benefit strategies.

While a handful of tradeable assets exist for investors looking to gauge inflation expectations over the next 5- to 10-year period, the primary measure referenced by most market participants when discussing the inflation outlook is the "break-even inflation rate."

Global REITs		
Master Limited Partnerships	9.00%	23.00%
Iternative Strategies	·	
Funds of Hedge Funds	5.50%	9.50%
Multi-Strategy Hedge Funds	6.25%	9.50%
GTAA	6.25%	10.50%
Private Credit	8.50%	23.00%
Senior Secured Direct Lending	7.00%	19.00%
Private Equity	9.50%	25.50%
Commodities	5.50%	19.75%
Diversified Inflation Strategies	5.35%	11.50%

All Consultants and Associates play key roles in RVK's annual Capital Markets Assumption process.

Annual adjustments are typically incremental, but ensure current market dynamics are reflected in the asset allocation process.



Asset Allocation: Tools and Methods

Mean Variance Optimization (MVO)

Using inputs of expected return, volatility, and correlation, MVO enables investors to identify combinations of distinct asset class allocations that maximize portfolio returns for a given level of risk. Attempts to shift focus from individual manager selection to long-term and strategic asset allocation decisions.

MVO Benefits

- Introduces the critical concept of diversification.
- Focuses portfolio management activities on asset allocation, which is the most important driver of overall portfolio risk and return.
- Provides a powerful quantitative tool to identify distinct asset allocation targets that have the most optimal risk/return tradeoffs.

MVO Shortcomings

- Simplified assumption of risk/return trade-off fails to capture fully how real world investors weight gains versus losses.
- Volatility is viewed as the only proxy for risk.
- Models are sometimes highly sensitive to small changes to input values ("robustness").
- Unconstrained output yields highly concentrated portfolios rather than the expected diversification.

Complementary Asset Allocation Tools

Tool	Benefits	Shortcomings
Liquidity Analysis	Assists with cash flow impact and sizing of illiquid investments.	Static and based on best estimates from variety of stakeholders.
Factor Exposure	Additional view of portfolio exposures, decomposing portfolio in new manner.	Not as widely accepted and sometimes difficult to understand.
Risk Budgeting	Better view of risk allocation and additional insight re: concentration.	Uses only standard deviation as measure of risk.
Scenario Analysis	Demonstrates real-world consequences of portfolio changes.	Backwards-looking and does not necessarily account for new market conditions.
Active Risk	Highlights importance of manager diversification in style and approach.	Historical manager/portfolio returns used in analysis.



Investment Manager Research



Dedicated Investment Manager Research Team



Joe Ledgerwood, CFA
Director of Investment Manager Research
17 Years Industry Experience

Equity Team



Matt Sturdivan
Director, Traditional/Alt. Equity
9 Years Industry Experience



Britt VriesmanInternational/Emerging



Sam Kavehrad, CAIA Long/Short Equity



Carson Hollyoak Generalist

Fixed Income Team



Amy Hsiang, CFA, CAIA
Director, Traditional/Alt. Credit
19 Years Industry Experience



Austin Head-Jones, CFA, CQF Alt Credit/Real Estate Debt



Sonia Ruiz Core/Core+/Unconstrained/ ESG/Global



Aaron Birman HY/BL/SV/ST/MM



Justin Outslay
Private Credit

Sr. Leadership Average Experience

17 years in the industry

10 years at the firm

Team Credentials

6 CFA Charterholders

4 CAIA Certifications

1 FRM

1 CQF

Alternatives Team



Steve Hahn, CFA
Director, Private Equity/Multi-Asset/
Real Estate
23 Years Industry Experience



Reed Harmon, CFA GTAA/Div. Inflation



Alexander Leiken Multi-Strat Hedge Funds



Kirby Francis, CFAPrivate Equity/MLPs



Joseph Delaney, CAIA, FRM Real Estate



Scott Maynard Real Estate



Nicole MadauSr. Operational Due Diligence Analyst



Michael Pellatz, CAIA Generalist



Taylor BowmenGeneralist



Investment Manager Research: Search Activity

	Five Year Average as of 12/31/2018
Number of Searches / Placements	165
Assets Placed	\$16 billion
On-Site Manager Visits	160
In-House Manager Meetings	1,170

	2018 Search Count	2018 Assets Placed (MM)	Five Year Average Search Count	Five Year Average Assets Placed (MM)
Alternatives	67	\$3,791	48	\$3,065
Equity	47	\$3,546	68	\$6,398
Fixed Income	35	\$6,861	46	\$5,829
Other	4	\$334	3	\$750



Additional Resources Available to Clients



Investment Operations Solutions Group (IOSG)

Supports consulting teams and client staff, providing specialized expertise on operational developments and best practices in the investment industry.

Jonathan Kowolik Senior Consultant, Head of IOSG, Principal

Lindsey LongwellInvestment Operations Associate Consultant

Stephen BudinskyInvestment Operations Associate Consultant

Kristina Richter
Investment Operations Analyst

Key Services

Custodian/Third-Party Provider

Searches/RFPs
Evaluation
Due Diligence
SLAs
Pricing

Transition Management

Search Evaluation
Due Diligence
Cost Analysis

Securities Lending

Program Review Searches/RFPs Monitoring & Risk Analysis



IOSG: Support for RVK Clients, Consultants

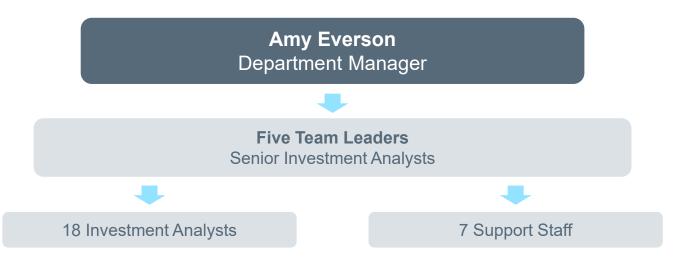
Provides operational project leadership, templates, research, and best practice advice on key vendor relationships.

Examples include:

- Custody
 - Assessment and Problem Resolution
 - Bank / Related Service Searches RFP or short form search
- Securities Lending
 - Monitoring / Recommendations
 - Searches RFP or short form search
- Transition Management
 - Bench Creation RFP or short form search
 - Bid Solicitation
- Other
 - Trade Cost Analysis Vendor Searches
 - Commission Recapture/Directed Brokerage Analysis
 - Ancillary Support for Investment Manager Research on ODD and Cash/Short-Term Instruments



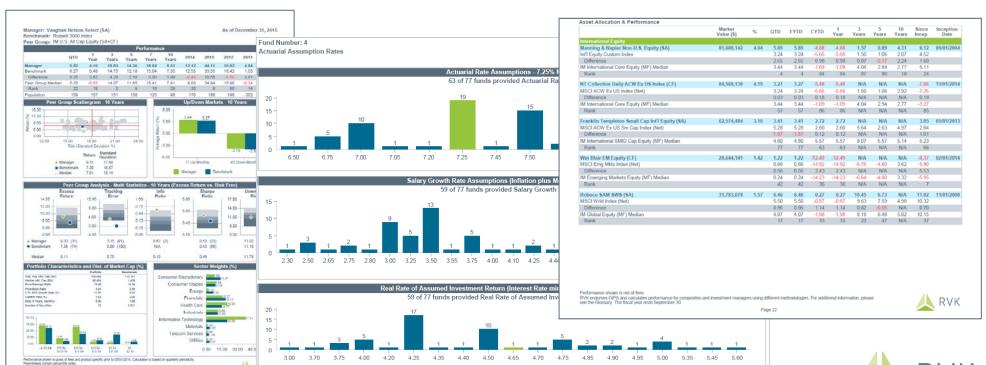
Performance Measurement & Analytics Team



Pennsylvania State ERS

Leading Third-Party Systems

- PARIS
- RADAR
- Bloomberg
- Insignis
- AltInvest
- eVestment
- Morningstar •
- Pregin





NDSIB and RVK: A Strategic Fit



NDSIB & RVK

- ✓ Objective Advice and Recommendations
- ✓ Collaborative and Team-based Approach
- ✓ Client Engagement with the Entire Firm
- ✓ Depth of Large Institutional Client Experience



RVK is committed to providing a highly productive partnership with each of our clients. We believe we are uniquely positioned with the following combination of key attributes:

Expertise

We have deep capabilities and experience across investment and non-investment related aspects of managing institutional portfolios.

Trust and Integrity

Our longstanding position on our no conflicts of interest policy is unique in the industry.

Commitment to Client Service

We are committed to providing an exceptional client service experience and work hard to be a valued and trusted partner.



Presenter Biography



Josh Kevan, CFA Senior Consultant, Principal Boise, ID

- Joined RVK in 2000 and leads the Boise, Idaho office.
- Over 20 years of industry experience. Currently serves the North Dakota Board of University and School Lands.
- Advises a diverse mix of clients, including endowments and foundations, defined benefit plans, defined contribution plans, insurance companies, and other special purpose funds.
- Chartered Financial Analyst and a member of the CFA Institute and the CFA Society of Idaho with a B.A. in Business from the University of Washington.
- Shareholder of the firm.



Appendix



RVK Code of Conduct and Ethics Policy

Guiding Principle

At RVK, Inc., it is essential that all employees conduct business with integrity and professionalism. Therefore, we aim to provide our clients with the highest level of service without a real or potential conflict of interest.

Contact with Other Financial Intermediaries

The cornerstone of our business philosophy is to provide our clients with the highest standard of investment consulting in our industry. We take pride in the fact that we do not have any relationships with investment managers, or other service providers that create conflicts of interest. In keeping with this philosophy, RVK's Code of Conduct and Ethics Policy requires employees to observe the following guidelines:

- 1. Employees do not accept business gifts from investment managers, custodians, or any organizations in investment-related fields. This includes gifts, travel, or anything that compromises the firm's commitment to conflict-free investment consulting.
- 2. Employees will not become involved in situations that compromise the firm's or the employee's independence and objectivity.
- 3. Each of the firm's employees is expected to protect the confidentiality of the client, firm, and third-party information at all times. Employees will be held personally accountable for safeguarding information that is not readily available in the public domain.

Contact with Clients

Strategic investment consulting is RVK's only business, and helping clients meet their investment objectives is our utmost goal. We offer clients a wide range of non-discretionary investment services in accordance with terms specified in each client's written agreement. Employees who consult and render services to clients are committed to being completely familiar with and understanding each client's investment goals and objectives, helping them to better understand and monitor the results of their investment program, and generally helping our clients meet their short- and long-term objectives.



SEC and DOL Questions

Questions the Securities and Exchange Commission and the Department of Labor recommend all plan fiduciaries ask their investment consultants.

1. Are you registered with the SEC or a state securities regulator as an investment adviser? If so, have you provided us with all disclosures required under those laws (including Part II of Form ADV)?

Yes, our firm is a Registered Investment Advisor with the Securities and Exchange Commission and has provided all clients with all applicable and required disclosures. Our SEC Form ADV, including Parts I and II, are available upon request to any client at any time.

2. Do you or a related company have relationships with money managers that you recommend, consider for recommendation, or otherwise mention to the plan for our consideration? If so describe those relationships.

We have no relationships with any money managers that we recommend or consider for recommendation. One hundred percent (100%) of our revenues are derived from cash-based fees for investment consulting provided directly to fund fiduciaries. Our firm's Code of Conduct and Ethics Policy prohibits employees from receiving gifts during the course of any business relationship that could affect our loyalty to clients.

3. Do you or a related company receive any payments from money managers you recommend, consider for recommendation, or otherwise mention to the plan for our consideration? If so, what is the extent of these payments in relation to your other income (revenue)?

We do not receive any payments from money managers that we recommend or consider for recommendation.

4. Do you have any policies or procedures to address conflicts of interest and to prevent these payments or relationships from being considered when you provide advice to your clients?

Yes, we have a Code of Conduct and Ethics Policy.



SEC and DOL Questions (cont'd)

5. If you allow a plan to pay consulting fees using a plan's brokerage commissions, do you monitor the amount of commissions paid and alert plans when consulting fees have been paid in full? If not, how can a plan make sure that it does not over-pay its consulting fees?

No portion of our fees are paid by brokerage commissions. We do not derive any revenue or profits from commission recapture programs.

6. If you allow plans to pay your consulting fees using the plan's brokerage commission, what steps do you take to ensure that the plan receives best execution for its securities trades?

Not applicable. One hundred percent (100%) of our revenues are in the form of cash payments directly from our clients.

7. Do you have any arrangements with broker-dealers under which you or a related company will benefit if money managers place trades for their clients with such broker-dealers?

No, we have no such arrangement with any broker-dealer.

8. Will you acknowledge in writing that you have a fiduciary obligation as an Investment advisor to the Plan while providing consulting services?

Yes. RVK will acknowledge in writing that we have a fiduciary obligation as an investment advisor to the plan while providing consulting services.

9. Do you consider yourself a fiduciary under ERISA with respect to the recommendations you provide to a plan?

RVK is a Registered Investment Advisor, and we view ourselves as co-fiduciaries with respect to relationships with our clients. However, our role as a fiduciary is narrowly defined as we do not have discretionary authority to manage assets. The investment decisions rest with our clients.

10. What percentage of your plan's clients utilize money managers, investment funds, brokerage services or other service providers from whom you receive fees?

Zero.



