Friday, March 22, 2024, 8:30 a.m.
WSI Board Room (In-Person)
1600 E Century Ave, Bismarck, ND
Click here to join the meeting

AGENDA

- I. CALL TO ORDER AND ACCEPTANCE OF AGENDA (Board Action)
 - A. Pledge of Allegiance
 - B. Conflict of Interest Disclosure
 - C. Executive Summary
- II. ACCEPTANCE OF MINUTES (February 23, 2024) (Board Action)
- III. INVESTMENTS (60 minutes)
 - A. Quarterly Performance Report (Board Action) Callan
- IV. GOVERNANCE (120 minutes)
 - A. Compensation Study Presentation (Information) Mercer
 - 1. Board Discussion

(Break)

- B. RIO Strategic Plan (Board Action) Ms. Murtha
- C. SIB ERCC Update (Information) Dr. Lech, Mr. Skor
 - 1. Performance Survey (Information) Ms. Seiler
- D. Investment Committee Update (Information) Treasurer Beadle, Mr. Anderson
- E. Legacy & Budget Stabilization Advisory Board Update (Information) Sen. Klein, Ms. Murtha
- V. Quarterly Monitoring Reports (10 minutes) (Board Action)
 - A. Executive Limitations/Staff Relations Ms. Murtha
- VI. OTHER

Next Meetings:

Investment Committee – April 12, 2024, at 1:00 p.m. ERCC – April 16, 2024, at 10:00 a.m. SIB GPR – April 18, 2024, at 9:00 a.m. TFFR Meeting – April 25, 2024, at 1:00 p.m. SIB Meeting – April 26, 2024, at 8:30 a.m.

VII. ADJOURNMENT

EXECUTIVE SUMMARY

SIB Regular Meeting March 22, 2024 – 8:30 a.m. CT

- I. Agenda: The March Board Meeting will be held at the WSI Board room to accommodate in person attendance; however, a link will also be provided so that Board members and other attendees may join via video conference.
 - Attendees are invited to join the Board Chair in the Pledge of Allegiance.
 - Conflict of Interest Disclosure: For best practice board members are asked to review the agenda and note any potential conflicts of interest for an item in advance of or at the start of the meeting. Conflicts can be documented using the following form: Conflict of Interest Disclosure Form 8 17 2022 .pdf (nd.gov)
- **II. Minutes (Board Action):** The February 23, 2024, Board meeting minutes are included for review and approval.
- **III.** A. Investments Quarterly Performance (Board Action): Representatives from Callan will present quarterly investment performance for board acceptance.
- **IV. A. Compensation Study (Information):** Representatives from Mercer will provide a presentation on the compensation study results. The study reviewed all positions within the organization. The purpose of the study is to help the board and staff prepare for future budget proposals.
 - **B. RIO Strategic Plan (Board Action):** Ms. Murtha will present RIO's updated strategic plan for board acceptance.
 - **C. ERCC Update (Information):** The Committee Chair and Mr. Skor will provide the Board an update on recent committee activities.
 - Performance Surveys (Information): Ms. Seiler will provide the Board with an overview of the process for the annual performance surveys for the Executive Director and the Chief Investment Officer.
 - **D. Investment Committee Update (Information):** The Committee Chair and Mr. Anderson will provide the Board an update on recent committee activities.
 - E. Legacy and Budget Stabilization Fund Advisory Board (Information): The Committee Chair and Ms. Murtha will provide the Board an update on recent board activities.
- V. A. Reports (Board Action): Staff will provide monitoring reports for executive limitations/staff relations.

Adjournment.

NORTH DAKOTA STATE INVESTMENT BOARD MINUTES OF THE

FEBRUARY 23, 2024, BOARD MEETING (IN-PERSON)

MEMBERS PRESENT: Tammy Miller, Lt. Governor, Chair

Dr. Rob Lech, TFFR Board, Vice Chair

Thomas Beadle, State Treasurer, Parliamentarian

Rep. Glenn Bosch, LBSFAB

Joseph Heringer, Commissioner of Unv. & School Lands

Pete Jahner, Investment Professional

Sen. Jerry Klein, LBSFAB Cody Mickelson, TFFR Board Adam Miller, PERS Board Joe Morrissette, PERS Board

Dr. Prodosh Simlai, Investment Professional

Susan Sisk, Director of OMB Art Thompson, Director of WSI

STAFF PRESENT: Scott Anderson, CIO

Eric Chin, Deputy CIO

Derek Dukart, Investment Officer

Jennifer Ferderer, Fiscal/Investment Admin.

Rachel Kmetz, Accounting Mgr. Missy Kopp, Exec. Assistant

Robbie Morey, Investment Accountant George Moss, Sr. Investment Officer

Sarah Mudder, Communications/Outreach Dir.

Jan Murtha, Exec. Dir.

Matt Posch, Sr. Investment Officer

Emmalee Riegler, Procurement/Records Coor.

Chad Roberts, DED/CRO

Sara Seiler, Internal Audit Supvr.

Ryan Skor, CFO/COO

Dottie Thorsen, Internal Auditor Nitin Vaidya, Chief Risk Officer Tami Volkert, Compliance Spec.

Susan Walcker, Sr. Financial Accountant

Jason Yu, Risk Officer

Lance Ziettlow, Sr. Investment Officer

GUESTS: Dean DePountis, Attorney General's Office

Marc Gesell, Verus Eileen Neill, Verus Josh Wilson, Mercer Members of the Public

CALL TO ORDER:

Lt. Gov. Miller, Chair, called the State Investment Board (SIB) regular meeting to order at 8:30 a.m. on Friday, February 23, 2024. The meeting was held in the Workforce Safety and Insurance Board Room, 1600 E Century Ave., Bismarck, ND.

The following members were present representing a quorum: Treasurer Beadle, Rep. Bosch, Commissioner Heringer, Mr. Jahner, Dr. Lech, Sen, Klein, Mr. Mickelson, Lt. Gov. Miller, Mr. Morrissette, Dr. Simlai, Ms. Sisk, and Mr. Thompson.

ACCEPTANCE OF AGENDA:

The Board considered the agenda for the February 23, 2024, meeting.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY DR. LECH AND CARRIED BY A VOICE VOTE TO APPROVE THE AGENDA AS DISTRIBUTED.

AYES: COMMISSIONER HERINGER, TREASURER BEADLE, MR. MILLER, MS. SISK, REP. BOSCH, MR. THOMPSON, DR. SIMLAI, MR. MICKELSON, SEN. KELIN, DR. LECH, MR. MORRISSETTE, MR. JAHNER, AND LT. GOV. MILLER

NAYS: NONE MOTION CARRIED

MINUTES:

The Board considered the minutes of the January 26, 2024, SIB meeting.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY DR. LECH AND CARRIED BY A VOICE VOTE TO APPROVE THE JANUARY 26, 2023, MINUTES AS DISTRIBUTED.

AYES: MR. MICKELSON, COMMISSIONER HERINGER, MR. MORRISSETTE, MR. THOMPSON, TREASURER BEADLE, DR. LECH, MR. JAHNER, MS. SISK, SEN. KELIN, REP. BOSCH, MR. MILLER, DR. SIMLAI, AND LT. GOV. MILLER

NAYS: NONE MOTION CARRIED

<u>INVESTMENTS</u>:

Incentive Compensation Plan:

Mr. Anderson introduced the incentive compensation plan by sharing some of the business case slides that were presented to the Legislature during the 2023 session. The business case outlines the benefits of the internal investment program, and the talent management needs to implement the program.

Mr. Josh Wilson, Mercer, reviewed the proposed incentive compensation plan for RIO. Mercer was hired to work with RIO to design an incentive compensation plan for the implementation of the internal investment program. Mr. Wilson reviewed the plan objectives and design mechanics including eligibility, performance measurement, performance standards, incentive opportunity, and the measurement period. Mr. Wilson provided an overview of how this proposed plan compares to market practice. Incentive eligibility, metrics, and incentive targets were reviewed. Mr. Wilson commented that RIO's use of an independent Benchmark Consultant is a good governance approach for the incentive compensation plan. The Board had extensive discussion about the plan.

IT WAS MOVED BY DR. LECH AND SECONDED BY TREASURER BEADLE AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE INCENTIVE COMPENSATION PLAN AS PROPOSED.

AYES: REP. BOSCH, SEN. KLEIN, COMMISSIONER HERINGER, DR. SIMLAI, MR. MICKELSON, TREASURER BEADLE, MR. JAHNER, MR. THOMPSON, DR. LECH AND LT. GOV. MILLER NAYS: MS. SISK, MR. MORRISSETTE, AND MR. MILLER MOTION CARRIED

Interim Benchmark Update:

Mr. Anderson reviewed the Board's action at the November 2023 meeting to approve the first annual benchmark memo. It was discussed that there may be a need for new benchmark assignments as the asset allocation or strategies change, based on knowledge gained as the incentive compensation plan was analyzed.

Ms. Eileen Neill and Mr. Marc Gesell, Verus, presented a Private Equity strategic and implementation benchmark recommendation and a Private Equity benchmarking methodology. The recommendation includes a three-tiered approach based on life cycle of investment control and a peer universe-based benchmark with Hamilton Lane. Ms. Neill reviewed the rationale for the recommendation. Board discussion followed.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY DR. SIMLAI AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE INTERIM BENCHMARKS.

AYES: TREASURER BEADLE, MR. JAHNER, REP. BOSCH, MR. THOMPSON, COMMISSIONER HERINGER, MR. MORRISSETTE, DR. SIMLAI, DR. LECH, MR. MILLER, SEN. KLEIN, MR. MICKELSON

AND LT. GOV. MILLER

NAYS: NONE ABSENT: MS. SISK MOTION CARRIED

New Client Onboarding Update:

Mr. Skor provided an update on activities on two new non-discretionary client funds and one potential discretionary fund. Staff have held meetings with the State Historical Society and the Department of Health and Human Services to begin the process for their funds. Representatives of the Water Commission have reached out regarding the Water Project Stabilization fund and staff are coordinating with them. Board discussion followed.

The Board recessed at 10:58 a.m. and reconvened at 11:06 a.m.

GOVERNANCE:

Executive Review and Compensation Committee (ERCC) Update:

Dr. Lech provided an update from the February 20, 2024, ERCC meeting. The Committee received a presentation on the incentive compensation plan and recommended it for approval to the SIB. The Committee reviewed the SIB self-assessment results and approved the formats for upcoming surveys.

Board Self-Assessment Results:

Ms. Seiler reviewed the results of the 2024 SIB self and board assessment. The responses and results were generally positive with an average score of 3.52 on a 4.0 scale. There were positive comments about the onboarding for new board members and the work done by the sub committees. A request was shared to allow additional time for board discussion on certain topics. Board discussion followed.

SIB Governance and Policy Review (GPR) Committee Update:

Dr. Lech provided an update from the February 13, 2024, GPR Committee meeting. The Committee reviewed section D of the governance manual. Staff provided the Committee with an update on the strategy review and received feedback from the Committee.

Investment Committee (IC) Update:

Treasurer Beadle provided an update from the February 9, 2024, IC Meeting. The IC received a public markets strategy review presentation. In closed session, the IC received a high yield portfolio recommendation and a private market manager recommendation. Staff asked the IC to consider evaluating the private equity benchmark. The Committee agreed to have a special meeting to discuss an alternate private equity benchmark. Dr. Simlai commended Mr. Chin, Mr. Posch, and Mr. Dukart for their impressive work on the public markets strategy.

Audit Committee Update:

Treasurer Beadle provided an update from the February 15, 2024, Audit Committee meeting. The Committee approved the second quarter and current audit activities reports, and audit modernization project update. The Committee reviewed and approved changes to the Audit Committee charter. The charter will be reviewed next by the GPR Committee. The Committee reviewed and approved the Executive Limitations Audit.

QUARTERLY MONITORING REPORTS:

Quarterly Budget/Fiscal Activities Report:

Mr. Skor reviewed the Budget/Fiscal Activities Report for the quarter ended December 31, 2023. The report contains the budget appropriations status, expenditure summary, and the Pension Administration System project status. Board discussion followed.

Executive Limitations/Staff Relations:

Ms. Murtha reviewed RIO's strategic planning process. The next new board member onboarding session is scheduled for March 6, 2024, and will cover the next section of the governance manual. The Temporary Administrative Assistant position has been accepted and the new staff person will start on March 4, 2024. Ms. Murtha reviewed current project activities and initiatives. Staff discussed a published media poll about the Legacy Fund management. RIO responded to the poll and corresponding article in multiple ways, including issuing a press release and Mr. Anderson's appearance on a local radio program. Board discussion followed.

IT WAS MOVED BY DR. LECH AND SECONDED BY MR. THOMPSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY BUDGET/FISCAL ACTIVITIES, AND EXECUTIVE LIMITATIONS/STAFF RELATIONS REPORTS.

AYES: SEN. KLEIN, REP. BOSCH, COMMISSIONER HERINGER, DR. LECH, MR. MILLER, DR. SIMLAI, MR. MICKELSON, MR. JAHNER, MR. THOMPSON, MR. MORRISSETTE, AND LT. GOV. MILLER

NAYS: NONE

ABSENT: TREASURER BEADLE AND MS. SISK

MOTION CARRIED

ADJOURNMENT:

With no further business to come before the SIB, Lt. Gov. Miller adjourned the meeting at 11:48 a.m.