BOISE **NEW YORK PORTLAND** CHICAGO Disclaimer of Warranties and Limitation of Liability - This document was prepared by RVK, Inc. (RVK) and may include information and data from some or all of the following sources: client staff; custodian banks; investment managers; specialty investment consultants; actuaries; plan administrators/record-keepers; index providers; as well as other third-party sources as directed by the client or as we believe necessary or appropriate. RVK has taken reasonable care to ensure the accuracy of the information or data, but makes no warranties and disclaims responsibility for the accuracy or completeness of information or data provided or methodologies employed by any external source. This document is provided for the client's internal use only and does not constitute a recommendation by RVK or an offer of, or a solicitation for, any particular security and it is not intended to convey any guarantees as to the future performance of the investment products, asset classes, or capital markets.

BOARD ACTION REQUESTED

TO: State Investment Board

FROM: Dave Hunter, Darren Schulz and Eric Chin

DATE: January 24, 2019

SUBJECT: U.S. Small Cap Equity Search Recommendation: Retain Callan LLC

to Conduct a Manager Search to Replace Parametric Clifton's Russell

2000 Synthetic Beta Mandates

RIO Recommendation:

Given the relative inefficiency of the small cap market segment, a diverse universe for stock selection, and higher return dispersion than other market segments, Staff believes, and academic literature supports, that greater opportunity for active management exists within the U.S. small cap equity space.

As such, Staff recommends replacing the existing Russell 2000 synthetic index mandates managed by Parametric Clifton with strategies that have a greater potential for outperformance, particularly given the decay of excess returns inherent in the Russell 2000 futures contract in recent years. Staff seeks Board approval to retain Callan LLC to conduct a manager search to identify candidates that would fulfill that role.

Background:

Parametric Clifton currently manages synthetic U.S. small cap index mandates on behalf of the Pension, Insurance and Legacy pools totaling approximately \$432 million as of September 30, 2019. The synthetic beta exposure across the three pools serves as an enhanced index complement to Atlanta Capital's fundamental active small cap U.S. equity process.

The strategy utilizes Russell 2000 futures contracts to gain U.S. small cap beta exposure. Additionally, the underlying cash required for futures margin collateral is actively managed in liquid, high quality short duration fixed income securities, the goal of which is to generate incremental excess returns above the benchmark. When the collateral return exceeds the implied financing costs or repo rate in the futures contract, the synthetic index will have an enhanced gross return greater than the underlying index itself. Historically, the strategy targeted 50 to 100 basis points of gross excess returns.

In the past, the Russell 2000 futures contract presented a sizeable liquidity-driven arbitrage opportunity for investors willing to take a counterparty position opposite to market demand. One explanation for this effect is that it arose from persistent end-user demand for short exposure through futures rather than through physical securities, which carry high borrowing costs in security lending transactions in cases where shares may be difficult to borrow for some index constituents. In other words, higher security lending rates and a scarce supply of index shares in security lending markets corresponded to futures being cheap relative to their spot-implied fair values. What theoretical 'no

arbitrage' price between the futures contract and the underlying spot index did not hold true when compared to actual observed prices. The contract was persistently underpriced, creating a risk-less arbitrage opportunity beneficial to investors willing to provide liquidity and receive compensation through long exposure to the contract. The net result was that investors could earn an incremental return above the benchmark — i.e., returns on collateral exceeded implied financing costs.

Today, however, the underpricing of the Russell 2000 futures contract appears to have been arbitraged away, meaning that the futures contract on the reference index no longer trades cheap relative to its spot-implied fair value. Part of this phenomena can be explained by the dynamics at play in the relative pricing of equity index futures and their underlying markets. In general, equity futures become rich relative to the underlying as equity markets trend upwards, with dealers and investors facing increasing financing costs to provide liquidity for end users, while futures become cheaper as markets trend downwards, with more end-users in cash and futures seeking short exposure, easing the hedging costs that dealers and long futures buyers face.

The time-series variation in the Russell 2000 futures-spot basis can be readily observed in the decay of excess returns of the futures strategy versus the Russell 2000 index on a rolling three-year period since inception:

Rolling 12 Quarter Excess Return Relative To Russell:2000 Index Since Inception of ND PEN-Clifton Enhanced Small Cap Ended September 30, 2019



The Case for Active Management in U.S. Small Cap Equity:

The successful implementation of active management requires the fusion of two elements: the breadth of the opportunity set and manager skill. The opportunity set is a function of size, inefficiency, and variety. Manager skill, on the other hand, is the ability to successfully identify mispriced securities and forecast expected returns.

U.S. small cap equity remains a robust market segment within public equity for the implementation of active management. The universe is large in count, diverse, and inefficient. Unlike large and megacap companies, small cap companies are less liquid and less followed by the analyst community, frequently resulting in mispricings that are well-suited to an active management approach.

Identifying manager skill, the other element of active management, involves a complex array of qualitative and quantitative considerations to conclude not only whether a manager displays skill but also the likelihood the manager will continue to display skill in the future. For simplicity's sake, we can use historical manager performance as a measure of skill.

Using graphs from Callan Institute's most recent "Active vs. Passive Report" consisting of gross excess returns for all managers in Callan's database for the broad U.S. small cap equity segment, we can observe the distribution spectrum and probability of outperformance, indicating greater disparity in manager skill sets in the segment. Overall, the active small cap premium is measurably positive and persistent over time.

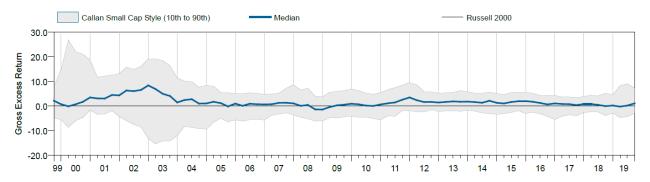
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	79%	78%	78%	73%	70%	66%	63%	63%	63%	60%
45th Percentile	90%	89%	89%	86%	85%	83%	83%	83%	83%	80%
40th Percentile	98%	98%	98%	98%	98%	98%	94%	89%	86%	86%
35th Percentile	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
30th Percentile	99%	98%	98%	98%	98%	98%	98%	98%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%

Average Annualized 3-Year Excess Return (gross) - Median Manager:

1.60%

Rolling 3-Year Gross Excess Return relative to Russell 2000 for 20 Years ended September 30, 2019



Conclusion:

Staff recommends replacing the existing Russell 2000 synthetic beta mandates managed by Parametric Clifton with strategies that have a greater potential for outperformance. Staff seeks Board approval to formally engage Callan LLC to conduct a U.S. small cap equity manager search to identify candidates that would fulfill that role. Staff intends to utilize one of the two projects available this fiscal year under the Consulting Services Agreement.

Board Action Requested

TO: State Investment Board

FROM: Dave Hunter, Darren Schulz, Eric Chin and Connie Flanagan

DATE: January 17, 2020

SUBJECT: Proxy Voting Policy Update and Recommendation

Background:

In connection with our annual Governance Manual Review in 2019, the SIB and RIO sought to adopt emerging best practices with regards to efficiently monitoring various proxy voting practices on topics such as executive compensation and board diversity in addition to certain shareholder led initiatives which could potentially be misaligned with the best interests of our stakeholders and constituents. As example, the largest investment management firm, BlackRock, recently authored a client letter as shown below:

Dear BlackRock client.

Since BlackRock's founding in 1988, we have worked to anticipate our clients' needs to help you manage risk and achieve your investment goals. As those needs have evolved, so too has our approach, <u>but it has always been grounded in our fiduciary commitment to you</u>.

Over the past few years, more and more investors have focused on the impact of sustainability on their portfolios. This shift has been driven by an increased understanding of how sustainability-related factors can affect economic growth, asset values, and financial markets as a whole. As Larry Fink writes in his **2020 letter to CEOs**, the investment risks presented by climate change are set to accelerate a significant reallocation of capital, which will in turn have a profound impact on the pricing of risk and assets around the world.

As your fiduciary, BlackRock is committed to helping you navigate this transition and build more resilient portfolios, including striving for more stable and higher long-term returns. Because sustainable investment options have the potential to offer clients better long-term outcomes, we are making sustainability integral to the way BlackRock manages risk, constructs portfolios, designs products, and engages with companies. We believe that sustainability should be our new standard for investing.

At the same time, we invest on your behalf, and the investments we make will always represent your preferences, timelines, and objectives. We recognize that many clients will continue to prefer their current strategies, particularly in market-cap weighted indexes. We will manage this money consistent with your preferences, as we always have. The choice remains with you.

The full letter outlining our thoughts and our plan for sustainable investing can be found <u>here</u>. We also invite you to <u>join us</u> for a call with senior BlackRock leaders on Wednesday, where we will be explaining our investment convictions around sustainability and the actions we are taking. <u>Click here</u> to register for the call.

If you have questions about the steps we are taking, or if you would like to arrange a portfolio review to understand any potential implications for the assets we manage on your behalf, our relationship managers and product strategists are at your disposal.

Sincerely, BlackRock's Global Executive Committee

SIB Governance Manual Section E-7 on Proxy Voting for Investments

POLICY TYPE: INVESTMENTS

POLICY TITLE: PROXY VOTING

STATEMENT OF POLICY

It shall be the policy of the State Investment Board (SIB) to vote all proxies appurtenant to shares held in the various plans administered by the Board, and to vote said shares in a manner that best serves the system's interests. Specifically, all shares are to be voted with the interest of preserving or enhancing share value. The Board endorses the Department of Labor opinion that proxies have economic power which shareholders are obligated to exercise to improve corporate performance. The Board further recognized that proxy issues are frequently complex, requiring expert guidance; accordingly, it has adopted procedures that employ such experts.

The objective of these policies are as follows:



- Exercise the value empowered in proxies.
- Maintain or improve share value for the exclusive benefit of the participants.
- Achieve changes for the common good whenever these do not conflict with the exclusive benefit objective.

ROCEDURES

DISTINCTION OF RESPONSIBILITIES

Master Custodian

The system's master custodian shall be responsible for timely receipt and distribution of proxy ballots to the appropriate investment management institutions.

Managers 1 4 1

The managers shall be responsible for promptly voting all proxies pursuant to the Board's policies, and in keeping with the managers' best judgments.

Staff

Staff, in concert with the master custodian and the managers, shall be responsible for monitoring the receipt and voting of all proxies.

Board

The Board shall administer and enforce its policies. This administration and enforcement requires reporting from responsible persons, as discussed in the following.

REPORTING

Master Custodian

The master custodian shall report <u>quarterly</u> in writing on all pertinent proxy issues, including (1) receipt of proxy material; (2) nature of issues; (3) due date; (4) names of managers and dates forwarded; and (5) deficiency reports covering proxies that should have been received but were not.

<u>Manager</u>

Managers shall report quarterly in writing on how proxies have been voted, with explanations given whenever the Board's guidelines have not been followed.

Staff

Internal compliance staff shall report annually on the efficiency of the process, the portion of total proxies that have actually been voted, and compliance with Board directives.

GUIDELINES



The Board believes that good corporate investment decisions require good corporate governance, and that social responsibilities cannot be ignored in these decision processes. Accordingly, the practice of faithfully voting with management will *not* be tolerated, nor will the "Wall Street Rule" which advocates the sale of shares if there is disagreement with management.



In keeping with the Board's philosophy, the managers are encouraged to vote for proposals that increase or enhance the following, and against those that decrease or diminish the same:

- Health of the population
- Environmental conditions
- Management and Board accountability
- Abolition of management entrenchment
- Control of executive compensation
- Shareholder rights and ownership
- Fair labor practices

Guidelines may be altered periodically by the Board as situations warrant.

See next page for consideration of additional "Proxy Voting" clarifying language.

Notwithstanding the forgoing, social and environmental issues are increasingly being incorporated into proxy voting. The Board expects voting of social and environmental proposals will be based solely on enhancing or protecting long-term value to the assets under its oversight and not be based on establishing or endorsing social policy. As part of its fiduciary duty, the Board expects Managers to consider only those factors that relate to the economic value of the Board's investments and shall not subordinate the interests of our SIB clients to unrelated objectives.

It is the policy of this Board that RIO investment and compliance staff shall regularly review related proxy votes by our investment managers. Any proxy votes deemed to be contrary to the interests of our SIB clients shall be fully explained by the Manager in writing and brought to the attention of the SIB for its review if deemed to be material.

Policy Implemented: September 20, 1995. Amended: February 27, 2009, October 26, 2018.





Broadridge "At a Glance"

Broadridge, a global Fintech leader with \$4 billion in revenues, provides communications, technology, data and analytics. We help our clients transform their businesses with solutions for enriching client engagement, navigating risk, optimizing efficiency and generating revenue growth. *September 2019

PRIMARY MARKETS

Capital Markets Solutions that transform the full trade lifecycle. **Asset Management Capabilities and Retirement** Industrial strength investment management solutions.

Wealth Management Full suite of data-powered solutions for advisors. **Corporations** Simplified, results-driven shareholder communications. Reimagining customer communications across industries.

CORE CAPABILITIES

Technology and Operations We offer a range of securities processing services for automating the entire trade lifecycle from execution to accounting. **Communications** We are at the forefront of multi-channel communications, improving client and investor connections while meeting regulatory requirements. **Data and Analytics** Our leading-edge data aggregation and management platform provides predictive analysis and insights for identifying new growth opportunities.

STRATEGY

With our unique vantage point at the center of the financial services industry and working with a wide range of corporations, we provide insights that help clients identify and stay ahead of trends. Through innovation and strategic acquisition of businesses, we continue to expand our technology-driven solutions to enable our clients to achieve their business goals as they face challenges in their markets. We deliver real business value helping them address three disruptive trends:

Digitization of communications to transform static, one-way interactions into more interactive and engaging experiences for investors and consumers, and more cost effective for our clients.

Mutualization of capabilities to enable the creation of shared and secure standards, capabilities and scalable solutions to reduce clients' costs and drive efficiencies.

Rapidly evolving data and analytics to provide insight and transparency to help clients enhance the customer experience and grow their business.

With over five decades of experience, Broadridge's combination of people, technology and insights, working together to drive business transformation for our clients, makes us an industry leader and preferred partner for financial service firms and corporations worldwide. Our ability is anchored in our deep expertise, which enables us to look beyond the task at hand, see the potential and make it a reality.

Company Highlights: Deliver unparalleled scale and scope

- NYSE traded global company (BR)
- Investment grade; over \$13 billion market capitalization
- 97% client revenue retention rate
- One of a select few U.S. companies supporting the financial services industry that is ISO 27001 certified

Did you know?

- Communications supported by Broadridge benefit 75% of households in North America.
- Broadridge was named to Fortune magazine's 2019 list of Most Admired Companies.
- Firms trust Broadridge to process, on average, more than \$5 trillion (North American) fixed income and equity trades every day.
- Broadridge enables customers' multi-asset class post-trade processing in over 70 countries, and shareholder voting in 90 countries.
- Broadridge administers communications for 55 million retirement plan participants.
- 23 of the top 25 retirement plan recordkeepers are Broadridge clients.

HIGHLIGHTS

Working in and across financial services and beyond

Capital Markets

- Post-Trade Processing (multiple asset classes)
- · Pre-Trade Processing and Treasury Services
- Business Support Functions
- · Proxy Management and Corporate Actions
- Managed Services
- · Professional Services

Wealth Management

- · Marketing Omnichannel Platform
- · Wealth Marketing Database
- · Advisor Websites
- Advisor Desktop
- · Investor Desktop
- · End-to-End Investment Platform
- Regulatory and Customer Communications
- Managed Services
- Professional Services

Asset Management

- · Portfolio Management
- · Investment Operations
- · Distribution Insights
- · Investment Operations
- Revenue and Expense Management
- Regulatory, Investor and **Customer Communications**
- Regulatory and Compliance Reporting

Corporations

- · Digital and Print Customer Communications
- · Shareholder Services
- · Shareholder Engagement
- · Shareholder Insights and Analytics
- Annual Meeting Services
- · Proxy Services
- Corporate Treasury Solutions (EMEA)

INDUSTRY RECOGNITION

Best-in-Class Solutions

"Best Outsourcing Provider to the Sell Side"

Waters Sell Side Technology Award, 2015-2019

"Innovation Award for Global Proxy Voting"

Global Custodian Leader in Custody Award, 2019

"Best Portfolio Management Software Provider"

HFM Europe Hedge Fund Services Award, 2019

"Best Managed Service for Reference Data"

Inside Reference Data Awards, 2013-2015, 2017, 2019

"Best Order Management System"

HFM US Technology Award, 2018-2019

World's Most Admired Companies

Named by FORTUNE® magazine to its 2019 list of the World's Most Admired Companies in the financial data services category.

This is the sixth time Broadridge has been named to the list.

Employer of Choice

"Best Companies to Work For in the State of New York" for twelve consecutive years

Selected by New York State SHRM (2008-2019)

A Great Place to Work® in US & Canada for eight consecutive years

The Great Place to Work® Institute

Recognized as Great Place to Work in India

Great Place to Work India

Best Place to Work for **LGBT Equality**

Recognized in 2019, for the seventh consecutive year, among the Best Places to Work for LGBT Equality" by the Human Rights Campaign

Corporate Information

Headquarters

Broadridge Financial Solutions, Inc.

5 Dakota Drive

Lake Success, New York 11042

Contacts

Investors:

Media:

+1 516 472 5129 **Edings Thibault**

+1 631 254 7711 Linda Namias

edings.thibault@broadridge.com linda.namias@broadridge.com

broadridge.com Connect with us:







Global Presence

Broadridge has more than 10,000 associates in 16 countries around the world:

Australia Canada

Czech Republic

France

Germany Hong Kong

India Japan Netherlands Poland

Russian Federation

Singapore South Africa

Switzerland United Kingdom

United States

Note: This material is for informational purposes only and is current as of (September 2019 - unless otherwise noted). This fact sheet is qualified by Broadridge's most recent filings with the SEC including Broadridge's Reports on Form 10-K, Form 10-Q and Form 8-K (in some cases 2015 filings). Also, certain information in this fact sheet is forward looking and is subject to risks, uncertainties and other factors, which may cause actual results or events to differ materially from those which may be indicated by such forward-looking information. Readers are encouraged to review our recent filings, referred to in the preceding sentence, for discussions of forward-looking information and risks and uncertainties.

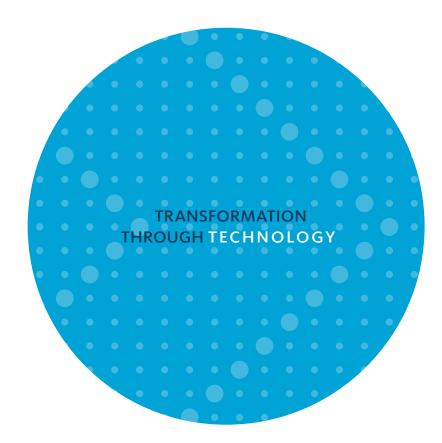


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Ready for Next

Broadridge is a global Fintech leader driving business transformation.

We lead by leveraging next-generation technologies to drive industry solutions for mission-critical functions. Our solutions enable corporate governance, power capital markets and facilitate growth in wealth and investment management. We help our clients transform their businesses with solutions for enriching client engagement, generating revenue, optimizing efficiency and navigating risk.



Ready for Next



A Strong Fiscal 2019

CLOSED SALES

\$233M

△ O/C

RECURRING FEE REVENUES

\$2.8B

UP O

TOTAL REVENUES

\$4.4B

FY20 ANNUAL DIVIDEN

\$2.16

UP 1 1 0/0





Fiscal 2019 was another very good year for Broadridge. We delivered strong financial results, continued to make critical investments in our products and technology, and furthered our mission of helping our clients and enabling better financial lives for their clients. We recorded a total shareholder return of 13%, marking another year of above-market performance. Looking ahead, Broadridge enters Fiscal 2020 with real growth momentum across our two strong franchise businesses of Governance and Capital Markets and well underway towards building a third in Wealth Management. For my part, in my tenth year at the company and in my first as CEO, I am more excited than ever about Broadridge's prospects to create growing, long-term value for our clients, associates, stockholders, as well as the tens of millions around the globe who benefit from our solutions.

ANOTHER STRONG YEAR

Broadridge delivered strong Fiscal 2019 financial results. Recurring fee revenues rose 6% to \$2.8 billion, more than offsetting lower event-driven fee revenues and a decline in low-to-no margin distribution revenues. Adjusted Operating income rose 8% thanks to strong margin expansion, and Adjusted EPS rose 11%.

Both our Investor Communication Solutions (ICS) and Global Technology and Operations (GTO) segments performed well. In ICS, recurring fee revenue growth of 6% was propelled by another year of solid equity and interim record growth. That growth was powered by the long-term trend towards greater portfolio diversification, coupled with the growing number of managed accounts and, more recently, model-driven portfolios. ICS also benefited from continued momentum in our data and analytics products and strong growth in our corporate issuer business. GTO revenues rose 5%, driven by the continued addition of new clients to our technology platforms.

2019 was also another record sales year for Broadridge. Closed sales rose 9% to \$233 million. Strong sales, in turn, helped drive an increase in our total revenue backlog at year end to \$330 million, equal to 12% of our recurring fee revenues in 2019. A key driver of those record results was a landmark wealth management solution for UBS, our largest sale ever and a clear milestone in transforming our Wealth Management business into a third core franchise.



We have transformed Broadridge

over the past seven years from trusted vendor of a few key services into an equally trusted, S&P 500[®], innovative, technology and transformation partner.

SIGNIFICANT MARKET OPPORTUNITY

Broadridge is exceptionally well positioned for continued growth. A big reason for my excitement about our company's future stems from our \$40 billion-and-growing market opportunity. This opportunity is underpinned by three major factors.

First, the work that Broadridge does is important. People need to save and invest for their future. Companies need to raise capital. Our largest public enterprises need effective governance, and investors need clear and transparent information to make decisions. At Broadridge, we power the critical infrastructure behind investing, governance, and communications. We make our clients stronger and through them, we enable better financial lives for tens of millions across North America and around the globe. Our more than 11,000 associates are proud of that mission and are highly engaged in delivering on it.

Second, we have transformed Broadridge over the past seven years from trusted vendor of a few key services into an equally trusted, S&P 500, innovative, technology and transformation partner. In Governance, we have extended our digital capabilities to drive down the cost to communicate to shareholders—saving fund companies alone more than \$400 million a year. In Capital Markets, we have created the global post-trade platform of the future and are working with multiple leading Tier 1 institutions to transform critical parts of their infrastructure. We have built or acquired new capabilities around data and analytics, advisors, tax, and document management, among others. And we have invested in people, strengthening technology and other key roles across the company.

"Broadridge is the right partner and the only Fintech leader with the proven technology, scale and experience to deliver such a transformational solution."

Tom Naratil
Co-President, UBS Global
Wealth Management and
President, UBS Americas

CLIENT

UBS Wealth Management Americas

TRANSFORMATION

An industry platform powers a new business model

UBS Wealth Management Americas, the leading global U.S. arm of the world's largest wealth manager, was looking to build the next generation of technology to modernize and redefine their wealth management platform and capabilities to meet the ever-evolving needs of its clients and advisors, as well as increasing regulatory and market demands. Our open architecture wealth management platform is built upon a comprehensive, real-time data fabric and API structure that enables seamless connectivity to UBS's proprietary and third-party applications. Together, Broadridge and UBS are delivering a unified front-to-back office solution that addresses the unique challenges and opportunities of wealth managers. This new industry-level wealth management platform will optimize advisor productivity, create a richer client experience and digitize enterprise-wide operations. Through this innovative strategic partnership with UBS, we are reimagining wealth management and powering a new business model to transform the industry.





Ready for Next

CLIENT

A large U.S.-based wealth management and capital markets firm

TRANSFORMATION

Mobile voting takes shareholder engagement to the next level

Our client is leveraging advanced technology for investor communications by utilizing Broadridge's API to provide mobile integration of shareholder voting, which empowers their clients to participate in the corporate governance process. As a result, our client enhanced their proprietary mobile app to send alerts for every proxy notification to their digital clients. This proxy season, their clients will also be able to seamlessly vote their proxies in a few simple clicks. This is just one way our clients are leveraging our innovative investor communication solutions and digital capabilities to advance their multi-channel strategy, engage shareholders, realize cost savings and improve the overall client experience.

Broadridge's transformation opens the door to a tremendous opportunity to help transform our clients and the larger financial services industry.

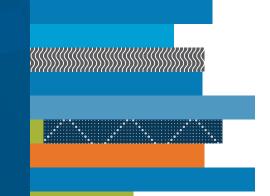
It is especially meaningful to see our transformation being recognized by our clients and peers. In early 2019, FORTUNE® Magazine named Broadridge the top financial data services company among The World's Most Admired Companies. To be rated by executives in our industry as the leader for what we do is a great honor. More than that, it is recognition of why our clients stay with us, want to buy more from us, and want to partner with us.

Third, Broadridge's transformation opens the door to a tremendous opportunity to help transform our clients and the larger financial services industry. Financial services players are moving rapidly to adapt their businesses to face a changing landscape by adopting new technologies and evolving how they service their clients. To do that, they are seeking industry solutions to mutualize critical but non-differentiating functions, tap into more and better data, and raise the effectiveness of their communications. No one is better positioned than Broadridge to create these solutions and to be the on-ramp for next-generation technology, which means we are seeing significant opportunity to grow our business.

A CLEAR PATH TO LONG-TERM, SUSTAINABLE GROWTH

Opportunity is one thing. Execution is another. To capture that large and growing opportunity, our team has three clear priorities that cover the near, medium and long term. I am pleased to report strong progress against all three in 2019.

First, we are focused in the near term on delivering the three-year financial objectives from our 2017 Investor Day. Our strong 2019 financial results, coupled with the momentum in our business as we enter Fiscal 2020, gives us confidence that we are well-positioned to deliver on our three-year financial targets for recurring revenue growth and margin expansion and to deliver at the high end of the Adjusted EPS growth range we laid out at our 2017 Investor Day. This would mark the sixth year of delivering on our three-year financial objectives.



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Transforming our business to ensure our clients are Ready for Next

BUILDING STRONG FRANCHISES TO ASSIST CLIENTS ACROSS **GOVERNANCE, CAPITAL MARKETS** AND WEALTH MANAGEMENT.