Prepared by: Missy Kopp, Assistant to the Board

Callan



March 21, 2024

North Dakota State Investment Board

Performance Evaluation as of December 31, 2023

Alex Browning
Senior Vice President

Craig Chaikin, CFASenior Vice President

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Callan

Market Update

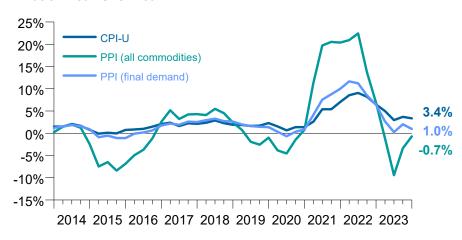
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U.S. Economy—Summary

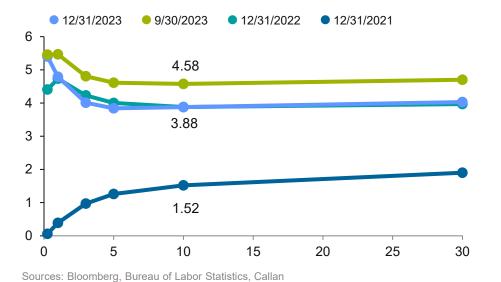
For periods ended 12/31/23

- U.S. real GDP increased at an annualized rate of 3.3% in the fourth quarter, according to the "advance" estimate. In the third quarter, real GDP increased at an annualized rate of 4.9%.
- Headline CPI increased 3.4% year-over-year in December, while core CPI (ex food and energy) increased 3.9% over the same period.
- The Fed held short-term rates steady at both the November and December FOMC meetings, with a current target range of 5.25-5.50%.
- The unemployment rate was unchanged at 3.7% in December.

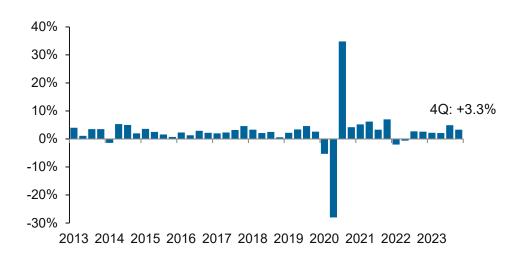
Inflation Year-Over-Year



U.S. Treasury Yield Curves



Quarterly Real GDP Growth





Public Markets Surge in 4Q, Following Decline in 3Q

Stocks have recovered losses of 2022, bonds still have ground to make up

S&P 500 soared 11.7% in 4Q23

 Loss through first three quarters of 2022 was 23.9%; the rebound in the following five quarters brought the index back to a positive return of 1.7% over the past two years.

Fixed income recovered in 4Q, up 6.8% after a sharp loss of 3.2% in 3Q

- The Bloomberg Aggregate was on track for another negative year through 3Q; softening Fed language on rates and a dot plot that showed cuts on the horizon in 4Q turned the market around.
- CPI-U declined in 4Q compared to 3Q, though up 3.4% year-over-year; the index is still 10% higher than it was at the start of 2022.

Economic data defied expectations of recession in 2023

- GDP growth came in at 2.1% in 1Q, 2.2% in 2Q, and jumped to a stunning 4.9% in 3Q (annualized rates). The "advance" estimate of 4Q growth is 3.3%.
- Job market remains solid, providing support to Fed efforts to fight inflation.

Returns for Periods ended 12/31/23

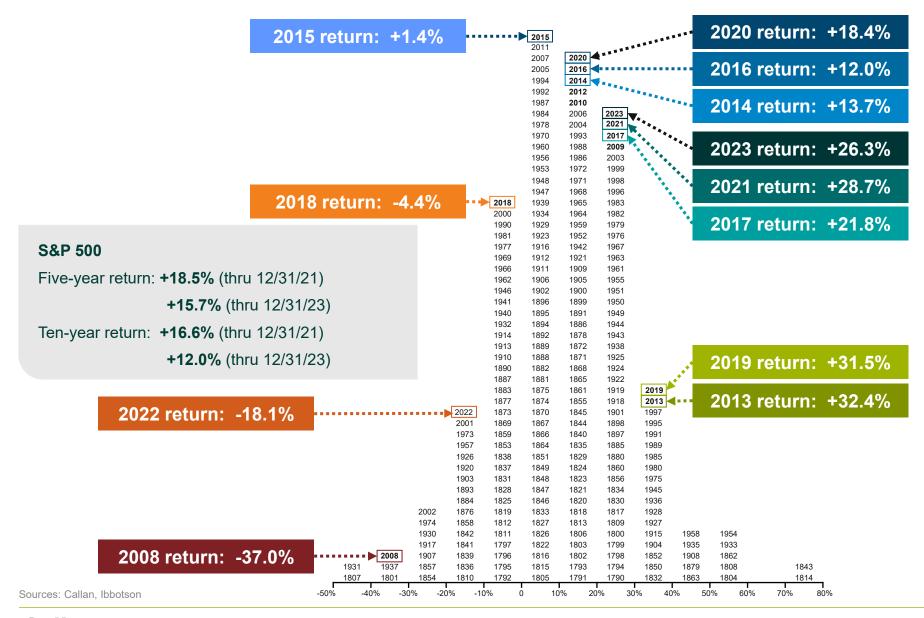
	Quarter	1 Year	2 Years	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	12.07	25.96	0.88	15.16	11.48	7.74
S&P 500	11.69	26.29	1.69	15.69	12.03	7.56
Russell 2000	14.03	16.93	-3.55	9.97	7.16	7.91
Global ex-U.S. Equity						
MSCI World ex USA	10.51	17.94	0.54	8.45	4.32	4.62
MSCI Emerging Markets	7.86	9.83	-6.32	3.69	2.66	
MSCI ACWI ex USA Small Cap	10.12	15.66	-3.79	7.89	4.88	7.28
Fixed Income						
Bloomberg Aggregate	6.82	5.53	-4.19	1.10	1.81	3.85
90-day T-Bill	1.37	5.01	3.22	1.88	1.25	1.90
Bloomberg Long Gov/Credit	13.24	7.13	-11.62	1.12	3.22	5.21
Bloomberg Global Agg ex-US	9.21	5.72	-7.29	-1.56	-0.79	2.25
Real Estate						
NCREIF Property*	-1.37	-8.39	3.12	5.26	7.40	8.31
FTSE Nareit Equity	16.22	13.73	-7.25	7.39	7.65	9.27
Alternatives						
HFRI Fund Weighted	3.59	7.52	1.52	7.00	4.53	6.30
Cambridge Private Equity*	1.60	2.78	3.19	15.18	14.78	13.61
Bloomberg Commodity	-4.63	-7.91	3.40	7.23	-1.11	2.83
Gold Spot Price	11.02	13.45	6.44	10.09	5.59	8.19
Inflation - CPI-U	-0.34	3.35	4.89	4.07	2.79	2.54

^{*}Cambridge PE data as of 6/30/23; NCREIF Property data as of 9/30/23 Sources: Bloomberg, Callan, Cambridge, FTSE Russell, HFRI, MSCI, NCREIF, S&P Dow Jones Indices



Stock Market Returns by Calendar Year

Performance in perspective: History of the U.S. stock market (233 years of returns)



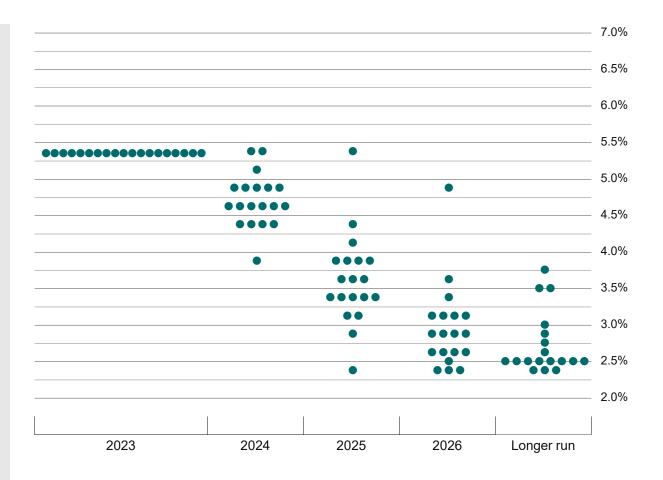


The Fed's 'Dot Plot'

December 13, 2023

Federal Open Market Committee (FOMC) participants' assessments of appropriate monetary policy

- Median year-end in 2024 = 4.6% (down from 5.1% projection at September meeting)
- Longer-run unchanged at 2.5%
- Dispersion of views widens in 2025 but narrows over "longer run"
- Market expects more cuts next year based on CME FedWatch as of December 2023. Fed Funds expectations:
 - 27% expect 4.00% to 4.25%
 - 37% expect 3.75% to 4.00%
 - 21% expect 3.50% to 3.75%



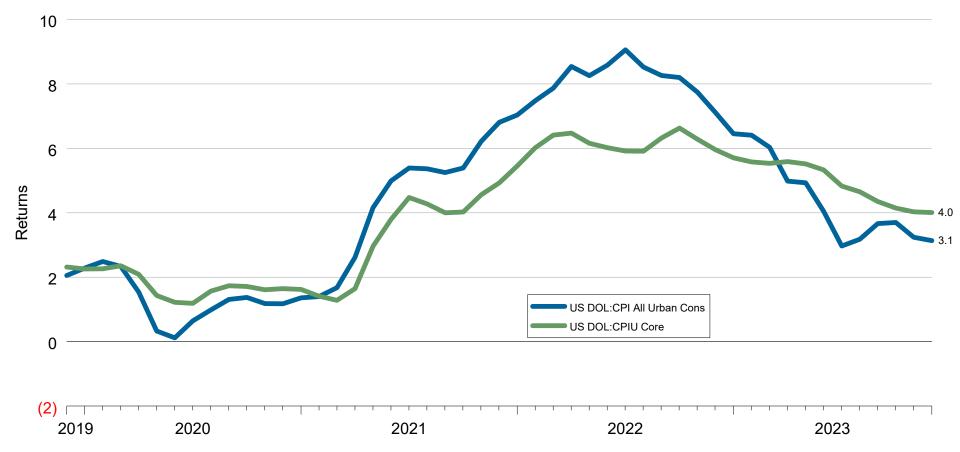
Source: Federal Reserve (One participant did not submit longer-run projections for the federal funds rate.)



Consumer Price Index

CPI growth moderated in 2023

Headline and Core CPI Year-Over-Year Growth for 4 Years Ended November 30, 2023



- YoY CPI growth fell from peak of 9.1% in June 2022 to 3.1% in November 2023.
- Inflation ticked higher in third quarter 2023 due to higher energy and housing prices before trending lower in the fourth quarter.



U.S. Equity Performance: 4Q23

The U.S. equity market rallied in 4Q, closing the year near record highs

- U.S. equity markets rebounded in the last two months of the year as the impact of possible rate cuts in 2024 started to get priced in.
- 2023 saw the narrowest breadth of leadership ("the Magnificent Seven") since 1987 with just 27% of stocks outperforming the S&P 500. Historically, such concentrated leadership has not been the sign of a healthy market. However, gains started broadening out in the last two months of the year with the equal-weighted S&P index outperforming the capitalization-weighted version.
- Smaller cap stocks also outperformed their large cap counterparts in 4Q23, further proof of the broadening out of returns; for the full year, large cap stocks outperformed small cap stocks by almost 10 percentage points.
- Growth vs. value performance was mixed across market capitalization during the quarter. Within large cap, growth outperformed value, while the opposite was true within small cap.

Industry Sector Quarterly Performance (S&P 500) as of 12/31/23

5.5%

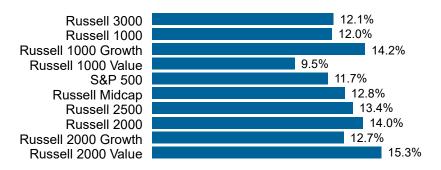
Consumer

-6.9%

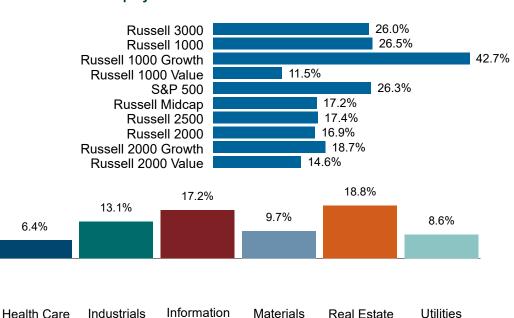
Energy

12.4%

U.S. Equity: Quarter Ended 12/31/23



U.S. Equity: One Year Ended 12/31/23





6.4%

14.0%

Financials



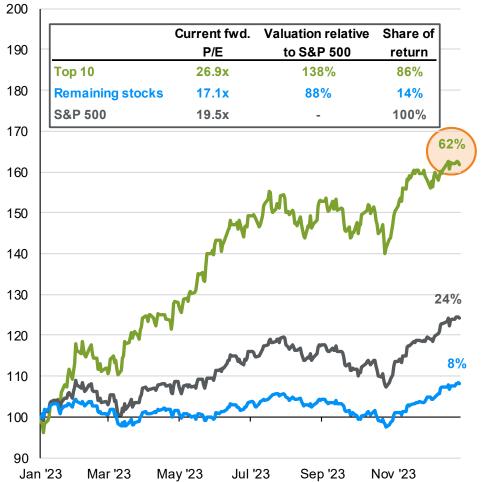
11.0%

Communication Consumer

U.S. Equity Market Performance Driven by the Largest Companies

Performance of the top 10 stocks in the S&P 500

Indexed to 100 on 1/1/2023, price return, top 10 held constant



Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



Earnings contribution of the top 10 in the S&P 500

Based on last 12 months' earnings



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

(Left) The top 10 companies used for this analysis are held constant and represent the S&P 500's 10 largest index constituents at the start of 2023.

The top 10 stocks are: AAPL, MSFT, AMZN, NVDA, GOOGL, BRK.B, GOOG, META, XOM, UNH, and TSLA. The remaining stocks represent the rest of the 494 companies in the S&P 500. (Right) The top 10 companies used for this analyses are updated monthly and are based on the 10 largest index constituents at the beginning of each month. As of 12/31/2023, the top 10 companies in the index were AAPL (7.0%), MSFT (6.9%), AMZN (3.5%), NVDA (3.0%), GOOGL (2.1%), META (2.0%), GOOG (1.8%), TSLA (1.8%), BRK.B (1.6%), AVGO (1.2%) and JPM (1.2%).

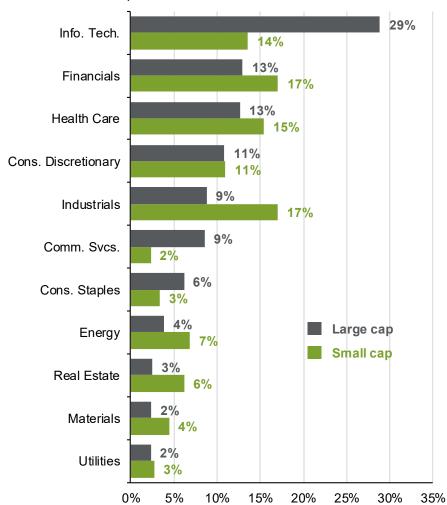
Guide to the Markets – U.S. Data are as of December 31, 2023.



Small Cap Versus Large Cap Stocks

Sector composition

% of index market capitalization



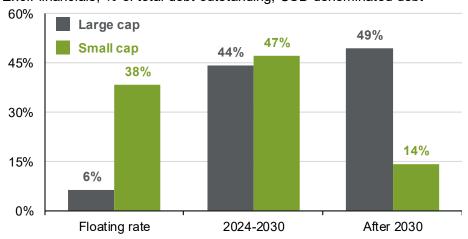
Percent of unprofitable companies in the Russell 2000

1Q98 - 3Q23



Outstanding debt by maturity year

Excl. financials, % of total debt outstanding, USD denominated debt



Source: Compustat, FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management. The S&P 500 is used for large cap and the Russell 2000 is used for small cap. *Guide to the Markets – U.S.* Data are as of December 31, 2023



Global/Global ex-U.S. Equity Performance: 4Q23

Dovish central banks drove market higher

Most global markets in the black for 4Q

Broad market

- Dovish signaling from central banks and dropping yields led to a broad market rally in 4Q.
- Global ex-U.S. small caps reclaimed some of their lagging performance in 4Q but ended the year as the worst-performing broad-based index, albeit up over 12%. Elevated borrowing costs and the persistent risk of a recession have kept investors away.
- Japan's low rates have benefited exporters, and the threat of being delisted spurred a stock buy-back spree. Coupled with an increased focus on governance, this spurred Japan to a multi-decade high.

Emerging markets

- Emerging markets underperformed developed markets.
 - India's rally couldn't overcome China's weakness, whose economic growth was near the government's target, but investor concerns around stimulus and a surprisingly sluggish reopening drove stocks lower.

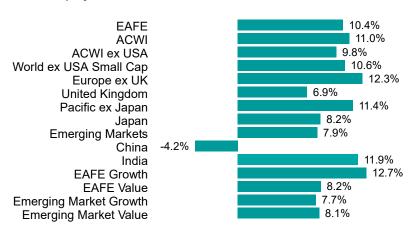
Growth vs. value

 Energy, a volatile area in the market, pulled back value's rally after having a strong 3Q. Global ex-U.S. growth rallied on lowering yields but couldn't overcome earlier underperformance and ended the year behind its value peers in both emerging and developed markets.

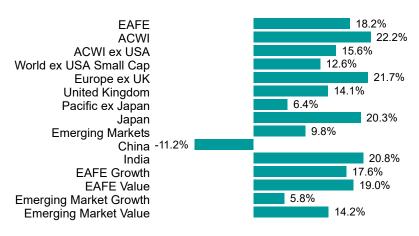
U.S. dollar vs. other currencies

 The U.S. dollar weakened in 4Q as investors believed that U.S. interest rates would fall faster than much of the developed world.

Global Equity Returns: Quarter Ended 12/31/23



Global Equity Returns: One Year Ended 12/31/23





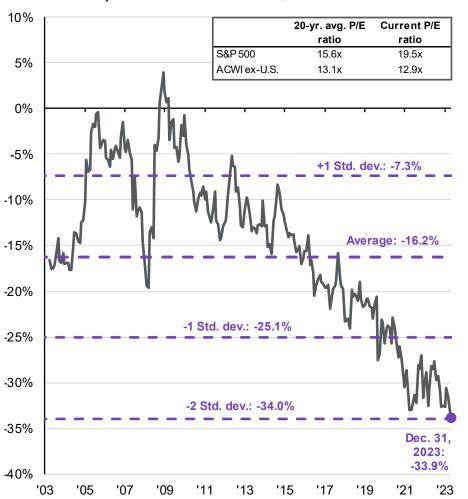


International Equity Valuations and Dividend Yields

Markets outside the U.S. are comparatively cheap by historical standards

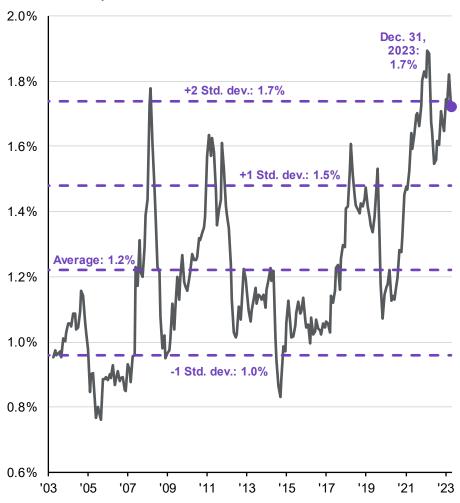
International: Price-to-earnings discount vs. U.S.

MSCI All Country World ex-U.S. vs. S&P 500, next 12 months



International: Difference in dividend yields vs. U.S.

MSCI All Country World ex-U.S. minus S&P 500, next 12 months



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of December 31, 2023.



U.S. Fixed Income Performance: 4Q23

Bonds bounce back at year-end; U.S. Treasury yield has volatile 2023

Strong returns at end of year

- Driven by falling rates and strong risk-on sentiment, the Agg returned 6.8%, the highest quarterly return since 2Q89 (when the 90-day T-bill was over 8% and inflation hit 14% earlier in the decade)!
- 10-year U.S. Treasury yield closed the year at 3.88%.
 - A round trip from 12/2022, masking significant volatility during the year
 - High was 4.98% in October and low was 3.30% in April
- Corporates and mortgages outperformed Treasuries for the quarter and year.
- High yield corporates soared as defaults remained low, economy resilient.

U.S. Treasury yield curve remained inverted, but less so

- 106 bps as of 6/30; 44 bps as of 9/30; 35 bps as of 12/31

Fed kept Fed Funds rate on hold and softened language

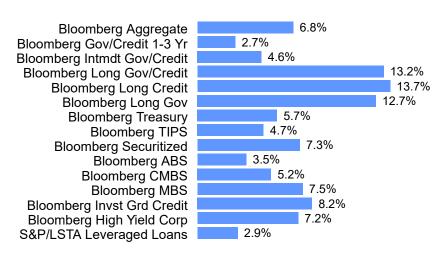
- Pivoted from "higher for longer" to projected rate cuts in 2024
- Inflation over past six months below Fed's 2% target
 - Core PCE Price Index was 1.9% annualized in November
- Markets expect six rate cuts in 2024 versus three in the Fed's Summary of Economic Projections

Valuations

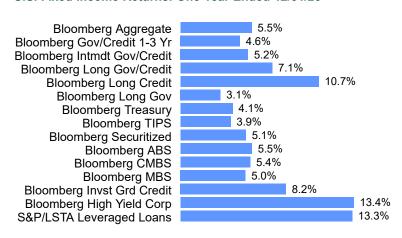
 Investment grade and high yield corporate spreads now below 10-year averages

Sources: Bloomberg, Callan, S&P Dow Jones Indices

U.S. Fixed Income Returns: Quarter Ended 12/31/23



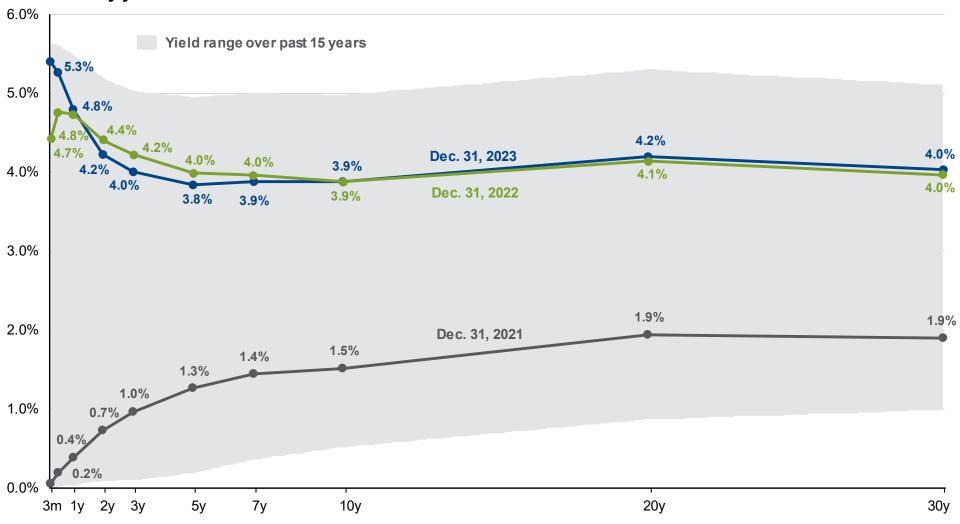
U.S. Fixed Income Returns: One Year Ended 12/31/23





U.S Treasury Yield Curve Changes

U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of December 31, 2023.



U.S. Private Real Estate Performance: 4Q23

Income returns positive but appreciation returns negative once again

Valuations reflect higher interest rates

- Income returns were positive across sectors and regions.
- All property sectors and regions experienced negative appreciation.
- Valuations are reflective of higher interest rates, which have put upward pressure on capitalization rate and discount rate assumptions.
- Return dispersion by manager within the ODCE Index was due to the composition of underlying portfolios.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE	-5.0%	-12.7%	4.0%	3.3%	6.3%
Income	0.7%	2.8%	2.8%	2.9%	3.3%
Appreciation	-5.7%	-15.2%	1.2%	0.4%	3.0%
NCREIF Property Index	-3.0%	-7.9%	4.6%	4.3%	6.8%
Income	1.1%	4.3%	4.1%	4.2%	4.6%
Appreciation	-4.1%	-11.8%	0.4%	0.1%	2.2%

Returns are geometrically linked

NCREIF Property Index Quarterly Returns by Region and Property Type



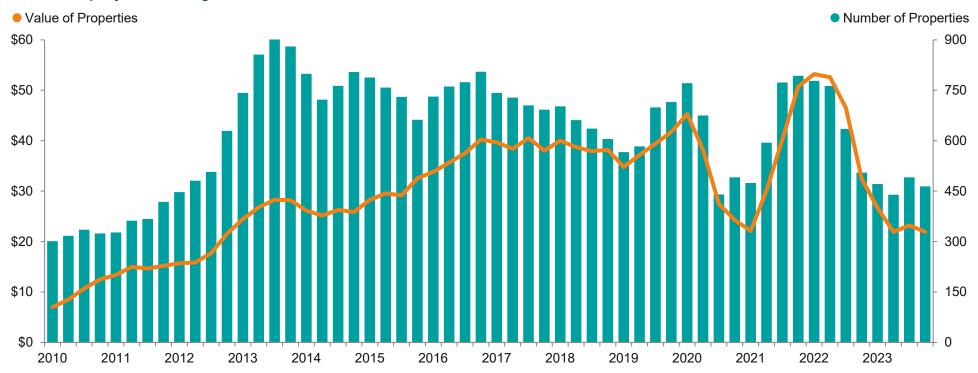
Source: NCREIF, ODCE return is net



U.S. Private Real Estate Market Trends

Pricing and transaction volumes decline through 4Q23

NCREIF Property Index Rolling 4-Quarter Transaction Totals



- Transaction volume continues to flatten on a rolling four-quarter basis and remains well below five-year averages.
- In 4Q23 transaction volume decreased slightly on a quarter-over-quarter basis. Transaction volume remains significantly lower compared to 2022.
- The rise in interest rates is the driving force behind the slowdown in transactions. A bid-ask spread remains and price discovery
 continues to occur among market participants. Values continue to reset adjusting to current base rates.