Our clients are confronting accelerating disruption:

CHANGING DYNAMICS

Increasing regulation and shifting consumer preferences require constant adaptation

NEW BUSINESS MODELS

Companies are re-examining their models to lower costs and increase profitability

Our clients

PRODUCT

We have transformed to help our clients

step confidently into tomorrow:

Integrating AI and machine learning, blockchain-enabled solutions, Cloud-based

operating models, and print-to-digital

transitions to create next-gen solutions

TECHNOLOGY

Industry expertise and network value drive deeper insights, enhanced productivity and risk management, and mutualize client investments

CULTURE

Client-focused, highly engaged associates deliver best-in-class service and a consultative approach

Broadridge

NEXT-GEN TECHNOLOGY

Critical need to understand and deploy new technologies to capture new opportunities and meet competitive threats

Second, we are executing well on our multi-year growth strategy in Governance, Capital Markets and Wealth Management.

In Governance, our strategy is clear. We are building the next generation of regulatory communications and extending a complementary set of services to all parts of the network we serve. Over the past year, Broadridge rolled out innovative new digital capabilities, including a new voting app that can be accessed standalone or through an API. We are also working with more than 130 mutual funds to put them in position to take full advantage of the new SEC Rule 30e-3 notice and access regulations in 2021. Last but not least, we have begun to work with our clients to ensure that they will be able to fulfill the requirements of the European Union's Shareholder Rights Directive when it goes into effect in late 2020.

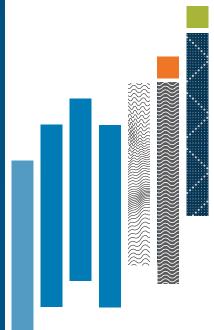
CLIENT

One of the world's largest financial institutions

TRANSFORMATION

An enhanced customer experience reduces risk and costs

> Our client is a global leader in investment banking, wealth management and trading across a broad range of asset classes. Faced with the need to consolidate asset servicing across business lines, including voluntary and mandatory corporate actions, they turned to us as their technology partner. Combining their market leadership and breadth of expertise with our innovative technology and capabilities, we are delivering a scalable, industry-leading asset servicing solution that simplifies their technology footprint, reduces risk and increases operational efficiency. Our next-generation solution automates the full life cycle with support for all event types and complex, high-volume trading models, replacing legacy systems with a single operating model and Cloud-hosted global platform. Asset servicing is transformed to deliver transparency and insight and enhance the customer experience while reducing risk and costs and providing scalability.



Ready for Next

CLIENT

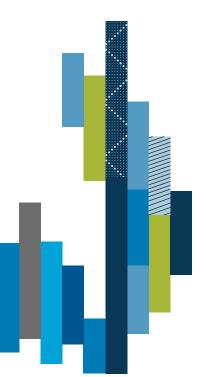
A global leader in asset management

TRANSFORMATION

Data-driven distribution uncovers opportunity

As industry pressures squeeze profit margins, asset managers must capitalize on every opportunity and operate efficiently to stay competitive. Our client, one of the world's leading active investment managers, needed to maximize their relationships with U.S. advisors to drive revenue growth. Our team of data and analytics experts leveraged our unique set of intermediary financial data, along with innovations in AI and digital, to develop a bespoke segmentation and scoring strategy and map the customer journey. Data-driven, intelligent distribution is making it easier to pinpoint and nurture lucrative relationships and make informed, confident business decisions—a transformation they now plan to expand globally.

We are executing well on our multi-year growth strategy in Governance, Capital Markets and Wealth Management.



We are also extending our services across the governance network. Thanks to the Disclosure Solutions capabilities we acquired in Fiscal 2018, our recurring revenues from corporate issuers grew almost 20% in 2019 as we handle more and more of our clients' critical governance needs, from annual meeting services to regulatory filings. Our data and analytics offering, where we are marrying our own proprietary data with other sources to give asset managers critical information on worldwide fund flows, also generated double-digit growth. Finally, our acquisition of TD Ameritrade's retirement plan custody and trust assets will help us continue to link our mutual fund clients and the financial advisors who administer independent 401(k) plans.

In Capital Markets, we continue to make progress in onboarding new clients. Our strong backlog, and the visibility it gives us into future revenue, is a key driver behind our expectations for accelerated growth in our GTO business. Included in that backlog is a sale of our new Global Post Trade Management platform to a leading Asia-Pacific bank, our first in Asia and a strong sign that our efforts to grow outside of North America continue to pay off. In addition, we signed a multi-million dollar deal in the fourth quarter with a large U.S. bank to extend even further the reach of our GPTM platform technology. Last but not least, we made good strides in developing enhanced network benefits for fixed income market participants.

2019 was also a big year for Wealth Management. During the second quarter, we signed a major deal to launch a modern technology platform for UBS, marking a milestone in the creation of a wealth management franchise. This platform will bring together what today is a series of point solutions onto an integrated, open, next-generation solution that will enable UBS and others to enhance advisor productivity, create a superior client experience, and drive enterprise-level efficiencies by mutualizing investments in technology, innovation and security. We also strengthened our wealth management capabilities in 2019 via the acquisitions of RPM and Rockall.



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At the center of our employee engagement efforts is the Service Profit Chain, where engaged associates deliver world-class service, which creates satisfied clients, and in turn produces strong, long-term value for shareholders.

Our third priority is to continue to transform Broadridge by building on the world-class capabilities that make us the right industry partner now and for the long term. That means strengthening our client-focused culture, building on our world-class product and technology capabilities, and investing in talent.

On culture and talent, the competition is fierce, so it's imperative that we continue to engage our associates at the highest level. At the center of our employee engagement efforts is the Service Profit Chain, where engaged associates deliver world-class service, which creates satisfied clients, and in turn produces strong, long-term value for shareholders. This has been one of our core tenets since we became an independent company 12 years ago and I strongly believe has been, and will continue to be, an important contributor to our success.

In 2019, Broadridge was again awarded multiple workplace awards, including being identified as a Great Place to Work in the United States, Canada and India, and receiving a perfect score on the ranking of Best Places to Work for LGBTQ Equality by the Human Rights Campaign Foundation. We're proud of those accomplishments. I am also pleased that we have been able to attract new senior-level talent, adding new leaders for Broadridge International and for our product development efforts.

Continuing to build on our world-class product development and technology capabilities is a key opportunity. We have made and will continue to make significant investments, and we are making great progress. For example, in a recently completed Gartner technology benchmarking exercise, Broadridge scored at the top of Gartner's benchmarks in almost every category. We intend to extend that leadership further with new technologies across what we call The ABCDs of Innovation™—artificial intelligence, blockchain, Cloud and digital. During 2019, Broadridge rolled out

49+ bank entities are now included in a complete, consolidated view

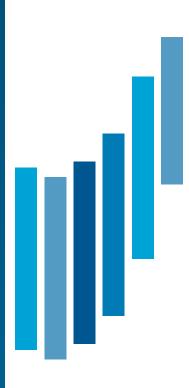
CLIENT

A leading Asia-Pacific bank

TRANSFORMATION

New back office platform drives greater business value

Global operations require global solutions. Our client is the Singapore subsidiary of a leading international banking group and one of the highest-rated banks globally. They recently fully consolidated their business operations in Singapore, creating a need to unify and scale trading. We partnered with them to deliver post-trade management, leveraging our global, multi-asset class platform, expert managed services and vast network. Our solution automates their securities trade processing life cycle from trade capture through confirmation, clearing and settlement. A streamlined, transparent environment—with mutualization of innovation, cost and risk—driving transformative business value across the trading life cycle.





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enhanced digital communications capabilities, accelerated our push to the Cloud, continued to invest in blockchain capabilities and advanced our work on AI for our fixed income business, among many other accomplishments. As we increasingly become the on-ramp for new technologies, our value to our clients only grows.

BALANCED CAPITAL ALLOCATION

Balanced capital stewardship is a key part of our financial approach and growth strategy, and you should expect that Broadridge will continue to take a balanced and long-term approach in our capital stewardship.

Our first use of cash remains our dividend, which we see as a critical contributor to long-term stockholder returns. On the back of our strong 2019 earnings growth, our Board announced an 11% increase in our annual dividend to \$2.16 per share.

As we increasingly become the on-ramp for new technologies, our value to our clients only grows.



The ABCDs of Innovation™

BROADRIDGE IS UNIQUELY POSITIONED TO BE THE ON-RAMP TO NEXT-GEN TECHNOLOGIES BY SIMPLIFYING THE COMPLEX.

We are driving the Fintech roadmap while working side by side with clients to help them understand and apply next-gen technologies. Here are some of the ways our size and scale help transform disruption into growth and uncertainty into confidence.

ARTIFICIAL INTELLIGENCE

Al adds intelligence, efficiency and scale to critical processes like post-trade management, prospecting and communications Our solutions provide us with access to depth and quality of data that give clients a unique vantage point that accelerates success.

BLOCKCHAIN

Broadridge is the blockchain leader. We were the first to introduce a distributed ledger environment for bilateral repo agreements and real-time reconciliation to global proxy voting. Our network value and patented technologies help our clients realize efficiencies faster and uncover opportunities ahead of the competition.

CLOUD

We've migrated hundreds of clients to our groundbreaking AWS-powered Cloud for regulatory and customer communications. We are uniquely positioned to support this migration by providing a common framework and architecture across clients, thus mutualizing investments. Our clients harness innovation, scale and security while uncovering opportunities to optimize

DIGITAL

For our clients, digitization is essential for growth. From enhancing customer experience with mobile proxy voting to securely storing and tracking regulatory communications, our communications business accelerates innovations that help clients drive digital adoption and transformation.

Innovation by acquisition

Navigating evolving landscapes requires bringing solutions to market quickly. Acquisitions help us and enhance our capabilities while mutualizing innovation, cost and risk.

RPM Technologies

The acquisition of this digital wealth management platform supporting 15 million customer accounts underscores our commitment to delivering value-added solutions to the industry and our Canadian clients. It adds retail banking sector and mutual fund and deposit-manufacturing capabilities to our integrated industry platform.

TD Ameritrade Retirement Plan Custody and Trust Assets

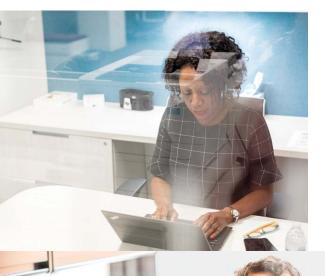
This acquisition expands our offerings to a broader set of retirement stakeholders and adds services for the growing pool of qualified and non-qualified retirement plans. Broadridge now services approximately \$420 billion in AUA with 118,000 plan accounts in custody.

Rockall Technologies Limited

The operational burdens of securities-based lending (SBL) and collateral management are key challenges for our wealth management clients. Rockall's automated, Cloud-based platform integrates with our end-to-end industry solution and enhances our ability to automate, scale and optimize business operations.

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Ready for Next 2019 ANNUAL REPORT





Everything we do helps clients get ahead of

today's challenges to capitalize on what's next.

Where we've come from... and what's next



What we do matters



We have transformed Broadridge by driving **Industry Solutions** for Financial Services...



...leading to tremendous opportunity



We will build on the Culture that has made us so successful..



...while continuing to transform our world-class product and technology capabilities

Broadridge has now increased its dividend every year since becoming a public company in 2007, and Fiscal 2020 marks the eighth consecutive double-digit increase. Broadridge also returned an additional \$367 million in net share repurchases, for a total return to stockholders of \$578 million.

Acquisitions are an integral part of our capital stewardship and investment strategy. I am pleased that Broadridge was able to invest approximately \$400 million to acquire three businesses in 2019. The largest of these was RPM Technologies, which broadens and deepens our business in Canada by extending our product offering for the Canadian wealth market. The RPM acquisition, together with our acquisitions of Rockall Technologies and the retirement plan custody and trust assets of TD Ameritrade, are great examples of how targeted tuck-in acquisitions broaden our product line-up, deepen our relationships with key clients, and drive attractive long-term returns. Our strong balance sheet means we are well-positioned to pursue additional tuck-in opportunities in Governance, Capital Markets and Wealth Management that are well-aligned with our strategy and will strengthen our business.

READY FOR NEXT

Looking forward, I am excited because we are building on strength. Broadridge delivered strong financial results in 2019 and is seeing real growth momentum across our business as we enter 2020. We continue to make the investments across product, technology and talent that further strengthen our position as a trusted partner and further our transformation into a global Fintech leader.



Ready for Next

Broadridge has a clear execution plan, unique capabilities, deep experience and ability to invest to...deliver growing value to our clients, stockholders and associates.

As a result, Broadridge has never been better positioned for sustained, long-term growth. The financial services industry's need to leverage next-generation technology, reduce costs and heighten differentiation continues to increase. Broadridge has the clear execution plan, unique capabilities, deep experience, and ability to invest to accomplish these goals and deliver growing value to our clients, stockholders and associates.

Before I sign off, I want to thank Rich Daly, my predecessor as CEO and our current Executive Chairman of the Board. Rich has been a tremendous leader of our company and a great friend and mentor to me personally over the past 10 years. Broadridge's strong position today is a direct result of his leadership and vision for over three decades.

I want to thank Stuart Levine for his service to the Board and outstanding leadership of our Governance and Nominating Committee for many years. Building world-class corporate and board governance has been a key priority for Broadridge since we became a public company, and Stuart has played an invaluable role in helping us to achieve that goal.

I also want to thank our more than 11,000 associates around the world for their commitment to our clients, to making our transformation vision a reality, and for helping tens of millions to improve their financial lives.

Finally, I want to thank you, our stockholders, for putting your trust and your investment in our company.

Best regards,

Tim Gokey

.

Chief Executive Officer

2019 Financial Highlights

FISCAL YEARS ENDED JUNE 30,	2019	2018	2017
(Dollars in millions, except per share amounts)			
Total revenues	\$4,362	\$4,330	\$4,143
Operating income	653	598	534
Adjusted Operating income ⁽¹⁾	746	688	626
Net earnings	482	428	327
Adjusted Net earnings ⁽¹⁾	554	504	378
Free cash flow ⁽²⁾	544	596	402
Diluted earnings per share	4.06	3.56	2.70
Adjusted earnings per share ⁽³⁾	4.66	4.19	3.13
Cash dividends declared per common share	1.94	1.46	1.32

Results are presented in accordance with United States ("U.S.") generally accepted accounting principles ("GAAP") except that Adjusted earnings and Free cash flow results are Non-GAAP financial measures. Please see our Explanation and Reconciliation of the Company's Use of Non-GAAP Financial Measures on pages 26 and 27 of this Annual Report for a discussion of the Company's use of Non-GAAP measures.

- (1) Adjusted Operating income and Adjusted Net earnings are Non-GAAP financial measures.
- (2) Free cash flow is a Non-GAAP financial measure defined by the Company as Net cash flows provided by operating activities less Capital expenditures as well as Software purchases and capitalized internal use software.
- (3) The computation of Adjusted earnings per share is a Non-GAAP financial measure defined as the Company's Adjusted Net earnings divided by the Diluted weighted-average shares outstanding.

TOTAL REVENUES

(dollars in millions)



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Doing well by doing good

BETTER FINANCIAL LIVES...AND A BETTER WORLD

At Broadridge, we enable better financial lives by powering investing, governance and communications for our clients, their customers and the financial services industry. However, our commitment doesn't stop there. We also do our best to create a better world—by engaging our associates, supporting the communities where we work and live, and reducing the environmental impact of our operations. That's what drives our environmental, social and governance (ESG) initiatives. And, why we are focused on *doing well by doing good*.

EMPOWERING PEOPLE, BETTERING LIVES

The stronger the people around us, the more successful we will all be together. So, we strive to empower our associates and members of our communities to grow and achieve more.

Broadridge's associates are key to our success. We help them reach their full potential professionally and personally by developing career paths and embracing differences.

Broadridge is committed to advancing inclusion and diversity values and initiatives as part of our culture—from the top down and bottom up. We recognize that employing, developing and maintaining talented people of all backgrounds, experiences and identities is critical to our continued growth and success. It helps us provide award-winning service to our clients and ultimately creates value for stockholders. To support this goal, the Broadridge Inclusiveness Pledge outlines the strategic principles that guide our commitment and actions to promote inclusion and diversity across the organization.

Through these efforts, we've earned recognition from the industry for the quality of our workplace. In 2019, we made the inaugural list of FORBES® America's Best Employers by State (New York). Broadridge was ranked among FORTUNE® Magazine's World's Most Admired Companies for the sixth time and for the first time earned the #1 ranking in the financial data services category. Additionally, we continue to earn Great Place to Work® certifications in the United States, Canada and India.

This year, the Broadridge Foundation invested \$1.4 million to partner with community organizations, provide educational opportunities in underserved areas with a special focus on education of at-risk youth, and support charitable causes like Rock the Street—Wall Street, the SIFMA Foundation and NPower. We've also helped our associates support causes that are important to them like the Juvenile Diabetes Research Foundation and Autism Speaks.

Through our work with Mamidipudi Venkatarangaiya (MV) Foundation, a non-profit organization dedicated to eradicating child labor in India that has provided education to more than 2,000 children, we support residential bridge camps to educate, train and prepare children to enroll in formal schools.

Our efforts to empower people and improve lives don't stop with our associates and communities. They also extend to our partners. We adopted the Supplier Diversity Program to proactively identify, build relationships with and purchase goods and services from certified diverse suppliers.

Empowering Associates

+76%

DEVELOPMENT AND LEARNING HOURS

+83%

HOURS OF PAID
TIME OFF FOR
VOLUNTEER WORK

\$3K

ANNUAL U.S.
ASSOCIATE
CHARITABLE
DONATION MATCH



Doing well in business...

Winner 2019

Innovation Award for Global Proxy Voting Legends Hall of Fame: Tim Gokey Global Custodian Leaders in Custody Awards

Winner 2015-2019

World's Most Admired Companies, #1 in Financial Data Services FORTUNE® Magazine World's Most Admired Companies

Winner 2019

2019 NACD Directorship 100 Tim Gokey and Rich Daly

Winner 2019

Best Portfolio Management Software Provider HFM European Hedge Fund Services Awards

Winner 2018-2019

Best Order Management System HFM U.S. Technology Awards

Winner 2017, 2019

Best Outsourcing Service Provider Waters Rankings

Winner 2013-2015, 2017, 2019

Best Managed Service for Reference Data Inside Reference Data Awards

2016-2019

Best Outsourcing Provider to the Sell Side Waters Sell-Side Technology Awards

...by doing good for our associates and our communities

Certified 2019

Great Place to Work® (United States, Canada and India)

Winner 2019

America's Best Employers by State: New York FORBES® Magazine

Winner 2013-2019

Best Places to Work for LGBTQ Equality Perfect Score Human Rights Campaign Foundation

Winner 2008-2019

Best Companies to Work for in New York New York State Society for Human Resource Management

Winner 2019

BISA Diversity & Inclusion Award Bank Insurance & Securities Association

Winner 2019

Veteran Partnership Award PENCIL

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ProxyDisclosure®

The complete solution to comply with SEC disclosure regulations for investment companies and investment advisors

Broadridge's ProxyDisclosure® solution allows easy and accurate execution of all necessary tasks to ensure compliance when disclosing proxy voting history in accordance with SEC regulations. ProxyDisclosure can help the user report on vote history on the fund or account level, on all votes, whether it was voted in paper, electronically or through a third party. ProxyDisclosure offers a centralized view of the firm's voting history.

ProxyDisclosure can be used alone as a reporting and compliance solution, or in conjunction with Broadridge's electronic voting and record keeping solution, ProxyEdge®.

Key benefits

- Affordability Pay only for the level of service required to meet the needs of the firm, from vote history to SEC filing to web disclosure
- **Efficiency** Reduces the need to coordinate vote history from various sources since Broadridge processes 97% of institutional votes
- Convenience Access from any Internet-connected computer using a confidential user ID and password, with 24/7 access to user-defined information when required
- **Compliance** Utilize one platform to meet SEC requirements on Form N-PX, Dodd-Frank Section 14A and web disclosures or reporting requirements that may be applicable to the firm

Select features

- Aggregation of Votes Provides fund specific and/or account level voting records, including votes cast by multiple underlying investment advisors or other third-party entities
- Reporting Allows advisors and investment companies, including those that use third parties to execute voting, to run reports on demand or on a scheduled basis
- Policy Maintenance Maintains fund voting policies and guidelines on-line, with the option to display this information on a branded website for disclosure to shareholders
- N-PX Creation Allows for the creation of the SEC Form N-PX
- **SEC Filer** Performs the filing of the Form N-PX directly with the SEC, with the option for the user to review the file prior to submission
- Web Disclosure Creates a branded website for disclosure
 of voting activity, voting policies and guidelines, that enables
 advisors and investment companies to offer their underlying
 clients and shareholders direct access to proxy voting
 information in an environment seamless to their proprietary
 website

For a detailed demonstration or more information, please contact us at +1 800 353 0103 or visit our website at broadridge.com.





Recommendation:

RIO recommends the SIB engage Broadridge Financial Solutions and utilize their "Proxy Disclosure" service to enhance our ability to efficiently audit the proxy voting practices of our equity managers in 2020.

Broadridge is a leading provider of operations, technology and data solutions to the financial services industry and responsible for processing \$6 trillion in securities transactions daily, distributing over 5 billion of investor, shareholder and regulatory communications annually, and currently serving approximately 140 million individual accounts.

Broadridge understands the critical importance of data and information security and continuously reinvests in these controls as evidenced by redundant Tier III+ Data Centers with "Uptime of 99.99%".

The firms Proxy Disclosure service allows users to efficiently and accurately perform all tasks to ensure compliance with disclosing proxy voting history in compliance with SEC Regulations. These tasks include the aggregation of votes by fund and/or account specific records, the ability to report and export vote auditing records in multiple formats, and the ability to develop and maintain fund voting policies, guidelines and voting history online.

Although RIO has no evidence to believe that any of our investment managers proxy voting policies or actions are inconsistent with our stated objective to maximize investment returns, RIO deems it prudent to engage a firm widely recognized to be one of the most technologically advanced and leading providers of proxy voting monitoring services in the U.S.

RIO confirmed this opinion with Callan's Trust, Custody and Operational Due Diligence leaders EVP Bo Abesamis and SVP Mark Kinoshita on January 13, 2020. RIO notes that Broadridge is a preferred vendor of our custodian, Northern Trust, which should allow us to integrate our proxy voting audit process in a less complicated manner, although RIO understands this process will involve a learning curve at inception. Callan notes the Proxy Disclosure product is a proven platform and utilized by other Callan clients who want to understand how their managers vote in greater detail.

If the SIB approves this recommendation, the investment teams of RIO and Department of Trust Lands (DTL) will jointly review our existing Proxy Voting policies to harmonize the collaborative oversight of these policies by the SIB and Land Board and their aggregate impact to the State of North Dakota from an investment perspective.

Board Action Requested:

If the SIB desires, the Board can make a recommendation to engage Broadridge Financial Solutions and utilize their "Proxy Disclosure" service to enhance our ability to efficiently audit the proxy voting practices of our equity managers in 2020. Alternatively, the SIB can discuss alternative options for enhancing proxy voting monitoring.

If the SIB approves the above recommendation, the SIB could also seek a motion to approve the previously noted revisions to the SIB Governance Manual on Proxy Voting as a "First Reading", if so desired.

BOARD APPROVAL REQUESTED

TO: State Investment Board (SIB)

FROM: Dave Hunter

DATE: January 17, 2019

SUBJECT: SIB Meeting Schedule

RIO requests the SIB approve the proposed board meeting schedule through June 30, 2021. SIB meetings are generally held on the fourth Friday morning of each month with the exception of June, November and December. The November meeting is moved up to the third Friday (due to Thanksgiving), while no meeting has occurred in June or December in recent years. Last year, the SIB identified September and March as Tentative. Due to tight fiscal year end reporting concerns, RIO recommends our August meeting be classified as Tentative (rather than September) so as to allow a reasonable amount of time to reconcile fiscal year end performance reporting with our managers, custodian and consultant.

State Investment Board 2020-21 Meeting Schedule (10 reserved meetings/year)

- 1. July 24, 2020 (Election of Officers Reserved for Board Education)
- 2. August 28, 2020 (Tentative)
- 3. September 25, 2020 (Fiscal Year-End Performance Review as of 6/30/2020)
- . October 23, 2020
- . November 20, 2020 (Quarterly Performance Review as of 9/30/2020)
- . Decem er 18, 2020
- 7. January 22, 2021 (Legislative Session)
- 8. February 26, 2021 (Legislative Session) (Quarterly Performance Review as of 12/31/2020)
- . March 26, 2021 (Legislative Session) (Tentative)
- 10. April 23, 2021 (Legislative Session)
- 11. May 28, 2021 (Quarterly Performance Review as of 3/31/2021)

Previously Scheduled SIB Meetings:

- 1. January 24, 2020
- 2. February 28, 2020 (Quarterly Performance Review as of 12/31/2019)
- 3. March 27, 2020 (Tentative)
- 4. April 24, 2020
- 5. May 22, 2020 (Quarterly Performance Review as of 3/31/2020)

Board Action Requested:

If the SIB so desires, the Board can make a motion to accept the SIB Meeting Schedule for 2020-21 as proposed above.

Alternatively, the SIB can invite board discussion on alternative proposals.

BOARD ACTION REQUESTED

TO: State Investment Board (SIB)

FROM: Dave Hunter

DATE: January 17, 2020

SUBJECT: Board Self-Assessment for 2020

Board Self-Assessment Background:

The SIB has conducted Board Self-Assessments in 2018 and 2019 in addition to expressing interest in conducting an annual board self-assessment survey in recent months.

In 2018, the SIB engaged Aon Hewitt Fiduciary Services Practice Leader Jeanna Cullins to conduct the Board Self-Assessment.

In 2019, the SIB appointed the Executive Review Committee members to conduct the Board Self-Assessment.

In the past, RIO's Supervisor of Audit Services Sara Sauter has also assisted the Board in administering the assessment survey.

The SIB Self-Evaluation Executive Review Survey as of May 24, 2019, is attached for reference.

Board Action Requested:

If the SIB so desires, the Board can make a motion to:

- 1. conduct the Board Self-Assessment in 2020;
- 2. confirm the Executive Review Committee members will be appointed to serve the Board in providing oversight and direction for the 2020 Board Self-Assessment; and
- 3. confirm RIO's Supervisor of Audit Services will offer administrative support to complete the Board Self-Assessment and survey process on or before May 28, 2020.

Alternatively, the SIB can promote additional board discussion on alternative proposals.

North Dakota Retirement and Investment Office Internal Audit Services

State Investment Board Self-Evaluation Executive Review Summary

May 24, 2019

Background

The State Investment Board (SIB) requested Internal Audit Services of the Retirement and Investment Office (RIO) to assist the SIB Executive Review Committee on developing and administering a Board Self-Evaluation Survey (Survey). Internal Audit Services worked with the Executive Review Committee in developing, administering, and reporting the self-evaluation results.