Private Equity Market Trends

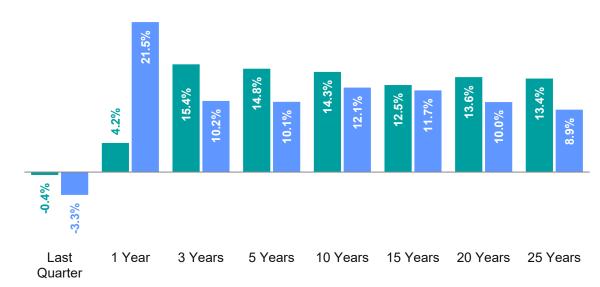
Gains for stocks not shared by private equity

Smoothing effect in performance

- Public equity's strong recovery in 2023 (led by the "Magnificent Seven" technology stocks) has left private equity in its wake.
- Private equity doesn't recover as quickly as the public markets, because the smoothing effect dampens private equity returns in both up and down markets.
- Private equity only saw about a fifth of the gains of the public markets over the last year, on a PME basis.
- While buyouts saw solid performance for the year, venture capital and growth equity continued to struggle. These strategies have seen the largest valuation adjustments from the highs of 2021.

Net IRRs as of 09/30/23

■ Global Private Equity & Energy ■ Russell 3000 PME



Net IRRs by Strategy as of 09/30/23

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Venture Capital	-2.4%	-8.9%	14.8%	17.2%	17.2%	13.4%
Growth Equity	-0.6%	0.8%	12.3%	14.8%	14.3%	13.1%
Buyouts	0.1%	10.2%	16.8%	15.0%	14.6%	12.4%
Mezzanine	1.8%	13.0%	13.5%	11.0%	11.1%	10.7%
Credit Opportunities	1.2%	8.2%	11.1%	7.1%	7.5%	10.1%
Control-Oriented Distressed	0.4%	5.6%	19.4%	13.6%	11.7%	11.5%

Source: Refinitiv/Cambridge. PME: Public Market Equivalent



Private Equity Market Trends

Another down year for fundraising

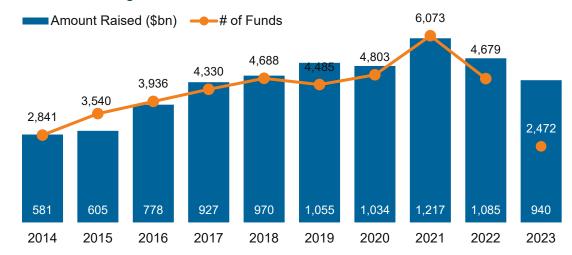
Back to 2022 levels

- Fundraising declined back closer to historical levels in 2022 after its frenzied peak in 2021.
- So far, 2023 has been another down year, with LPs being more selective with their commitments.
- With significantly fewer funds closing this year and constrained LP commitment budgets, many GPs are reluctant to come back to market in the near term.

Deal activity slowdown continues

 Both new investment activity and exit activity slowed markedly in 2023, following rising interest rates, declines in the public markets, and continued price uncertainty.

Annual Fundraising



Annual Deal Activity



Source: PitchBook



Callan

NDSIB Total Performance & Asset Allocation Summary

Conclusions and Observations

- 1. Are the Plans' assets invested as outlined in the Plan's Investment Policy Statement?
 - Each of the Trust's asset allocation were within policy ranges as of December 31, 2023.
- 2. Are the Plans' cash flows being managed consistent with the Plan's strategic asset allocation policy?
 - Each Trust's cash flows were managed to rebalance towards strategic targets as of December 31, 2023.
- 3. Are the Plans' investment results meeting strategic objectives?
 - All Total Fund returns have each exceeded their respective static benchmarks on a net-of-fee basis for the trailing five-year period ended December 31, 2023.
- 4. Are the fees paid to managers reasonable given the competitive landscape and given the value delivered?
 - In most cases, Total Fund net-of-fee results exceed benchmark.
- 5. Are any corrective steps necessary to bring the Plan back into compliance with long-term objectives?
 - No action steps are recommended as the Plans are meeting objectives.

Corridor Benchmarking

1. What is corridor benchmarking?

- Adjusting a portfolio's benchmark weights to reflect the actual weights of private market and less liquid investments.
- Any increase or decrease from the strategic target weights to private/less liquid investments will be offset by an equal magnitude decrease/increase to the benchmark weight in public equity and/or fixed income.

2. Why would this be used?

- Performance attribution from asset allocation would more clearly reflect the Investment team's decisions.
- Staff does not have direct control of private/less liquid strategy cash flows, i.e. managers call and distribute capital as deals
 are executed.
- Therefore, the inability to rebalance generates an asset allocation effect that is outside of Staff and the Board's control.

3. How will weights be adjusted?

- Private equity will be rebalanced to public equity.
- Real assets, including real estate and infrastructure, will be rebalanced to 50% public fixed income and 50% public equity.

NDSIB Consolidated Gross Performance Summary

As of December 31, 2023

	Last Quarter	Last Year	Last 5 Years
Consolidated Pension Trust	6.06%	10.90%	9.00%
Consolidated Pension Trust Target	6.75%	11.40%	8.80%
Consolidated Pension Trust Corridor Target	6.28%	10.44%	8.39%
Relative Performance vs. Target	-0.69%	-0.50%	0.20%
Relative Performance vs. Corridor Target	-0.22%	0.46%	0.61%
PERS Total Fund	6.27%	11.21%	9.11%
NDSIB PERS Total Fund Target	6.91%	11.61%	8.74%
NDSIB PERS Total Fund Corridor Target	6.56%	10.82%	8.47%
Relative Performance vs. Target	-0.64%	-0.40%	0.37%
Relative Performance vs. Corridor Target	-0.29%	0.39%	0.64%
TFFR Total Fund	5.72%	10.47%	8.92%
NDSIB TFFR Total Fund Target	6.51%	10.92%	8.89%
NDSIB TFFR Total Fund Corridor Target	5.91%	9.89%	8.31%
Relative Performance vs. Target	-0.79%	-0.45%	0.03%
Relative Performance vs. Corridor Target	-0.19%	0.58%	0.61%
WSI Total Fund	7.07%	8.56%	4.79%
NDSIB WSI Total Fund Target	6.72%	7.49%	4.04%
Relative Performance vs. Target	0.35%	1.07%	0.75%
Legacy - Total Fund	7.91%	13.12%	7.95%
NDSIB Legacy - Total Fund Target	7.35%	11.23%	6.94%
NDSIB Legacy - Total Fund Corridor Target	8.02%	12.04%	7.10%
Relative Performance vs. Target	0.56%	1.89%	1.01%
Relative Performance vs. Corridor Target	-0.11%	1.08%	0.85%
Dudget Total Found	0.070/	7.000/	0.050/
Budget - Total Fund	2.67%	7.06%	2.25%
NDSIB Budget - Total Fund Target	2.69%	4.61%	1.51%
Relative Performance vs. Target	-0.02%	2.45%	0.74%



PERS Returns

Static vs. Corridor Benchmark Net of Fee Value-Added

Static Benchmark Net Value-Added

Returns	for 1	Year	Ended	12/31	12023

Returns for 3 Years Ended 12/31/2023

Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	11.21%
Net of fees	10.99%
Target	11.61%
Net added	-0.62%

Return Type	Return (%)
Gross	5.15%
Net of fees	4.91%
Target	4.97%
Net added	-0.06%

Return Type	Return (%)
Gross	9.11%
Net of fees	8.85%
Target	8.74%
Net added	0.11%

Corridor Benchmark Net Value-Added

Returns for 1 Year Ended 12/31/2023

Returns for 3 Years Ended 12/31/2023	Returns	for 3	Years	Ended	12/31/2023
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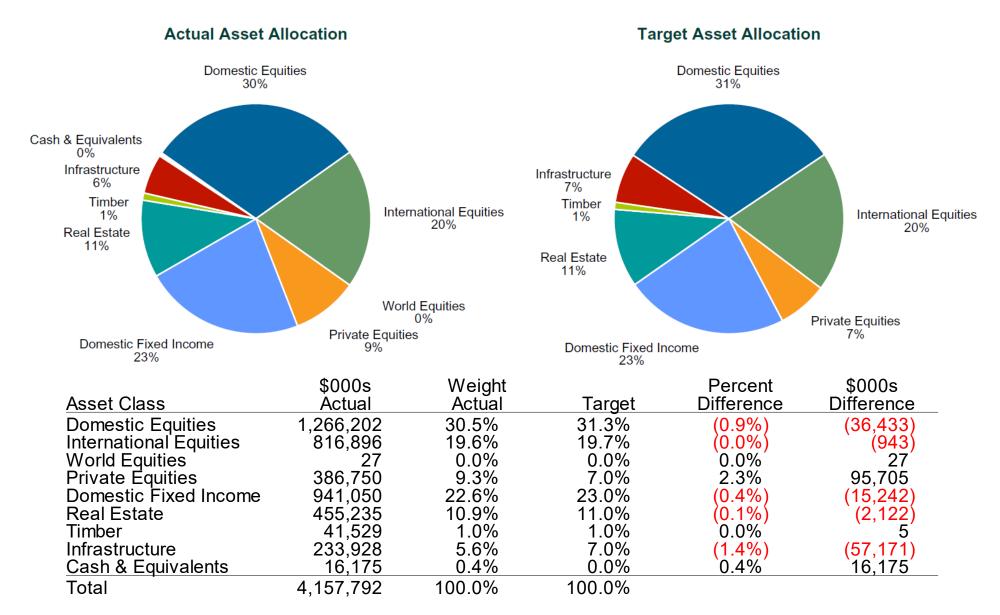
Return Type	Return (%)
Gross	11.21%
Net of fees	10.99%
Target	10.82%
Net added	0.17%

Return Type	Return (%)
Gross	5.15%
Net of fees	4.91%
Target	4.40%
Net added	0.51%

Return Type	Return (%)
Gross	9.11%
Net of fees	8.85%
Target	8.47%
Net added	0.38%

PERS Allocation

As of December 31, 2023



TFFR Returns

Static vs. Corridor Benchmark Net of Fee Value-Added

Static Benchmark Net Value-Added

Returns	for 1	Year	Ended	12/31/2023
IXCLUIIIS	101 1	ı caı	LIIGUG	

Returns for 3 Years Ended 12/31/2023

Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	10.47%
Net of fees	10.27%
Target	10.92%
Net added	-0.65%

Return Type	Return (%)
Gross	4.89%
Net of fees	4.66%
Target	5.13%
Net added	-0.47%

Return Type	Return (%)
Gross	8.92%
Net of fees	8.67%
Target	8.89%
Net added	-0.22%

Corridor Benchmark Net Value-Added

Returns for 1 Year Ended 12/31/2023

Returns for 3 Years Ended 12/31/2023

Returns for 5 Years Ended 12/31/2023

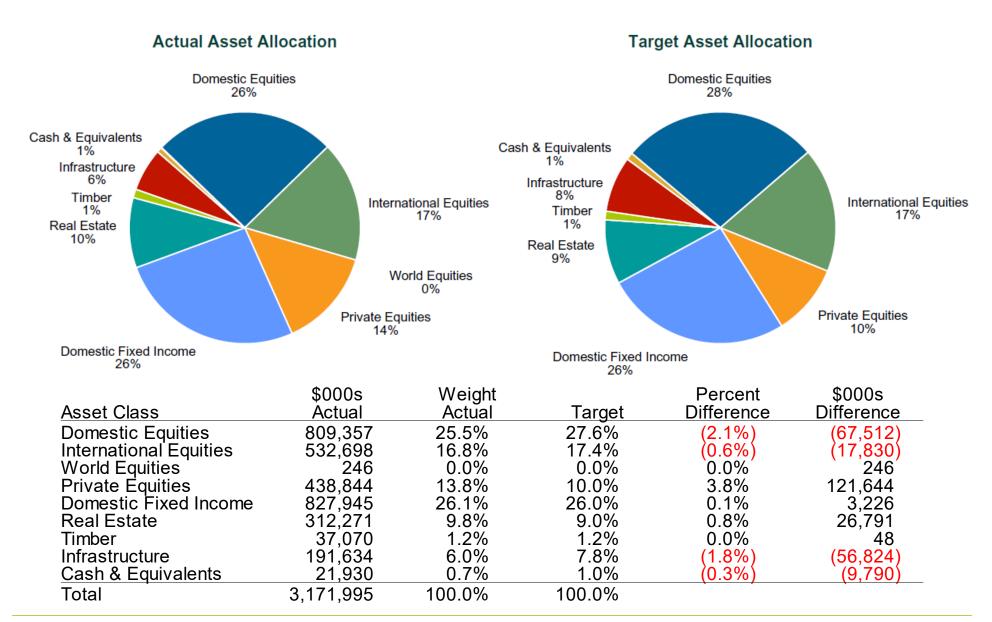
Return Type	Return (%)
Gross	10.47%
Net of fees	10.27%
Target	9.89%
Net added	0.38%

Return Type	Return (%)
Gross	4.89%
Net of fees	4.66%
Target	4.28%
Net added	0.38%

Return Type	Return (%)
Gross	8.92%
Net of fees	8.67%
Target	8.31%
Net added	0.36%

TFFR Allocation

As of December 31, 2023



WSI Fund Returns

Static vs. Corridor Benchmark Net of Fee Value-Added

Static Benchmark Net Value-Added

Returns for 1 Year Ended 12/31/2023	Returns	for 1	Year	Ended	12/31	/2023
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Returns for 3 Years Ended 12/31/2023

Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	8.56%
Net of fees	8.39%
Target	7.49%
Net added	0.90%

Return Type	Return (%)
Gross	0.31%
Net of fees	0.13%
Target	-0.28%
Net added	0.41%

Return Type	Return (%)
Gross	4.79%
Net of fees	4.61%
Target	4.04%
Net added	0.57%

Corridor Benchmark Net Value-Added

Returns for 1 Year Ended 12/31/2023

Return Type

Net of fees

Net added

Gross

Target

urn (%)	
8.56%	
8.39%	
7.25%	

Return (%)

1.14%

Returns for 3 Years Ended 12/31/2023

Return Type	Return (%)
Gross	0.31%
Net of fees	0.13%
Target	-0.37%
Net added	0.50%

Returns for 5 Years Ended 12/31/2023

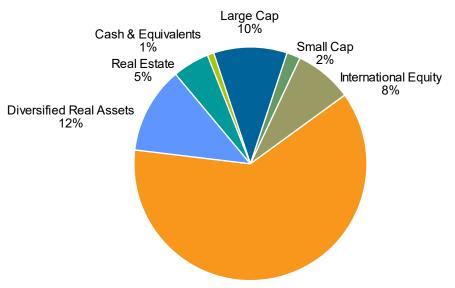
Return Type	Return (%)
Gross	4.79%
Net of fees	4.61%
Target	4.04%
Net added	0.57%

WSI Allocation

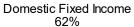
As of December 31, 2023

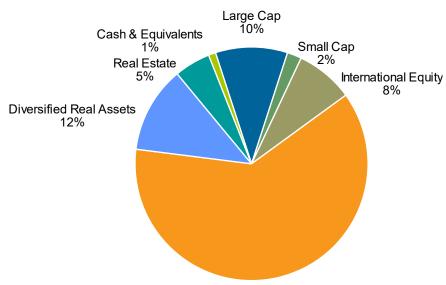
Actual Asset Allocation

Target Asset Allocation



Knowledge. Experience. Integrity.