Scope

The Survey is comprised of twenty-nine questions and consists of five categories for both the self-assessment and board assessment portions. The five categories in each section included: board and staff roles, board and committee structure, board meetings, policy making and reviews, and financial management and investment practices. There were two open ended questions at the end that asked for any other input for the Survey and any recommendations for topics to be included in future evaluations. The Survey was administered through SurveyMonkey and results reviewed by the Executive Review Committee. A four-point scale was used, with 4 – strongly agree, 3 – agree, 2 – disagree, and 1 – strongly disagree as the rating system. Ten out of eleven board members participated in the Survey.

Results Summary

Generally, the self-assessment portion of the Survey had positive results and comments. In the self-assessment section, Board members all strongly agreed they understood the authority that has been retained by the SIB and what duties have been delegated to staff. The majority of Board members also strongly agreed they individually understood the legal duties and responsibilities required as a fiduciary. Abiding by the Board Code of Conduct and avoiding conflicts of interests were also areas that Board members self-assessed as an area of strength. Areas of improvement are also identified. Board members felt they could improve on and would like more regular policy reviews to help stay familiar with the SIB policies. While all Board members agree they stay engaged in board meetings, it was stated that it takes time to understand the complex items discussed in the meetings.

The board-assessment portion of the Survey also had positive results and comments. From a board level, Board members felt that board meetings were well-run and a good use of time. Also, the standing committees communicated effectively and timely to the SIB. There were several areas where improvement was identified: First, Board members should be more prepared and stay engaged in meetings. While comments indicated that healthy discussions were held, the following comments were also made in the Survey. Vocal members can dominate discussion and stunt other discussion and all members are not as active as they could be in discussions. Secondly, just as in the self-assessment portion, Board members felt that more could be done as a Board on understanding the SIB policies. The last area of improvement was Board members regularly attending the meetings. Comments did indicate that Board members understood during legislative sessions it can be difficult for elected official Board members to attend meetings.

In comparing the self-assessment portion to the board-assessment portion, there was an area of variance. In the self-assessment portion all board members strongly agreed that they understood the authority that has been retained by the SIB and what duties have been delegated to staff. However, on the board-assessment portion only four members strongly agreed that the board recognizes the authority retained and what has been delegated to staff (although the other six members did indicate they agreed with this statement).

Overall, the SIB Board Self-Evaluation was positive and had constructive comments. The Board overwhelming agreed that they understand their responsibilities and role as a fiduciary. While there is room for improvement, a strong foundation appears to be in place to continue building upon.

State Investment Board

2019 Board Self-Evaluation

Compilation of State Investment Board Self-Evaluation Results

GENERAL OVERVIEW
e Board Self-Evaluation consists of five categories, for both the self-assessment and board assessment portions. The e categories in each section which included:
Board and Staff Roles
Board and Committee Structure
Board Meetings
Policy Making and Reviews
Financial Managment and Investment Practices
 ny comments provided by respondents have been included as written in survey responses and have not been edited for elling, grammar, etc.

2019 State Investment Board Self-Evaluation Self Assessment - Board and Staff Roles

1. I believe I have the skills and training necessary to fulfil my responsibilities as a SIB member.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	2	20.00%	3.00
3 - Agree	7	70.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	1	10.00%	
	10	100.00%	

2. I understand the authority that has been retained by the SIB and what duties have been delegated to staff.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	10	100.00%	4.00
3 - Agree	0	0.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

3. I actively engage in Board meetings by contributing to the discussions in a meaningful way, listening to others (i.e., board members, staff, guests) and communicate my points concisely.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	3	30.00%	3.30
3 - Agree	7	70.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

4. I make an effort to be educated on the aspects of the investment program that I do not understand.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	5	50.00%	3.50
3 - Agree	5	50.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

2019 State Investment Board Self-Evaluation Self Assessment - Board and Staff Roles

Comments for Self-Assessment - Board and Staff Meetings:

It's honestly a lot, and I am not sure there is a whole lot anyone can do about it. It just takes time to get everything under our belt.

I continue to work at participating more actively in the discussion. I tend to hang back a bit.

I appreciate the opportunity to dig in and ask questions prior to a meeting on items I may not be as familiar.

I have significant education and training in leadership and finances and thoroughly prepare for meeting. My experience has provided me with a thorough understanding of the roles of the board, the staff and the board.

As a lay board member, I recognize that I still need more support and training in investments. I fully understand the vast majority, but there are complex areas that take me more time and energy to digest. I think Mr. Hunter and the RIO staff do a great job with providing us with Board Education, there are components, however, that I am not yet fully comfortable with. I feel that this limits my ability, in those areas, to be as communicative as I would like to be as a board member.

2019 State Investment Board Self-Evaluation Self Assessment - Board and Committee Structure

5. I understand board conduct, abide by it, and avoid conflicts of interest.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	8	80.00%	3.80
3 - Agree	2	20.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	_
	10	100.00%	_

6. I find my participation on the Board to be stimulating and rewarding.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	7	70.00%	3.70
3 - Agree	3	30.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	•

7. I am comfortable with the amount of time I devote as a Board member.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	4	40.00%	3.40
3 - Agree	6	60.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	•

8. If I am not able to attend the SIB meeting, I make appropriate notifications to staff and review the information presented at the meeting.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	8	80.00%	3.80
3 - Agree	2	20.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	_
	10	100.00%	-

2019 State Investment Board Self-Evaluation Self Assessment - Board and Committee Structure

Comments for Self-Assessment - Board and Committee Structure:

The board meetings are good, the time commitment is good. The staff is outstanding so at times I can feel myself probably Relying too much on the staff, that's a product of a great team we have at RIO but its not a perfect situation, because it can allow a board to get complacient.

I have had an opportunity to serve on many boards on a local, state and national level in my professional life and currently serve on a number of community and service organization boards. I sincerely enjoy the challenges and the success brought about by the involvement.

SIB is a very rewarding board to serve on. I enjoy the work and I am proud of what we are able to do as an organization. Our board is fortunate to have devoted board members, high quality staff, and good governance to support us in fulfilling our responsibilities.

2019 State Investment Board Self-Evaluation Self-Assessment - Board Meeting

9. I have participated in an effective new member orientation program which outlined responsibilities and important organizational information.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	4	40.00%	3.40
3 - Agree	6	60.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

10. I am prepared for Board meetings, reading information in advance, so I can make informed decisions.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	5	50.00%	3.50
3 - Agree	5	50.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

Comments for Self Assessment - Board Meeting:

I struggled during Legislative Session to be as prepared for the Board meetings as I prefer.

The materials are a bit long at times. It can be a challenge to read everything in advance

The initial training was sufficient and I continue to learn from the discussion and action at each meeting. I am very concientious and work hard to be well prepared for each meeting.

I believe that we can do a better job with orientation for our newest members. While we all have a passion for our responsibilities, it would be helpful to have a more robust and comprehensive orientation for new members that includes formal mentors and regular training.

2019 State Investment Board Self-Evaluation Self-Assessment - Policy Making and Reviews

11. I fully understand the policies of the SIB.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	5	50.00%	3.40
3 - Agree	4	40.00%	
2 - Disagree	1	10.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

12. I review board policies as necessary to fulfill my role as a board member.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	4	40.00%	3.40
3 - Agree	6	60.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

Comments for Self Assessment - Policy Making and Reviews:

There is always room for improvement in my understanding of policies. But the regular review certainly helps a lot.

I agree, but could always so better

Even though I am familiar with the board policies, I find the policy review sessions held at the meetings to be very beneficial.

I appreciate that we have regular policy reviews and they are important. I do wonder, however, if it would better to review in smaller chunks (ie. 15 minutes at a time) on a more regular basis.

2019 State Investment Board Self-Evaluation Self-Assessment - Financial Management and Investment Practices

13. I understand the legal duties and responsibilities required of me as a fiduciary.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	9	90.00%	3.90
3 - Agree	1	10.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

14. I sufficiently understand all financial reports and seek clarification when necessary.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	7	70.00%	3.70
3 - Agree	3	30.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

15. I am familiar with the annual report by the independent auditors and understand any findings or recommendations.

			<u>Average</u>
Answer Choices	# Responses	% Responses	Response
4 - Strongly Agree	7	70.00%	3.70
3 - Agree	3	30.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

Comments for Self Assessment - Financial Management and Investment Practices:

I am comfortable with understanding the financials based upon previous experience, as well as the concise and consistent manner in which the information is presented.

Some of us take this for granted. It's important to remember those who are still learning.

I have years of experience dealing with financial reports and feel very confident dealing with auditors findings and recommendations.

Dave, Darren, Eric and others do a great job in sharing information in ways that are easily digestible for me. The reports, communications, and messaging are also consistent, which is crucial. I appreciate the various board memos as they help me to be prepared and feel comfortable at the board meeting.

2019 State Investment Board Self-Evaluation Board Assessment - Board and Staff Roles

16. The Board members are consistently prepared for meetings and stays engaged.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	2	20.00%	3.10
3 - Agree	7	70.00%	
2 - Disagree	1	10.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

17. The Board has healthy discussions on a topic before making a well informed decision.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	4	40.00%	3.40
3 - Agree	6	60.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

18. The Board recognizes the authority it has retained and what has been delegated to staff.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	4	40.00%	3.40
3 - Agree	6	60.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100 00%	

Comments for Board Assessment - Board and Staff Roles:

The Board members are apparently prepared for meetings and healthy discussion is held regarding decisions. As with any board, certain individuals tend to question more than others; however, everyone benefits from the questioning.

I think these are all true for the most part. We do have very knowledgeable and vocal board members that tend to dominate discussion. While I don't believe this is purposeful, it can stunt discussion at times. I don't believe all board members are as active participants in discussion as they could be.

2019 State Investment Board Self-Evaluation Board Assessment - Board and Committee Structure

19. All Board members regularly attend board meetings.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	1	10.00%	3.00
3 - Agree	8	80.00%	
2 - Disagree	1	10.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

20. Standing and ad hoc committees complete their tasks in an effective and timely way.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	4	40.00%	3.40
3 - Agree	6	60.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

21. Standing and ad hoc committees communicate to the full board in an effective and timely manner.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	7	70.00%	3.70
3 - Agree	3	30.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	_
	10	100.00%	-

Comments for Board Assessment - Board and Committee Structure:

Other obligations at times interfere with board members attendance.

Attendance at board meetings is typically very good; however, it tends to drop off during legislative sessions because of other commitments. Attendance via phone and other technology is effective and enhances board attendance.

It is somewhat hard to assess attendance as our elected officials have been fully immersed in the legislative session. It is perfectly understandable when they are, from time to time, pulled away from SIB meetings to deal with timely issues. It does feel, at times though, that attendance at SIB is not a priority for all members.

2019 State Investment Board Self-Evaluation Board Assessment - Board Meetings

22. Board meetings are generally well-run and make good use of members' time.

			<u>Average</u>
Answer Choices	# Responses	% Responses	<u>Response</u>
4 - Strongly Agree	7	70.00%	3.70
3 - Agree	3	30.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

23. Board meetings allow the right allocation of time between Board discussions and presentations.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	5	50.00%	3.50
3 - Agree	5	50.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

Comments for Board Assessment - Board Meetings:

Board meetings are run well. Board governance rules are adhered to.

The Board President Rob is very knowledgeable regarding Robert's Rules and conducts the meetings very professionally. David and his staff present information in a very clear, concise manner.

Generally speaking, I find our meetings to be efficient and time well-spent.

2019 State Investment Board Self-Evaluation Board Assessment - Policy Making and Reviews

24. The Board reviews policies on a regular basis and updates them as needed.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	5	50.00%	3.40
3 - Agree	4	40.00%	
2 - Disagree	1	10.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

25. If a new policy is needed for the SIB, the policy is clearly presented to and discussed by the Board.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	5	50.00%	3.50
3 - Agree	5	50.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	•

Comments for Board Assessment - Policy Making and Reviews:

The board is very well informed on policy needs and changes.

RIO staff do an excellent job presenting policies on a regular basis.

Policy recomndations are clearly presented and discussed in a professional manner.

I believe staff does a good job reviewing and outlining new policies. The board, in my opinion, does an excellent job here as well with ensuring that the policy is well-written, clear in intent, and matches board and staff expectations.

2019 State Investment Board Self-Evaluation Board Assessment - Financial Management & Investment Practices

26. The Board regularly reviews financial, investment, and portfolio.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	6	60.00%	3.60
3 - Agree	4	40.00%	
2 - Disagree	0	0.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

27. The Board is regularly informed of economic trends or conditions that can effect investment performance.

			<u>Average</u>
Answer Choices	<u># Responses</u>	% Responses	<u>Response</u>
4 - Strongly Agree	6	60.00%	3.50
3 - Agree	3	30.00%	
2 - Disagree	1	10.00%	
1 - Strongly Disagree	0	0.00%	
	10	100.00%	

Comments for Board Assessment - Financial Management and Investment Practices:

The presentations by staff as well as consultants are excellent.

I am very impressed with the quality of speakers brought in to educate the Board.

I value the input of our managers on this topic.

Financial management and investment practices are thoroughly presented and reviewed on a regular basis. Callan representatives and other money managers regularly and effectively update the board on economic trends and conditions.

Board education and a regular review of investment performance is crucial to the function of the board. Mr. Hunter, staff, and the board does an excellent job in this area.

2019 State Investment Board Self-Evaluation Overall Assessment

28. Any final comments, observations, or suggestions for the board self-evaluation?
I appreciate the work staff puts in prior to and at meetings that make the financial pieces understandable for those with a non-financial background.
None
Very concise evaluation. Thank you.
I am a new member of the Board. My comments are not as reliable as members of Board with more tenure. However, the meetings I have attended are educational and interesting.
There are a lot of moving parts related to the board and the information the board receives. It would not be possible to do the things we do as a board without the RIO staff. I am very much appreciative of all the work that is done for the board. Thank you to all of the staff.
I believe the Board Self-Evaluation is an effective motivation tool that requires us to do a more thorough job as a board member.
2 . Are there any areas in the board self-evaluation that you would like to see addressed in the future?
I would like to review the history of the Legacy fund. I know the basics but would like to see a chronological outline from when the fund started to now, including changes made in legislative sessions.
None
None
None
not that I can think of right now.
None

Board Action Requested

To: State Investment Board

From: Dave Hunter

Date: January 21, 2020

RE: RIO Compensation Study

Board Action Requested:

RIO recommends the SIB consider the merits of a RIO compensation study in order to improve our ability to attract and retain a dedicated team of top performing professionals who are responsible for administering a \$4 billion retirement benefits program and a \$16 billion investment program.

Background:

Based on helpful discussion and expert guidance provided by OMB Central Services Division Director Sherry Neas, HRMS Officer Hope Wedul and Assistant Attorney General Mary Kae Kelsch, RIO would utilize current State procurement guidelines to conduct a formal RFP for this recommended agency compensation study, if approved.

RIO believes an entire agency compensation study could be completed in a cost efficient and timely manner over the next 30 to 60 days and be helpful in our upcoming strategy review discussions with the Office of the Governor in addition to the next legislative session.

Informational

To: State Investment Board

From: Dave Hunter

Date: January 21, 2020

RE: Executive Review Committee

SIB Governance Manual C-4 on Monitoring Executive Performance states that "Each March the board will conduct a formal evaluation of the Executive Director / Investment Officer. This evaluation will be based on accomplishments of Ends and Compliance with Executive Limitations. In prior years, the Chair was required to appoint a three-member Executive Review Committee (ERC) to review the board's evaluation and make a recommendation to the full board concerning the salary for the Executive Director / Investment Office in May. In 2019, the ERC was made a standing committee and identified Yvonne Smith, Mel Olson and Adam Miller as ERC members. In 2018, the Executive Review Committee included Vice Chairman Rob Lech, Ms. Yvonne Smith, and Land Commissioner Jodi Smith. In 2017, the Committee consisted of the Ms. Yvonne Smith (as Chair), Ms. Cindy Ternes and Mr. Mike Sandal. In 2016, the Review Committee consisted of the SIB Chair Wrigley, Vice Chair Sandal and Parliamentarian Lech.

RIO's Supervisor of Audit Services, Sara Sauter, has been requested to administer the Executive Director/CIO Survey on behalf of the SIB and/or the Executive Review Committee in the past. The ED/CIO endorses the SIB engaging RIO's Supervisor of Audit Services to administer the survey on behalf of the Executive Review Committee.

BUDGETING / FINANCIAL CONDITION

AS OF DECEMBER 31, 2019

				EXPENDITURES						
	2019-2021		ADJUSTED	-	BIENNIUM TO		BUDGET		% BUDGET	% OF BIENNIUM
	BUDGET		APPROPRIATION		DATE ACTUAL		AVAILABLE		AVAILABLE	REMAINING
SALARIES AND BENEFITS	\$ 4,978,230.00	\$	4,978,230.00	\$	1,089,955.98	\$	3,888,274.02		78.11%	75.00%
OPERATING EXPENDITURES	3,538,934.00	*	3,538,934.00		152,267.74		3,386,666.26		95.70%	75.00%
CAPITAL ASSETS	6,300,000.00		6,300,000.00		0.00		6,300,000.00		100.00%	75.00%
CONTINGENCY	52,000.00		52,000.00		0.00		52,000.00		100.00%	75.00%
TOTAL	\$ 14,869,164.00	\$	14,869,164.00	\$	1,242,223.72		13,626,940.28		91.65%	75.00%

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

EXPENDITURE REPORT

QUARTER ENDED DECEMBER 31, 2019

CONTINUING APPROPRIATIONS	INVESTMENT	RETIREMENT	QUARTERLY TOTALS	FISCAL YEAR TO - DATE	BIENNIUM TO - DATE
INVESTMENT EXPENDITURES (SEE ATTACHED DETAIL)	\$ 8,388,923.21 \$	S\$	8,388,923.21	\$ <u>16,120,017.70</u> \$	16,120,017.70
MEMBER CLAIMS					
1. ANNUITY PAYMENTS	0.00	56,575,470.98	56,575,470.98	112,368,347.85	112,368,347.85
2. REFUND PAYMENTS	0.00	2,275,367.68	2,275,367.68	3,730,595.49	3,730,595.49
TOTAL MEMBER CLAIMS	0.00	58,850,838.66	58,850,838.66	116,098,943.34	116,098,943.34
OTHER CONTINUING APPROPRIATIONS	105,728.77	84,518.80	190,247.57	217,013.57	217,013.57
TOTAL CONTINUING APPROPRIATIONS	8,494,651.98	58,935,357.46	67,430,009.44	132,435,974.61	132,435,974.61
BUDGETED EXPENDITURES					
1. SALARIES & BENEFITS					
SALARIES	208,142.60	195,918.40	404,061.00	795,662.78	795,662.78
OVERTIME/TEMPORARY	0.00	0.00	0.00	0.00	0.00
TERMINATION SALARY & BENEFITS	0.00	0.00	0.00	0.00	0.00
FRINGE BENEFITS	69,044.64	82,168.02	151,212.66	294,293.20	294,293.20
TOTAL SALARY & BENEFITS	277,187.24	278,086.42	555,273.66	1,089,955.98	1,089,955.98
2. OPERATING EXPENDITURES					
DATA PROCESSING	3,810.06	16,385.53	20,195.59	32,510.01	32,510.01
TELECOMMUNICATIONS - ISD	1,530.06	1,927.01	3,457.07	4,501.88	4,501.88
TRAVEL	5,422.58	9,458.42	14,881.00	21,598.23	21,598.23
IT - SOFTWARE/SUPPLIES	32.22	120.69	152.91	253.43	253.43
POSTAGE SERVICES	762.55	3,387.60	4,150.15	13,695.39	13,695.39
IT - CONTRACTUAL SERVICES BUILDING/LAND RENT & LEASES	261.04 9,242.18	367.96 12,848.98	629.00 22,091.16	640.35 45,742.32	640.35 45,742.32
DUES & PROF. DEVELOPMENT	9,242.18	4,805.71	5,781.00	12,001.00	12,001.00
OPERATING FEES & SERVICES	657.72	246.64	904.36	1,377.24	1,377.24
REPAIR SERVICE	155.63	219.37	375.00	375.00	375.00
PROFESSIONAL SERVICES	1,106.43	(873.88)	232.55	6,650.00	6,650.00
INSURANCE	313.02	441.24	754.26	918.95	918.95
OFFICE SUPPLIES	210.87	279.77	490.64	666.34	666.34
PRINTING	657.51	1,269.79	1,927.30	7,185.54	7,185.54
PROFESSIONAL SUPPLIES & MATERIALS MISCELLANEOUS SUPPLIES	336.60	0.00	336.60	691.60	691.60
IT EQUIPMENT UNDER \$5000	278.57 30.41	261.81 13.86	540.38 44.27	542.34 73.27	542.34 73.27
OTHER EQUIP. UNDER \$5000	0.00	(261.00)	(261.00)	0.00	0.00
OFFICE EQUIP. & FURNITURE UNDER \$5000		0.00	575.00	2,844.85	2,844.85
			0.0.00		
TOTAL OPERATING EXPENDITURES	26,357.74	50,899.50	77,257.24	152,267.74	152,267.74
3. CAPITAL ASSETS	0.00	0.00	0.00	0.00	0.00
4. CONTINGENCY	0.00	0.00	0.00	0.00	0.00
TOTAL BUDGETED EXPENDITURES	303,544.98	328,985.92	632,530.90	1,242,223.72	1,242,223.72
TOTAL EXPENDITURES	\$ 8,692,468.19	59,179,824.58 \$	68,062,540.34	\$ 133,678,198.33 \$	133,678,198.33

INVESTMENT EXPENDITURE DETAIL

FEES PAID DURING THE QUARTER ENDED DECEMBER 31, 2019

FOR QUARTER ENDED 9/30/18

CUSTODIAN Northern Trust		326,073.46
TOTAL FOR QUARTER ENDED 9/30/18	-	326,073.46
FOR QUARTER ENDED 12/31/18		
CUSTODIAN Northern Trust	<u>-</u>	299,221.75
TOTAL FOR QUARTER ENDED 12/31/18		299,221.75
FOR QUARTER ENDED 3/31/19		
CUSTODIAN Northern Trust	_	312,710.56
TOTAL FOR QUARTER ENDED 3/31/19		312,710.56
FOR QUARTER ENDED 6/30/19		
CUSTODIAN Northern Trust		370,501.27
TOTAL FOR QUARTER ENDED 6/30/19		370,501.27
FOR QUARTER ENDED 9/30/19		
PENSION DEVELOPED INTERNATIONAL EQUITY POOL Northern Trust Wellington William Blair TOTAL PENSION INTERNATIONAL EQUITY	27,794.13 153,385.05 187,914.90	369,094.08
PENSION GLOBAL EQUITY POOL Epoch LSV TOTAL PENSION GLOBAL EQUITY	695,604.76 131,672.00	827,276.76
PENSION BELOW INVESTMENT GRADE FIXED Loomis Sayles		233,501.76
PENSION INVESTMENT GRADE FIXED INCOME POOL PIMCO Prudential State Street TOTAL PENSION INVESTMENT GRADE FIXED INCOME	100,353.67 95,735.85 3,616.22	199,705.74
PENSION INFRASTRUCTURE POOL JP Morgan		299,154.85
PENSION LARGE CAP EQUITY POOL LA Capital		264,824.47

INVESTMENT EXPENDITURE DETAIL

FEES PAID DURING THE QUARTER ENDED DECEMBER 31, 2019

PENSION SMALL CAP EQUITY POOL Atlanta Capital		277,807.00
PENSION REAL ESTATE Invesco		280,345.42
INSURANCE FIXED INCOME POOL PIMCO Prudential State Street Wells Western Asset TOTAL INSURANCE FIXED INCOME	43,430.66 182,291.16 6,817.64 53,240.06 108,153.16	393,932.68
INSURANCE LARGE CAP EQUITY POOL LA Capital LSV TOTAL INSURANCE LARGE CAP	54,324.35 51,533.00	105,857.35
INSURANCE SMALL CAP EQUITY POOL PIMCO RAE		20,930.81
INSURANCE INT'L EQUITY LSV William Blair TOTAL INSURANCE INT'L EQUITY	64,583.00 69,131.75	133,714.75
INSURANCE DIVERSIFIED REAL ASSETS JP Morgan Western Asset TOTAL INSURANCE DIVERSIFIED REAL ASSETS	70,640.10 40,894.39	111,534.49
INSURANCE REAL ESTATE Invesco JP Morgan TOTAL INSURANCE REAL ESTATE	45,215.84 90,156.48	135,372.32
INSURANCE SHORT TERM FIXED Barings		55,953.30
LEGACY FIXED INCOME Prudential State Street Wells Western Asset TOTAL LEGACY FIXED INCOME	367,404.88 11,357.04 86,246.00 187,034.70	652,042.62
LEGACY LARGE CAP EQUITY LA Capital LSV TOTAL LEGACY LARGE CAP	297,346.14 298,570.00	595,916.14

INVESTMENT EXPENDITURE DETAIL

FEES PAID DURING THE QUARTER ENDED DECEMBER 31, 2019

LEGACY SMALL CAP EQUITY PIMCO RAE		144,775.12
LEGACY INT'L EQUITY LSV William Blair TOTAL LEGACY INT'L EQUITY	469,029.00 479,569.80	948,598.80
LEGACY DIVERSIFIED REAL ASSETS JP Morgan Western Asset TOTAL LEGACY DIVERSIFIED REAL ASSETS	189,143.34 121,666.27	310,809.61
LEGACY REAL ESTATE Invesco JP Morgan TOTAL LEGACY REAL ESTATE	126,737.11 282,779.68	409,516.79
PERS RETIREE HEALTH INSURANCE CREDIT FUND SEI		97,568.58
JOB SERVICE FUND SEI		73,958.23
TOBACCO PREVENTION & CONTROL TRUST FUND STATE STREET		293.01
CONSULTANT Adams Street Callan Novarca TOTAL CONSULTANT	11,269.00 108,767.34 10,508.81	130,545.15
TOTAL FOR QUARTER ENDED 9/30/19		7,073,029.83
FOR QUARTER ENDED 12/31/19		
PENSION CASH Northern Trust		7,386.34
TOTAL FOR QUARTER ENDED 12/31/19		7,386.34
TOTAL FEES PAID DURING QUARTER ENDED 12/31/2019		8,388,923.21

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE

QUARTERLY MONITORING REPORT Executive Limitations / Staff Relations

Quarter Ended December 31, 2019

The Executive Limitation "Staff Relations" deals with the treatment of staff at RIO. The executive director "shall not cause or allow any condition or any communication which is unfair, undignified, or disrespectful." This Executive Limitation lists six specific limitations that range from personnel policies to exit interviews. All the limitations are intended to protect staff from unfair, undignified, or disrespectful treatment by management.