Domestic Fixed Income 62%

Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	217,839	10.3%	10.0%	0.3%	5,567
Smăll Caṗ	39,704	1.9%	2.0%	(0.1%)	(2,751)
International Equity	170,247	8.0%	8.0%	0.0%	429
Domestic Fixed Income	1,312,957	61.9%	62.0%	(0.1%)	(<mark>3,133</mark>) 134
Diversified Real Assets	254,861	12.0%	12.0%	0.0%	134
Real Estate	108,053	5.1%	5.0%	0.1%	1,917
Cash & Equivalents	19,065	0.9%	1.0%	(0.1%)	(2,162)
Total	2,122,727	100.0%	100.0%	,	,

Legacy Fund Returns

Static vs. Corridor Benchmark Net of Fee Value-Added

Static Benchmark Net Value-Added

Returns	for 1	Voar	Ended	12/31	12023
retuiis	IUI I	IEai	Lilueu	12/31	12023

Returns for 3 Years Ended 12/31/2023

Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	13.12%
Net of fees	12.94%
Target	11.23%
Net added	1.71%

Return Type	Return (%)
Gross	3.27%
Net of fees	3.07%
Target	2.04%
Net added	1.03%

Return Type	Return (%)
Gross	7.95%
Net of fees	7.74%
Target	6.94%
Net added	0.80%

Corridor Benchmark Net Value-Added

Returns for 1 Year Ended 12/31/2023

Return Type

Net of fees

Net added

Gross

Target

Return (%)	
13.12%	
12.94%	
12.04%	
0.90%	

Returns for 3 Years Ended 12/31/2023

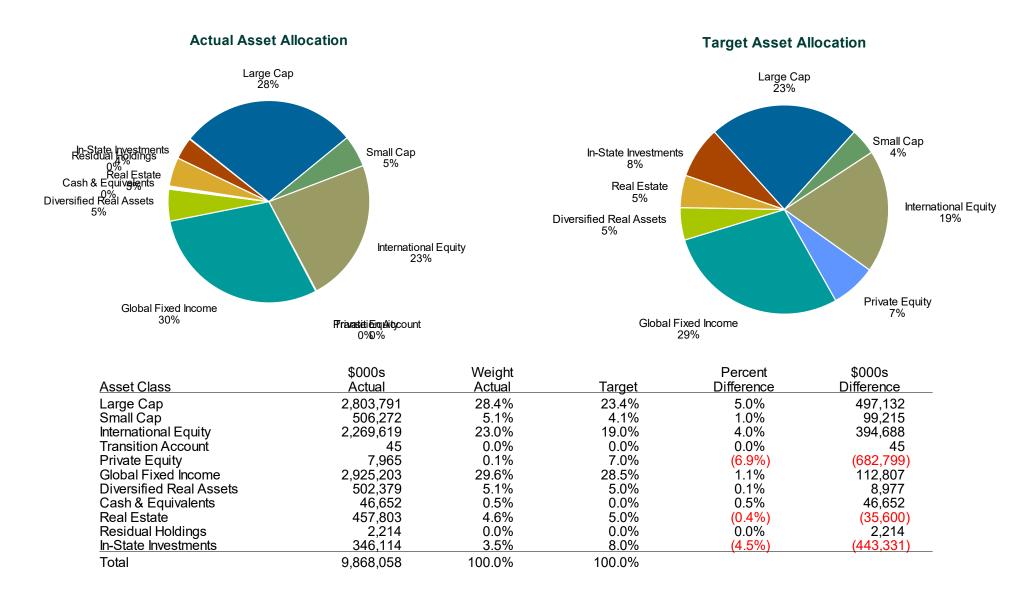
Return Type	Return (%)
Gross	3.27%
Net of fees	3.07%
Target	2.30%
Net added	0.77%

Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	7.95%
Net of fees	7.74%
Target	7.10%
Net added	0.64%

Legacy Fund Allocation

As of December 31, 2023



Consolidated Pension Trusts Quarterly Attribution Analysis

- Public Employees Retirement System
- Teachers' Fund for Retirement

PERS Attribution – Strategic and Corridor Target

As of December 31, 2023

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e <u>Return</u>
Domestic Equities	29%	31%	25.39%	25.17%	0.04%	(0.24%)	(0.20%)
International Equities	19%	20%	17.10%	15.62%	0.26%	(0.08%)	0.18%
World Equities	0%	0%	(18.28%)	(18.28%)	0.00%	(0.00%)	(0.00%)
Private Équities	10%	7%	4.09%	4.09%	0.00%	(0.22%)	(0.22%)
Domestic Fixed Income	22%	23%	7.77%	7.89%	(0.02%)	`0.05%´	0.03%
Real Estate	13%	11%	(13.61%)	(7.94%)	(0.87%)	(0.38%)	(1.25%)
Timber	1%	1%	` 7.87%´	9.45%	(0.02%)	(0.01%)	(0.03%)
Infrastructure	6%	7%	10.27%	(5.16%)	0.96%	0.17%	1.14%
Cash & Equivalents	0%	0%	5.19%	5.19%	0.00%	(0.04%)	(0.04%)
Other DM Regional	0%	0%	29.07%	29.07%	0.00%	0.00%	0.00%

Total	11.21% = 11.61% +	0.35% + (0.75%)	(0.40%)
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One Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e <u>Return</u>
Domestic Equities	29%	28%	25.39%	25.18%	0.04%	0.17%	0.21%
International Equities	19%	20%	17.10%	15.62%	0.26%	(0.10%)	0.16%
World Equities .	0%	0%	(18.28%)	(18.28%)	0.00%	(0.00%)	(0.00%)
Private Ėquities	10%	10%	4.09%	4.09%	0.00%	(0.00%)	(0.00%)
Domestic Fixed Income	22%	23%	7.77%	7.89%	(0.02%)	0.02%	(0.00%)
Real Estate	13%	12%	(13.61%)	(7.94%)	(0.87%)	(0.01%)	(0.88%)
Timber	1%	1%	7.87%	9.45%	(0.02%)	(0.00%)	(0.02%)
Infrastructure	6%	6%	10.27%	(5.16%)	0.96%	(0.00%)	0.96%
Cash & Equivalents	0%	0%	5.19%	5.19%	0.00%	(0.04%)	(0.04%)
Other DM Regional	0%	0%	29.07%	29.07%	0.00%	0.00%	0.00%

Total 11.2	1% = 10.82%	+	0.34%	+	0.04%	0.39

PERS Attribution – Strategic and Corridor Target

As of December 31, 2023

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e Return
Domestic Equities	27%	27%	8.91%	7.83%	0.28%	(0.23%)	0.05%
International Equities	17%	18%	1.05%	1.84%	(0.12%)	0.04%	(0.08%)
World Equities	7%	6%	(9.58%)	(10.40%)	0.10%	0.05%	0.15%
Private Équities	8%	7%	17.95%	17.95%	0.00%	(0.20%)	(0.20%)
Domestic Fixed Income	23%	23%	(0.25%)	(1.70%)	0.37%	(0.03%)	0.34%
Real Estate	12%	11%	4.55%	4.57%	(0.01%)	(0.14%)	(0.15%)
Timber	1%	1%	3.92%	10.49%	(0.08%)	(0.01%)	(0.09%)
Infrastructure	5%	7%	9.46%	5.08%	0.27%	(0.08%)	0.19%
Cash & Equivalents	0%	0%	2.23%	2.23%	0.00%	(0.02%)	(0.02%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	
Total			5.15% =	4.97% +	0.80% +	(0.62%)	0.19%

Three Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e Return
Domestic Equities	27%	26%	8.91%	7.84%	0.28%	(0.13%)	0.14%
International Equities	17%	18%	1.05%	1.84%	(0.12%)	0.03%	(0.09%)
World Equities	7%	6%	(9.58%)	(10.40%)	0.10%	0.05%	0.16%
Private Equities	8%	8%	17.95%	17.95%	0.00%	(0.00%)	(0.00%)
Domestic Fixed Income	23%	23%	(0.25%)	(1.70%)	0.37%	0.02%	0.38%
Real Estate	12%	12%	4.55%	4.57%	(0.01%)	(0.00%)	(0.01%)
Timber	1%	1%	3.92%	10.49%	(0.08%)	(0.00%)	(0.08%)
Infrastructure	5%	5%	9.46%	5.08%	0.27%	(0.00%)	0.27%
Cash & Equivalents	0%	0%	2.23%	2.23%	0.00%	(0.02%)	(0.02%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%′
Total			5.15% =	4.40% +	0.80% +	(0.05%)	0.76%



PERS Attribution – Strategic and Corridor Target

As of December 31, 2023

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e <u>Return</u>
Domestic Equities	25%	24%	15.63%	14.52%	0.24%	(0.06%)	0.18%
International Equities	17%	17%	8.81%	7.20%	0.25%	0.03%	0.27%
World Equities	10%	10%	(0.18%)	1.26%	(0.26%)	(0.01%)	(0.27%)
Private Équities	6%	7%	14.55%	14.55%	0.00%	(0.10%)	(0.10%)
Domestic Fixed Income	23%	23%	3.42%	2.45%	0.25%	(0.02%)	0.24%
Real Estate	12%	11%	4.25%	4.33%	(0.01%)	(0.14%)	(0.15%)
Timber	2%	2%	4.17%	6.62%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	6%	8.69%	3.93%	0.27%	(0.00%)	0.27%
Cash & Equivalents	0%	0%	1.89%	1.89%	0.00%	(0.02%)	(0.02%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%′

Five Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e Return
Domestic Equities	25%	25%	15.63%	14.52%	0.24%	(0.09%)	0.15%
International Equities	17%	17%	8.81%	7.20%	0.25%	0.02%	0.27%
World Equities	10%	10%	(0.18%)	1.26%	(0.26%)	0.00%	(0.26%)
Private Equities	6%	6%	14.55%	14.55%	0.00%	(0.00%)	(0.00%)
Domestic Fixed Income	23%	23%	3.42%	2.45%	0.25%	0.01%	0.26%
Real Estate	12%	12%	4.25%	4.33%	(0.01%)	(0.00%)	(0.01%)
Timber	2%	2%	4.17%	6.62%	(0.02%)	(0.00%)	(0.02%)
Infrastructure	5%	5%	8.69%	3.93%	0.27%	(0.00%)	0.27%
Cash & Equivalents	0%	0%	1.89%	1.89%	0.00%	(0.02%)	(0.02%)
Other DM Regional	0%	0%	<u>-</u>	-	0.00%	0.00%	0.00%
Total			9.11% =	8.47% +	0.72% +	(0.08%)	0.64%

TFFR Attribution – Strategic and Corridor Target

As of December 31, 2023

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Domestic Equities	25%	27%	25.44%	25.18%	0.05%	(0.36%)	(0.30%)
International Equities	17%	18%	17.21%	15.62%	0.24%	(0.10%)	0.13%
World Equities	0%	0%	(18.28%)	(18.28%)	0.00%	(0.00%)	(0.00%)
Private Equities	14%	10%	` 4.13%´	4.13%	0.00%	(0.30%)	(0.30%)
Domestic Fixed Income	26%	26%	7.85%	7.92%	(0.01%)	0.01%	(0.00%)
Real Estate	11%	9%	(13.69%)	(7.94%)	(0.76%)	(0.43%)	(1.19%)
Timber	1%	1%	` 7.87%´	9.45%	(0.02%)	(0.01%)	(0.03%)
Infrastructure	6%	8%	10.27%	(5.16%)	0.99%	0.28%	1.26%
Cash & Equivalents	1%	1%	5.13%	5.01%	0.00%	(0.04%)	(0.04%)
Other DM Regional	0%	0%	-	-	0.00%	0.02%	0.02%