During the past two quarters, there were no exceptions to this Executive Limitation.

The Executive Director/CIO held at least three full office meetings and three manager meetings during the fourth calendar quarter of 2019 in order to promote an open and collaborative work environment while enhancing team member communication, awareness and engagement.

On September 26, RIO's Deputy Executive Director and Chief Retirement Officer Fay Kopp announced her intent to retire from RIO effective on March 31. On January 10, RIO's Retirement Program Manager Shelly Schumacher formally announced her intent to retire effective on February 29. Given that we are sadly losing two of our most experienced, helpful, trusted and top performing agency leaders in the next few months, RIO management and SIB and TFFR leadership met to discuss the best ways to position our agency for continued future success. We also consulted with HRMS.

On January 9, RIO externally posted our Deputy Executive Director and Chief Retirement Officer position on our State website in addition to our RIO website and NCTR, NASRA and IFEBP websites shortly thereafter. The targeted closing date is Thursday, January 30. As of January 15, we have received five completed applications for our Deputy Executive Director / Chief Retirement Officer position.

On January 10, we internally posted our Retirement Program Manager position within our agency. I am pleased to report that we received one internal application from our most seasoned retirement benefits specialist. We intend to conduct an interview with this experienced professional between January 20th and 30th.

On January 9, RIO extended an offer to our top ranked Investment and Compliance Officer finalist. I am pleased to report that he accepted the offer the next day and we are targeting a start date of Monday, February 3rd. RIO notes that we obtained legislative approval to add one investment FTE effective July 1, 2019 (thereby increasing our agency FTE up to 20).

RIO is sad to inform the B board our Investment Accountant was unable to successfully complete a probationary period effective as of January 10, 2020. RIO re-posted the Investment Accountant position on January 15th with the helpful assistance and guidance of HRMS.

Quarterly Report on Ends Q2:FY20

Investment Program

As noted in the "RIO Investment Due Diligence Audit Report – Response" memo presented at the September board meeting, Staff has developed a Detailed Quarterly Monitoring Report. A copy of this report follows this memo. The report includes the following items:

- 1. Investment manager or consulting firm name
- 2. Date and location of due diligence meeting or conference
- 3. Type of due diligence conducted (e.g. preliminary, market update, portfolio update, pricing update, consultant screening)
- 4. Meeting attendees
- 5. Brief description of documentation, file location and key findings

Investment Highlights:

Staff continues to work on developing a plan to optimize the public equity portfolios in the Pension Pool, Legacy Fund and Insurance Pool. To this end, Staff has conducted onsite due diligence with factor based equity managers such as LSV and DFA. Given Staff's focus on equity strategies, Staff has conducted due diligence calls and meetings with a number of prospective equity candidate managers.

Staff continues to develop its quantitative capabilities. Leveraging the BlackRock Aladdin system, Staff has developed new risk analyses and risk reports. Recently, utilizing the Aladdin system, Staff has produced factor based analyses that have been quite insightful when evaluating equity portfolios. Furthermore, Staff has been working with FTSE Russell's Analytics+ tool, a Web-based tool that allows users to apply, control and analyze single- and multi-factor factor exposures using a selection of FTSE Russell indexes.

Staff continues to conduct preliminary due diligence on prospect managers/products for future consideration.

Staff continues to monitor each client's asset allocation monthly and makes rebalancing decisions based on rebalancing policy and cash flow requirements.

Staff attended meetings with the following entities: TFFR Board, NDPERS Board, NDPERS Investment Subcommittee, Legacy Fund Advisory Board, SIB Securities Litigation Committee.

LSV remains on the Watch List.

NDRIO Investment Due Diligence Quarterly Monitoring Report July 1 to Sep 30, 2019

Date	Manager/Consultant	Reason for Call/Meeting	Key Takeaways	Location	Rio Attendees	Manager Attendees	Document Type & Description: Location Note	es
10/1/2019	Barings/MassMutual	Benchmark Discussion	Can use 1-3 Agg, Gov or Gov/Credit as benchmark	Conference Call	Eric Chin	Barings: Jeff Stammen, Rob King	Notes: J:\EChin\Documents\Manager Notes Shared Folder	
10/3/2019	Schroders	Prospect DD	Factor Investing, interesting factor manager	Conference Call	Eric Chin Darren Schulz	James Macmillan Ashley Lester PhD	Presentation: Tamale Notes: J:\EChin\Documents\Manager Notes Shared Folder	
10/10/2019	Prudential	Portfolio Update		Conference Call	Dave Hunter Darren Schulz			
10/14/2019	Longview	Prospect DD	Candidate for global equity	RIO	Darren Schulz, Dave Hunter, Eric Chin	Marina Lund Alistair Graham	Presentation: Tamale Notes: J:\EChin\Documents\Manager Notes Shared Folder	
10/15/2019	GCM	Portfolio/Manager Update	Firm has experienced a number of departures. Continue to evaluate and decide if we should invest in new fund.'	RIO	Dave Hunter Darren Schulz Eric Chin	Michael Rose Scott Litman Eric Rose	Notes: J:\EChin\Documents\Manager Notes Shared Folder	
10/15/2019	Goldman Sachs	Catch-up	Portfolio analysis catch-up	Conference Call	Eric Chin	Joseph Konzelmann		
10/16/2019	Contrarian	Prospect DD	Interesting: keep tabs on manager.	Conference Call	Eric Chin	Andy Frieman	Presentation: Tamale	
10/16/2019	Axiom	Portfolio Update	Status quo	Conference Call	Dave Hunter Darren Schulz Eric Chin	Steve Hanson, Don Elefson	Notes: J:\EChin\Documents\Manager Notes Shared Folder Presentation: Tamale	
10/17/2019	Pantheon	Catch-up	Update on real asset program	RIO	Dave Hunter Darren Schulz	John Greenwood		
10/22/2019	Macquarie	Portfolio Update	Significant exposure to waste	Onsite	Eric Chin Dave Hunter Darren Schulz	Andrew Killian, David Fass	Presentation: Tamale Notes: Q:\Investments\Manager Notes	
10/23/2019	Mackay Shields	Prospect DD	High yield prospect	RIO	Eric Chin Eric Chin	Therese Hernandez, Craig Mepham Tony Cousins	Notes: Q:\Investments\Manager Notes	
10/28/2019	Pyrford	Prospect DD	Solid global equity/international equity prospect	RIO	Darren Schulz	Kamila Kowalke	Notes: Q:\Investments\Manager Notes	
10/29/2019	Manulife	Annual review	Status quo	RIO	Eric Chin Dave Hunter Darren Schulz	Peter Farley David A Bees Reid Kilberg Amy McPike	Notes: Q:\Investments\Manager Notes	
10/30/2019	GSAM	Quant Portfolio Analysis Review	Sophisticated review of our equity portfolio. Offers valuable insights.	Conference Call	Darren Schulz	Jared Klyman, Senior Portfolio Strategist, James Norman, Equity Strategist, Kai Sikorski, Portfolio Strategist, Joseph Konzelmann	Presentation: Tamale	
10/31/2019	ARES	Portfolio Update & ABL opportunity	ABL opportunity is interestingconduct additional diligence	RIO	Eric Chin Dave Hunter Darren Schulz	Mitch Goldstein Kara Herskowitz	Notes: Q:\Investments\Manager Notes	
11/5/2019	Allianz	Prospect DD	Structured Alpha and Best Styles systematic equity strategies	RIO	Darren Schulz	Taylor Carrington, Dr. Michael Heldmann, Rohit Ramesh	Presentation: Tamale	
11/5/2019	PIMCO	Portfolio Update	Status quo	RIO	Dave Hunter Darren Schulz	Matt Clark	Notes: Q:\Investments\Manager Notes	
11/7/2019	Invesco	Value Add IV & V Limited Partner Advisory Committee Meeting	Update on Funds IV and V, no decisions made by LPs at Annual Meeting	Conference Call	Darren Schulz	Jay Hurley, Kevin Conroy, Courtney Popelka	Presentation: Tamale	
11/13/2019	FTSE Russell	Factor Index Catch up	Russell has some pretty interesting tools to evaluate factors	Conference Call	Eric Chin	Sara Wilson		
11/15/2019	Cerberus	Credit Strategy Update	Interesting thoughts on credit. Add-backs have become egregious, getting to point in time where firms have not made initial ebitda projections	Conference Call	Eric Chin	Greg Gordon, Bob Davenport	Presentation: Tamale Notes: Q:\Investments\Manager Notes	
11/19/2019	RGM	Prospect DD	Small cap equity manager. Concentrated PE like investing. Interesting prospect.	NY in person	Eric Chin	Robert G. Moses, Ed Calkins, Richard Landsberger	Presentation: Tamale Notes: Q:\Investments\Manager Notes	
11/20/2019	Western	Portfolio Update		Conference Call	Eric Chin Dave Hunter Darren Schulz	Frances L. Coombes Mark S. Lindbloom Frederick R. Marki, CFA	Presentation: Tamale Notes: Q:\Investments\Manager Notes	
11/27/2019	KAR	Small Cap Prospect	Interesting Small Cap prospect large amount of AUM in portfolios, except value.	Conference Call	Eric Chin	Jordan Greenhouse	Presentation: Tamale Notes: Q:\investments\Manager Notes	
12/2/2019	Apollo	Credit Prospect	Credit prospect	RIO	Dave Hunter	Janet Quarberg		
12/2/2019	Barings/MassMutual	PE Funds & Coinvest	PE program overview	Conference Call	Dave Hunter Darren Schulz	Jeff Stammen, Mina Nazemi, Greg Long, Darin Fitgerald	Presentation: Tamale	
12/5/2019	GSAM	Catch-up	Follow up with meeting with quant team	Conference Call	Eric Chin	Joseph Konzelmann		
12/9/2019	ElmTree Funds	Catch-up	Prospect	In person	Eric Chin	Annie Hsieh		
12/9/2019		DD on ABL	Perhaps not for us at the moment. Complex structure, if we pursue this asset class we should DD other managers	Onsite	Eric Chin Dave Hunter (CC) Darren Schulz (CC)	Mitch Goldstein Kara Herskowitz Ryan Cascade Jana Markowicz	Presentation: Tamale Notes: Q:\Investments\Manager Notes	
12/11/2019	GCM	Update on GCM	Continue diligence	In person	Eric Chin	Mike Rose	December 1 - Transla	
12/11/2019	Angelo Gordon	Prospect DD	Interesting credit prospect	Onsite	Eric Chin	Jason Filiberti & Christian Wyatt	Presentation: Tamale Notes: Q:\Investments\Manager Notes	

12/12/2019 Northern Trust	Portfolio Review	Status Quo	Conference Call	Dave Hunter I Darren Schulz Eric Chin	Enhanced Large Cap Core Equity Stefanie Hest, Index Equity Specialist – World ex-US Index Lending Dan LaRocco, Fixed Income Portfolio Manager – Cash portfolio review Chris Shipley, Director, Equity Research - Capital Markets Assumptions	Presentation: Tamale
12/13/2019 GSAM	QIS Small Cap Prospect	Quality prospectmay be good fit for us.	Onsite	Eric Chin Dave Hunter (CC) Darren Schulz (CC)	Osman Ali Gary Chropuvka Joseph Konzelmann	Presentation: Tamale Notes: Q:\Investments\Manager Notes
12//18/2019 Callan	Small Cap Discussion	Mark will provide a list of names	Conference Call	Eric Chin Darren Schulz	Mark Stahl, CFA Paul Erlendson Alex Browning	
12/18/2019 William Blair	Small Cap Prospect	Interesting prospect with existing relationship	Conference Call	Eric Chin Darren Schulz	Pat Quinn, Steve Weeks	Presentation: Tamale Notes: Q:\Investments\Manager Notes

Mark Sodergren, Portfolio Manager, Quantitative Equity –

Quarterly Monitoring Report on TFFR Ends Quarter ended December 31, 2019

Retirement Program

This report highlights exceptions to normal operating conditions.

- TFFR's actuary presented the 2019 annual actuarial valuation report, funding projections, and GASB 67 information to the TFFR Board and Legislative Employee Benefits Programs Committee.
- TFFR received 2019 Public Pension Standards Award for Administration.
 This award is designed to recognize public employee retirement systems
 that meet professional standards for pension plan administration. TFFR
 has received a PPCC award each year it has been granted since 1992.
- TFFR Member Online activity continues to increase. To date, almost 4,500 active, inactive, and retired members have registered for this service.
- RIO website is being updated utilizing the State's template. The goal is to create a modern, user-friendly website for TFFR members and employers, SIB clients, and the public.
- The TFFR Board approved a Plan Management Policy to use as a risk assessment and management tool for evaluating the financial health and long term sustainability of TFFR. Segal will now calculate the Policy Score based on the 2019 valuation which will be presented at the January 2020 TFFR Board meeting.
- An NDIT project manager has been assigned to the TFFR pension administration system modernization project. Work has started on the Project Charter and an Executive Steering Committee meeting will be scheduled in January 2020.