Total $10.47\% = 10.92\% + 0.48\% + (0.93\%)$

(0.45%)

One Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Domestic Equities	25%	23%	25.44%	25.18%	0.05%	0.24%	0.29%
International Equities	17%	18%	17.21%	15.62%	0.24%	(0.12%)	0.12%
World Equities	0%	0%	(18.28%)	(18.28%)	0.00%	(0.00%)	(0.00%)
Private Equities	14%	14%	4.13%	4.13%	0.00%	0.00%	0.00%
Domestic Fixed Income	26%	26%	7.85%	7.92%	(0.01%)	(0.01%)	(0.02%)
Real Estate	11%	11%	(13.69%)	(7.94%)	(0.76%)	0.00%	(0.76%)
Timber	1%	1%	7.87%	9.45%	(0.02%)	0.00%	(0.02%)
Infrastructure	6%	6%	10.27%	(5.16%)	0.99%	0.00%	0.99%
Cash & Equivalents	1%	1%	5.13%	5.01%	0.00%	(0.04%)	(0.04%)
Other DM Regional	0%	0%	29.07%	29.07%	0.00%	0.02%	0.02%

Total	10.47% =	9.89% +	+ 0.48%	+	0.10%	0.58%
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TFFR Attribution – Strategic and Corridor Target

As of December 31, 2023

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	24%	8.88%	7.83%	0.24%	(0.26%)	(0.02%)
International Equities	15%	16%	1.21%	1.84%	(0.09%)	(0.03%)	(0.12%)
World Equities	7%	6%	(9.61%)	(10.44%)	0.11%	0.06%	0.16%
Private Equities	11%	10%	17.97%	17.97%	0.00%	(0.46%)	(0.46%)
Domestic Fixed Income	26%	26%	(0.60%)	(1.68%)	0.31%	(0.07%)	0.24%
Real Estate	10%	9%	4.52%	4.57%	(0.01%)	(0.12%)	(0.13%)
Timber	1%	1%	3.92%	10.49%	(0.09%)	(0.01%)	(0.10%)
Infrastructure	5%	8%	9.46%	5.08%	0.28%	(0.08%)	0.20%
Cash & Equivalents	1%	1%	2.27%	2.15%	0.00%	(0.03%)	(0.02%)
Other DM Regional	0%	0%	-	-	0.00%	0.01%	<u> </u>
Total			4.89% =	5.13% +	0.76% +	(0.99%)	(0.24%)

Total	4.89% =	5.13%	+	0.76% +	(0.99%)	

Three Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	23%	8.88%	7.83%	0.24%	(0.14%)	0.10%
International Equities	15%	16%	1.21%	1.84%	(0.09%)	(0.04%)	(0.12%)
World Equities	7%	6%	(9.61%)	(10.44%)	`0.11% [′]	0.07%	0.17%
Private Equities	11%	11%	17.97%	`17.97%´	0.00%	0.00%	0.00%
Domestic Fixed Income	26%	26%	(0.60%)	(1.68%)	0.31%	(0.02%)	0.30%
Real Estate	10%	10%	4.52%	4.57%	(0.01%)	0.00%	(0.01%)
Timber	1%	1%	3.92%	10.49%	(0.09%)	0.00%	(0.09%)
Infrastructure	5%	5%	9.46%	5.08%	0.28%	0.00%	0.28%
Cash & Equivalents	1%	1%	2.27%	2.15%	0.00%	(0.02%)	(0.02%)
Other DM Regional	0%	0%	-	-	0.00%	0.01%	0.01%′
Total			4.89% =	4.28% +	0.76% +	(0.14%)	0.62%

TFFR Attribution – Strategic and Corridor Target

As of December 31, 2023

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Domestic Equities	23%	23%	15.66%	14.54%	0.23%	(0.12%)	0.11%
International Equities	15%	15%	8.83%	7.16%	0.26%	(0.00%)	0.26%
World Equities	10%	10%	(0.20%)	1.23%	(0.25%)	0.00%	(0.25%)
Private Equities	8%	8%	14.55%	14.55%	0.00%	(0.34%)	(0.34%)
Domestic Fixed Income	25%	25%	3.16%	2.46%	0.21%	(0.03%)	0.18%
Real Estate	10%	9%	4.23%	4.33%	(0.01%)	(0.13%)	(0.15%)
Timber	2%	2%	4.17%	6.62%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	7%	8.69%	3.93%	0.28%	(0.01%)	0.27%
Cash & Equivalents	1%	1%	1.91%	1.88%	0.00%	(0.01%)	(0.01%)
Other DM Regional	0%	0%	-		0.00%	0.00%	<u>0.00%</u>
		-					

Total	8.92% =	8.89% +	0.69% +	(0.66%)	0.03%
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Five Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Domestic Equities	23%	23%	15.66%	14.54%	0.23%	(0.08%)	0.15%
International Equities	15%	15%	8.83%	7.16%	0.26%	(0.01%)	0.25%
World Equities	10%	10%	(0.20%)	1.23%	(0.25%)	0.01%	(0.24%)
Private Equities	8%	8%	14.55%	14.55%	0.00%	0.00%	0.00%
Domestic Fixed Income	25%	25%	3.16%	2.46%	0.21%	(0.00%)	0.21%
Real Estate	10%	10%	4.23%	4.33%	(0.01%)	0.00%	(0.01%)
Timber	2%	2%	4.17%	6.62%	(0.02%)	0.00%	(0.02%)
Infrastructure	5%	5%	8.69%	3.93%	0.28%	0.00%	0.28%
Cash & Equivalents	1%	1%	1.91%	1.88%	0.00%	(0.01%)	(0.01%)
Other DM Regional	0%	0%	-	-	0.00%	0.01%	0.01%

Total	8.92% =	8.31% +	0.69% -	+ (0.08%)	0.61%
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Insurance Trust Quarterly Attribution Analysis

- Workforce Safety and Insurance Legacy Fund
- Budget Stabilization Fund

Consolidated Insurance Trust Attribution – Strategic and Corridor Target

As of December 31, 2023

One Year Relative Attribution Effects

	Effective Actual	Effective Target	Actual	Target	Manager	Asset	Total Relative
Asset Class	Weight	Weight	Return	Return	Effect	Allocation	Return
Large Cap	7%	7%	26.68%	26.53%	0.01%	(0.04%)	(0.03%)
Small Cap	1%	2%	18.84%	16.93%	0.02%	(0.05%)	(0.03%)
International Equity	6%	6%	17.13%	15.62%	0.07%	(0.06%)	`0.01%′
Domestic Fixed Income	43%	44%	7.20%	5.53%	0.73%	(0.01%)	0.72%
Diversified Real Assets	9%	8%	6.11%	2.24%	0.34%	(0.01%)	0.33%
Real Estate	4%	3%	(12.57%)	(7.94%)	(0.23%)	(0.07%)	(0.31%)
Short Term Fixed Incom	ne 29%	29%	` 7.06%′	`4.61%´	`0.68%	(0.07%)	`0.61%´
Cash & Equivalents	1%	1%	5.06%	5.01%	0.00%	0.01%	0.01%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	_(0.00%)
Total			8.18% =	6.86% +	1.62% +	(0.30%)	1.32%

One Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	7%	7%	26.68%	26.53%	0.01%	0.01%	0.02%
Small Cap	1%	2%	18.84%	16.93%	0.02%	(0.04%)	(0.02%)
International Equity	6%	6%	17.13%	15.62%	0.07%	(0.06%)	`0.01%′
Domestic Fixed Income		44%	7.20%	5.53%	0.73%	(0.01%)	0.72%
Diversified Real Asset		9%	6.11%	2.24%	0.34%	0.00%	0.34%
Real Estate	4%	4%	(12.57%)	(7.94%)	(0.23%)	0.00%	(0.23%)
Short Term Fixed Incor	ne 29%	28%	` 7.06%′	`4.61%´	`0.68%	(0.08%)	`0.60%
Cash & Equivalents	1%	1%	5.06%	5.01%	0.00%	0.01%	0.01%
Other DM Regional	0%	0%	1.42%	1.42%	0.00%	(0.00%)	_(0.00%)_
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Total $8.18\% = 6.72\% + 1.62\% + (0.17\%)$	1.45%
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Consolidated Insurance Trust Attribution – Strategic and Corridor Target

As of December 31, 2023

Three Year Annualized Relative Attribution Effects

	Effective Actual	Effective Target	Actual	Target	Manager	Asset	Total Relative
Asset Class	Weight	Weight	Return	Return	Effect	Allocation	Return
Large Cap	8%	8%	10.38%	8.97%	0.10%	0.00%	0.11%
Smăll Cap	2%	2%	4.85%	2.22%	0.03%	0.02%	0.05%
International Equity	6%	6%	2.64%	3.12%	(0.03%)	(0.04%)	(0.07%)
Domestic Fixed Income	e 44%	44%	(2.62%)	(3.31%)	`0.31%´	(0.01%)	`0.30%´
Diversified Real Assets	s 9%	9%	`1.52%´	`1.44%′	(0.00%)	`0.00%´	0.00%
Real Estate	4%	4%	6.45%	4.57%	`0.08%	(0.04%)	0.04%
Short Term Fixed Incor	ne 26%	26%	0.92%	0.09%	0.23%	(0.05%)	0.17%
Cash & Equivalents	1%	1%	2.16%	2.15%	0.00%	`0.00%	0.00%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	_(0.00%)
Total			0.53% =	(0.08%) +	0.72% +	(0.11%)	0.61%

Total $0.53\% = (0.08\%) + 0.72\% + (0.11\%)$	0.61%
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Three Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	8%	8%	10.38%	8.97%	0.10%	0.01%	0.11%
Small Cap	2%	2%	4.85%	2.22%	0.03%	0.03%	0.06%
International Equity	6%	6%	2.64%	3.12%	(0.03%)	(0.04%)	(0.07%)
Domestic Fixed Incom	e 45%	44%	(2.62%)	(3.31%)	0.31%	(0.01%)	`0.29%´
Diversified Real Asset	ts 9%	9%	`1.52%´	`1.44%´	(0.00%)	(0.00%)	(0.00%)
Real Estate	4%	4%	6.45%	4.57%	`0.08%	(0.00%)	`0.08%
Short Term Fixed Inco	me 26%	26%	0.92%	0.09%	0.23%	(0.05%)	0.18%
Cash & Equivalents	1%	1%	2.16%	2.15%	0.00%	`0.00%´	0.00%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	_(0.00%)_

Total $0.53\% = (0.12\%) + 0.72\% + (0.07\%)$

Consolidated Insurance Trust Attribution – Strategic and Corridor Target

As of December 31, 2023

Five Year Annualized Relative Attribution Effects

	Effective Actual	Effective Target	Actual	Target	Manager	Asset	Total Relative
Asset Class	Weight	Weight	Return	Return	Effect	Allocation	Return
Large Cap	8%	8%	16.13%	15.52%	0.05%	(0.04%)	0.00%
Small Cap	2%	2%	9.19%	9.97%	(0.04%)	(0.01%)	(0.05%)
International Equity	6%	6%	8.94%	7.64%	`0.08%	(0.05%)	`0.03%´
Domestic Fixed Income	46%	46%	2.16%	1.10%	0.49%	`0.01%´	0.50%
Diversified Real Assets	9%	9%	3.77%	3.42%	0.03%	0.01%	0.03%
Real Estate	4%	4%	4.76%	4.33%	0.02%	(0.02%)	0.00%
Short Term Fixed Incom	ne 23%	23%	2.24%	1.51%	0.18%	(0.05%)	0.13%
Cash & Equivalents	2%	2%	1.80%	1.88%	(0.00%)	(0.03%)	(0.03%)
Other DM Regional	0%	0%	-	-	`0.00%′	(0.00%)	(0.00%)
Total			4.31% =	3.70% -	+ 0.79% +	(0.18%)	0.61%

Five Year Corridor Relative Attribution Effects

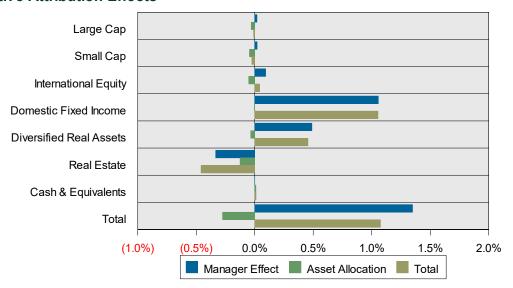
	Effective Actual	Effective Target	Actual	Target	Manager	Asset	Total Relative
Asset Class	Weight	Weight	Return	Return	Effect	Allocation	Return
Large Cap	8%	8%	16.13%	15.52%	0.05%	(0.05%)	(0.01%)
Small Cap	2%	2%	9.19%	9.97%	(0.04%)	(0.01%)	(0.05%)
International Equity	6%	6%	8.94%	7.64%	`0.08%	(0.05%)	0.03%
Domestic Fixed Income	46%	46%	2.16%	1.10%	0.49%	0.01%	0.50%
Diversified Real Assets	9%	9%	3.77%	3.42%	0.03%	(0.00%)	0.03%
Real Estate	4%	4%	4.76%	4.33%	0.02%	(0.00%)	0.02%
Short Term Fixed Incom	ne 23%	23%	2.24%	1.51%	0.18%	(0.04%)	0.13%
Cash & Equivalents	2%	2%	1.80%	1.88%	(0.00%)	(0.03%)	(0.03%)
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			4.31% =	3.68%	+ 0.79% +	(0.16%)	0.63%



WSI Performance and Attribution

As of December 31, 2023

One Year Relative Attribution Effects



Returns for 1 Year Ended 12/31/2023

Return Type	Return (%)
Gross	8.56%
Net of fees	8.39%
Target	7.49%
Net added	0.90%

One Year Relative Attribution Effects

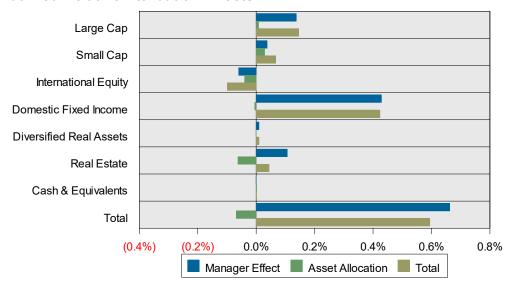
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	26.73%	26.53%	0.02%	(0.03%)	(0.01%)
Small Cap	2%	2%	18.86%	16.93%	0.02%	(0.04%)	(0.02%)
International Equity	8%	8%	17.02%	15.62%	0.09%	(0.05%)	`0.04%´
Domestic Fixed Income	e 61%	62%	7.23%	5.53%	1.06%	(0.00%)	1.05%
Diversified Real Assets	s 12%	12%	6.11%	2.26%	0.49%	(0.03%)	0.46%
Real Estate	6%	5%	(12.57%)	(7.94%)	(0.33%)	(0.12%)	(0.46%)
Cash & Equivalents	1%	1%	5.02%	5.01%	0.00%	0.01%	0.01%

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Total	8.56% =	7.49% +	1.35% +	(0.27%)	1.08%

WSI Performance and Attribution

As of December 31, 2023

Three Year Annualized Relative Attribution Effects



Returns for 3 Years Ended 12/31/2023

Return Type	Return (%)
Gross	0.31%
Net of fees	0.13%
Target	-0.28%
Net added	0.41%

Three Year Annualized Relative Attribution Effects

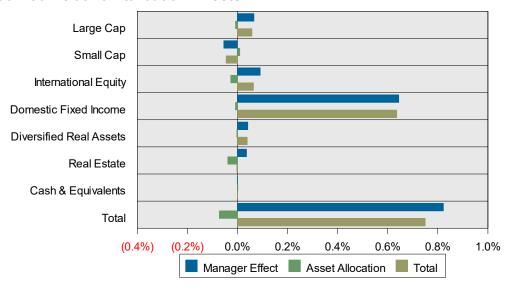
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	11%	10.40%	8.97%	0.14%	0.01%	0.15%
Smăll Cap	2%	3%	4.85%	2.22%	0.04%	0.03%	0.07%
International Equity	8%	8%	2.39%	3.12%	(0.06%)	(0.04%)	(0.10%)
Domestic Fixed Income		61%	(2.62%)	(3.31%)	0.43%	(0.00%)	0.42%
Diversified Real Assets	s 12%	12%	`1.56%′	`1.45%´	0.01%	(0.00%)	0.01%
Real Estate	5%	5%	6.45%	4.57%	0.11%	(0.06%)	0.04%
Cash & Equivalents	1%	1%	2.14%	2.15%	0.00%	`0.00%′	0.00%

Total	0.31% = (0.28%) +	0.66% + (0.07%)	0.59%

WSI Performance and Attribution

As of December 31, 2023

Five Year Annualized Relative Attribution Effects



Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	4.79%
Net of fees	4.61%
Target	4.04%
Net added	0.57%

Five Year Annualized Relative Attribution Effects

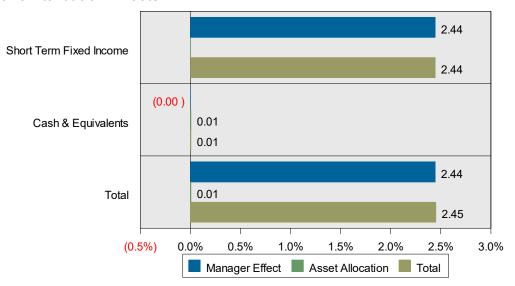
	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	16.14%	15.52%	0.07%	(0.01%)	0.06%
Small Cap	3%	3%	9.11%	9.97%	(0.05%)	`0.01%´	(0.05%)
International Equity	8%	8%	8.78%	7.64%	`0.09%´	(0.03%)	`0.06%´
Domestic Fixed Income	61%	61%	2.20%	1.10%	0.64%	(0.01%)	0.64%
Diversified Real Assets	12%	12%	3.80%	3.43%	0.04%	(0.00%)	0.04%
Real Estate	5%	5%	4.76%	4.33%	0.04%	(0.04%)	(0.00%)
Cash & Equivalents	1%	1%	1.79%	1.88%	(0.00%)	`0.00%′	`0.00%´

Total	4.79% =	4.04%	+	0.82% +	(0.07%)	0.75%
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Budget Stabilization Fund Performance and Attribution

As of December 31, 2023

One Year Relative Attribution Effects



Returns for 1 Year Ended 12/31/2023

Return Type	Return (%)
Gross	7.06%
Net of fees	6.94%
Target	4.61%
Net added	2.33%

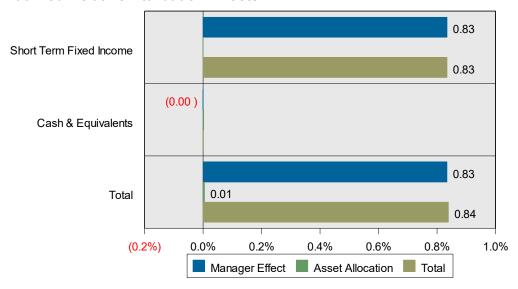
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Inc Cash & Equivalents	ome100% 0%	100% 0%	7.07% 4.80%	4.61% 5.01%	2.44% (0.00%)	0.00% 0.01%	2.44% 0.01%
Total			7.06% =	4.61% +	2.44% +	0.01%	2.45%

Budget Stabilization Fund Performance and Attribution

As of December 31, 2023

Three Year Annualized Relative Attribution Effects



Returns for 3 Years Ended 12/31/2023

Return Type	Return (%)
Gross	0.96%
Net of fees	0.84%
Target	0.12%
Net added	0.72%

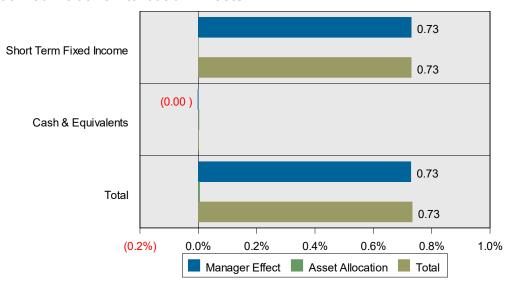
Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Inco	ome 99%	99%	0.93%	0.09%	0.83%	0.00%	0.83%
Cash & Equivalents	1%	1%	2.08%	2.15%	(0.00%)	0.00%	0.00%
Total			0.96% =	0.12% +	0.83% +	0.01%	0.84%

Budget Stabilization Fund Performance and Attribution

As of December 31, 2023

Five Year Annualized Relative Attribution Effects



Returns for 5 Years Ended 12/31/2023

Return Type	Return (%)
Gross	2.25%
Net of fees	2.13%
Target	1.51%
Net added	0.62%

Five Year Annualized Relative Attribution Effects

Asset Class Short Term Fixed Inc Cash & Equivalents	Effective Actual <u>Weight</u> ome 99% 1%	Effective Target Weight 99% 1%	Actual Return 2.25% 1.76%	Target Return 1.51% 1.88%	Manager Effect 0.73% (0.00%)	Asset Allocation 0.00% 0.00%	Total Relative <u>Return</u> 0.73% 0.00%
Total			2.25% =	1.51% +	0.73% +	0.00%	0.73%

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Legacy Fund Quarterly Attribution Analysis

Legacy Fund Attribution – Strategic and Corridor Target

As of December 31, 2023

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Large Cap	25%	24%	26.61%	26.53%	0.01%	0.23%	0.24%
Small Cap	4%	4%	17.97%	16.93%	0.01%	0.03%	0.04%
International Equity	20%	19%	16.98%	15.62%	0.24%	0.04%	0.29%
Private Equity	1%	3%	5.88%	5.88%	0.00%	0.27%	0.27%
Global Fixed Income	34%	34%	7.32%	5.53%	0.63%	0.08%	0.71%
Diversified Real Assets	9%	10%	5.65%	(0.85%)	0.64%	0.00%	0.64%
Real Estate	5%	5%	(12.27%)	(7.94%)	(0.30%)	(0.07%)	(0.37%)
Cash & Equivalents	1%	0%	5.05%	5.05%	0.00%	(0.08%)	(0.08%)
In-State Investments	0%	1%	-	-	0.00%	0.16%	0.16%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	13.12% = 11.23% +	1.24% +	0.66%	1.90%
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One Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Large Cap	25%	26%	26.61%	26.53%	0.01%	(0.08%)	(0.07%)
Small Cap	4%	5%	17.97%	16.93%	0.01%	(0.07%)	(0.06%)
International Equity	20%	19%	16.98%	15.62%	0.24%	0.02%	0.26%
Private Equity	1%	1%	5.88%	5.88%	0.00%	0.00%	0.00%
Global Fixed Income	34%	35%	7.32%	5.53%	0.63%	0.08%	0.71%
Diversified Real Assets	9%	9%	5.65%	(0.85%)	0.64%	0.00%	0.64%
Real Estate	5%	5%	(12.27%)	(7.94%)	(0.30%)	0.00%	(0.30%)
Cash & Equivalents	1%	0%	5.05%	5.05%	0.00%	(0.10%)	(0.10%)
In-State Investments	0%	0%	-	-	0.00%	0.00%	0.00%
Other DM Regional	0%	0%	1.69%	1.69%	0.00%	(0.00%)	(0.00%)

Total 13.12% = 12.04% + 1.24% + (0.16%) 1.08

Legacy Fund Attribution – Strategic and Corridor Target

As of December 31, 2023

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	24%	23%	10.35%	8.97%	0.29%	0.03%	0.32%
Small Cap	6%	6%	4.51%	2.22%	0.12%	0.05%	0.17%
International Equity	20%	20%	1.77%	3.12%	(0.26%)	0.03%	(0.23%)
Private Equity '	1%	2%	5.66%	5.66%	`0.00%	0.11%	0.11%
Global Fixed Income	34%	35%	(1.69%)	(3.31%)	0.57%	0.01%	0.59%
Diversified Real Assets	10%	10%	3.44%	1.53%	0.16%	0.01%	0.17%
Real Estate	5%	5%	6.65%	4.57%	0.12%	(0.07%)	0.05%
Cash & Equivalents	1%	0%	2.15%	2.15%	0.00%	0.01%	0.01%
In-State Investments	0%	0%	_	-	0.00%	0.05%	0.05%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total $3.27\% = 2.04\% + 1.01\% + 0.23\%$	1.24 %
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Three Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Large Cap	24%	24%	10.35%	8.97%	0.29%	(0.12%)	0.17%
Small Cap	6%	6%	4.51%	2.22%	0.11%	0.04%	0.15%
International Equity	20%	20%	1.77%	3.12%	(0.26%)	0.03%	(0.23%)
Private Equity '	1%	1%	5.66%	5.66%	0.00%	0.00%	0.00%
Global Fixed Income	34%	35%	(1.69%)	(3.31%)	0.57%	0.02%	0.60%
Diversified Real Assets	10%	10%	3.44%	`1.53%´	0.16%	0.00%	0.16%
Real Estate	5%	5%	6.65%	4.57%	0.12%	0.00%	0.12%
Cash & Equivalents	1%	0%	2.15%	2.15%	0.00%	0.00%	0.00%
In-State Investments	0%	0%	_	-	0.00%	0.00%	0.00%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	3.27% =	2.30% +	1.00% +	(0.03%)	0.97%
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Legacy Fund Attribution – Strategic and Corridor Target

As of December 31, 2023

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	23%	23%	16.03%	15.52%	0.12%	(0.01%)	0.10%
Small Cap	7%	7%	9.21%	9.97%	(0.11%)	0.01%	(0.11%)
International Equity	20%	20%	8.54%	7.64%	0.19%	0.02%	0.22%
Private Equity	0%	1%	-	-	0.00%	0.07%	0.07%
Global Fixed Income	34%	35%	2.72%	1.10%	0.53%	(0.01%)	0.53%
Diversified Real Assets	10%	10%	6.16%	3.76%	0.22%	0.00%	0.22%
Real Estate	5%	5%	4.87%	4.33%	0.04%	(0.04%)	0.00%
Cash & Equivalents	1%	0%	1.79%	1.79%	0.00%	(0.05%)	(0.05%)
In-State Investments	0%	0%	-	-	0.00%	0.03%	0.03%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
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Total $7.95\% = 6.94\% + 0.99\% + 0.02\%$

Five Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	23%	23%	16.03%	15.52%	0.12%	(0.10%)	0.01%
Small Cap	7%	7%	9.21%	9.97%	(0.12%)	0.00%	(0.12%)
International Equity	20%	20%	8.54%	7.64%	0.19%	0.02%	0.21%
Private Equity .	0%	0%	-	-	0.00%	0.00%	0.00%
Global Fixed Income	34%	35%	2.72%	1.10%	0.53%	(0.00%)	0.53%
Diversified Real Assets	10%	10%	6.16%	3.76%	0.22%	0.00%	0.22%
Real Estate	5%	5%	4.87%	4.33%	0.04%	0.00%	0.04%
Cash & Equivalents	1%	0%	1.79%	1.79%	0.00%	(0.05%)	(0.05%)
In-State Investments	0%	0%	-	-	0.00%	0.00%	0.00%
Other DM Regional	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	7.95% = 7.10%	+	0.99% +	(0.14%)	0.85%
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Appendix



Consolidated Pension Trust, PERS, and TFFR Performance Rankings

Returns for Periods Ended December 31, 2023 Group: Callan Public Fund Sponsor Database





Consolidated Pension Trust Attribution – Strategic and Corridor Target

As of December 31, 2023

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Domestic Equities	27%	29%	25.35%	25.17%	0.04%	(0.30%)	(0.26%)
International Equities	18%	19%	17.14%	15.62%	0.25%	(0.12%)	0.13%
World Equities	0%	0%	-	-	0.00%	0.00%	0.00%
Private Equities	11%	8%	4.13%	4.13%	0.00%	(0.26%)	(0.26%)
Domestic Fixed Income	24%	24%	7.74%	7.88%	(0.03%)	0.06%	0.03%
Real Estate	12%	10%	(13.55%)	(7.94%)	(0.81%)	(0.39%)	(1.20%)
Timber	1%	1%	` 7.87%´	9.45%	(0.02%)	(0.01%)	(0.03%)
Infrastructure	6%	7%	10.30%	(5.16%)	0.98%	0.22%	1.20%
Cash & Equivalents	1%	1%	5.19%	5.01%	0.00%	(0.12%)	(0.11%)
Other Dom Equity	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%

Total	10.90% = 11.40% +	0.41% +	(0.91%)	(0.50%)
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One Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	27%	26%	25.35%	25.17%	0.04%	0.19%	0.23%
International Equities	18%	19%	17.14%	15.62%	0.25%	(0.10%)	0.15%
World Equities	0%	0%	-	-	0.00%	0.00%	0.00%
Private Equities	11%	11%	4.13%	4.13%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	7.74%	7.88%	(0.03%)	(0.01%)	(0.04%)
Real Estate	12%	12%	(13.55%)	(7.94%)	(0.81%)	(0.01%)	(0.82%)
Timber	1%	1%	7.87%	9.45%	(0.02%)	0.00%	(0.02%)
Infrastructure	6%	6%	10.30%	(5.16%)	0.98%	(0.00%)	0.98%
Cash & Equivalents	1%	1%	5.19%	5.01%	0.00%	(0.03%)	(0.03%)
Other Dom Equity	0%	0%	(18.29%)	(18.29%)	0.00%	(0.00%)	(0.00%)
Other DM Regional	0%	0%	29.07%	29.07%	0.00%	0.01%	0.01%´

Total 10.90% = 10.44% + 0.41% + 0.05%	0.46%
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Consolidated Pension Trust Attribution – Strategic and Corridor Target

As of December 31, 2023

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	25%	8.88%	7.83%	0.26%	(0.23%)	0.02%
International Equities	16%	17%	1.08%	1.84%	(0.11%)	0.00%	(0.11%)
World Equities	7%	6%	-	-	0.10%	0.05%	0.15%
Private Equities	9%	8%	17.97%	17.97%	0.00%	(0.31%)	(0.31%)
Domestic Fixed Income	25%	24%	(0.44%)	(1.71%)	0.34%	(0.04%)	0.30%
Real Estate	11%	10%	4.58%	4.57%	(0.00%)	(0.13%)	(0.13%)
Timber	1%	1%	3.92%	10.49%	(0.08%)	(0.01%)	(0.10%)
Infrastructure	5%	7%	9.47%	5.08%	0.27%	(0.07%)	0.20%
Cash & Equivalents	1%	1%	2.28%	2.15%	0.00%	(0.05%)	(0.05%)
Other Dom Equity	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%′
Total			5.03% =	5.04% +	0.78% +	(0.79%)	(0.01%)

Three Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	25%	8.88%	7.83%	0.26%	(0.13%)	0.13%
International Equities	16%	17%	1.08%	1.84%	(0.11%)	0.01%	(0.10%)
World Equities	7%	6%	-	-	0.10%	0.06%	0.16%
Private Equities	9%	9%	17.97%	17.97%	0.00%	0.00%	0.00%
Domestic Fixed Income	25%	25%	(0.44%)	(1.71%)	0.34%	(0.00%)	0.34%
Real Estate	11%	11%	4.58%	4.57%	(0.00%)	(0.00%)	(0.00%)
Timber	1%	1%	3.92%	10.49%	(0.08%)	0.00%	(0.08%)
Infrastructure	5%	5%	9.47%	5.08%	0.27%	(0.00%)	0.27%
Cash & Equivalents	1%	0%	2.28%	2.15%	0.00%	(0.02%)	(0.02%)
Other Dom Equity	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%
Total			5.03% =	4.34% +	0.78% +	(0.08%)	0.70%



Consolidated Pension Trust Attribution – Strategic and Corridor Target

As of December 31, 2023

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	24%	15.62%	14.51%	0.23%	(0.09%)	0.14%
International Equities	16%	16%	8.78%	7.18%	0.25%	0.01%	0.25%
World Equities	10%	10%	-	-	(0.26%)	(0.00%)	(0.26%)
Private Equities	7%	8%	14.55%	14.55%	0.00%	(0.20%)	(0.20%)
Domestic Fixed Income	24%	24%	3.30%	2.44%	0.24%	(0.01%)	0.22%
Real Estate	11%	10%	4.27%	4.33%	(0.01%)	(0.13%)	(0.14%)
Timber	2%	2%	4.16%	6.62%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	7%	8.69%	3.93%	0.28%	(0.00%)	0.27%
Cash & Equivalents	1%	1%	1.91%	1.88%	0.00%	(0.05%)	(0.05%)
Other Dom Equity	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%
Total			9 00% -	δ δU ₀ / Τ	0.70% ±	(0.50%)	n 2n%

Total	9.00% =	8.80% +	0.70% +	(0.50%)	0.20%
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Five Year Corridor Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative <u>Return</u>
Domestic Equities	24%	24%	15.62%	14.51%	0.23%	(0.08%)	0.15%
International Equities	16%	16%	8.78%	7.18%	0.25%	0.01%	0.25%
World Equities	10%	10%	-	-	(0.26%)	0.01%	(0.25%)
Private Equities	7%	7%	14.55%	14.55%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	3.30%	2.44%	0.24%	0.01%	0.24%
Real Estate	11%	11%	4.27%	4.33%	(0.01%)	(0.00%)	(0.01%)
Timber	2%	2%	4.16%	6.62%	(0.02%)	0.00%	(0.02%)
Infrastructure	5%	5%	8.69%	3.93%	0.28%	(0.00%)	0.28%
Cash & Equivalents	1%	0%	1.91%	1.88%	0.00%	(0.03%)	(0.03%)
Other Dom Equity	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Other DM Regional	0%	0%	-	-	0.00%	0.00%	0.00%

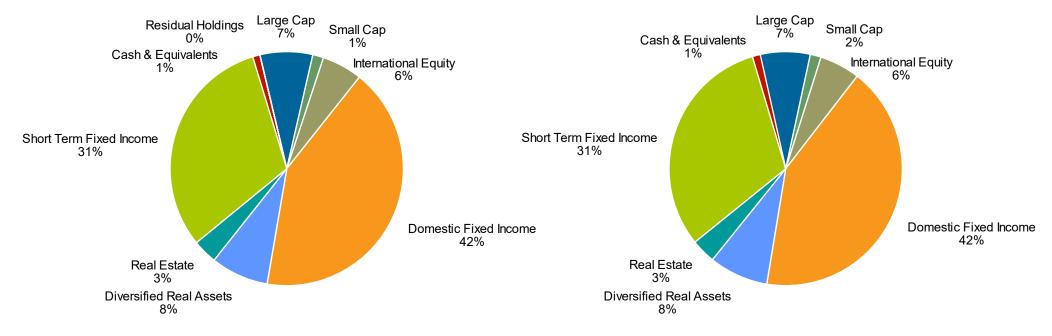
Total 9.00% = 8.39% + 0.70%	+ (0.09%)	0.61%
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Consolidated Insurance Trust Allocation

As of December 31, 2023

Actual Asset Allocation

Target Asset Allocation

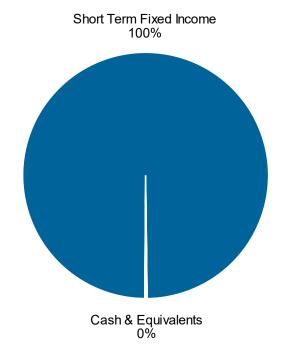


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	235,836	7.3%	7.1%	0.2%	5,682
Smăll Cap	47,144	1.5%	1.5%	(0.1%)	(2,805)
International Equity	180,463	5.6%	5.6%	`0.0%	338
Domestic Fixed Income	1,358,113	42.0%	42.1%	(0.1%)	(3,343)
Diversified Real Assets	259,218	8.0%	8.0%	0.0%	102
Real Estate	108,359	3.4%	3.3%	0.1%	1,898
Short Term Fixed Income	1,008,612	31.2%	31.2%	(0.0%)	(178)
Cash & Equivalents	32,390	1.0%	1.1%	(0.1%)	(2,006)
Residual Holdings	313	0.0%	0.0%	0.0%	313
Total	3,230,448	100.0%	100.0%		

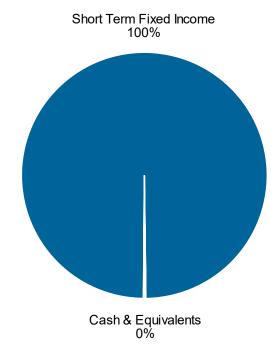
Budget Stabilization Fund Allocation

As of December 31, 2023

Actual Asset Allocation



Target Asset Allocation



	\$000s	Weight		Percent	\$000s
Asset Class	Actual	Actual	Target	Difference	Difference
Short Term Fixed Income	949,430	99.8%	99.7%	0.0%	255
Cash & Equivalents	2,365	0.2%	0.3%	(0.0%)	(255)
Total	951,795	100.0%	100.0%	,	

Callan Update



Published Research Highlights from 4Q23

2023 Nuclear Decommissioning Funding Study



2023 Investment Management Fee Study



2023 Asset Manager ESG Study



Callan's Retirement Conundrum Webinar



Recent Blog Posts

ILS on Pace for Banner Year in 2023

Sean Lee

Carbon-Footprinting Basics for Institutional Investors

Amit Bansal

Key Issues to Know for the Proposed Fiduciary Rule

Jana Steele

Additional Reading

Alternatives Focus quarterly newsletter
Active vs. Passive quarterly charts
Capital Markets Review quarterly newsletter
Monthly Updates to the Periodic Table
Market Pulse Flipbook quarterly markets update
Real Estate Indicators market outlook



Callan Institute Events

Upcoming conferences, workshops, and webinars

Callan College

Intro to Investments—Learn the Fundamentals

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with basic investment theory, terminology, and practices.

- March 19-21, 2024 Virtual Session via Zoom
- June 18-19, 2024 In Person Session in Chicago

Intro to Alternatives

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with alternative investments like private equity, hedge funds, and real estate and how they can play a key role in any portfolio. You will learn about the importance of allocations to alternatives and how to consider integrating, evaluating, and monitoring them.

- February 21-22, 2024 - Virtual Session via Zoom

Please visit our website at <u>callan.com/events-education</u> as we add dates to our 2024 calendar!

Mark Your Calendar

2024 National Conference

April 8-10, 2024 - San Francisco

2024 Regional Workshops

June 25, 2024 – Atlanta

June 27, 2024 - San Francisco

October 22, 2024 - Denver

October 24, 2024 - Location TBD

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: Capital Markets Assumptions

January 17, 2024 - Virtual Session via Zoom

Webinar: Market Intelligence

January 19, 2024 - Virtual Session via Zoom

Research Café: ESG Interview Series

March 12, 2024 – Virtual Session via Zoom



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SIB Performance Report Appendix March 2024

Performance Reports prepared by Callan for quarter ending December 31, 2023, are available on the RIO website at:

Newsletters & Reports | Retirement Investment Office (nd.gov)





North Dakota Retirement and Investment Office

Market Benchmarking Findings

March 2024

Benchmarking Methodology

- Mercer has benchmarked ND RIO's roles to six compensation surveys across four industry perspectives:
 - CBIZ Public Pension Survey, 2023 Public Pension
 - National Conference on Public Employee Retirement Systems (NCPERS), 2023 Public Pension
 - McLagan Asset Owners / Institutional Investors / Public Funds, 2023 Public Pension
 - Mercer Investment Group Survey (IGS), 2023 Endowments and Foundations (Investment roles only)
 - Mercer Benchmark Database (MBD), 2023 Government/NFP and General Industry
 - WTW General Industry (WTW), 2023 Government/NFP and General Industry
- Data are aged to July 1, 2024 using a 4% aging factor for 2023 and 2024
- Non-executive and non-investment roles are geographically adjusted to Bismarck, ND by a factor of -3.8%
- Executive and investment roles are scoped to the best approximation of ND RIO's asset size available
- ND RIO is compared to the quartiles of each industry perspective for both base salary and total cash

Benchmarking Findings

For Incentive Eligible Roles

- Across the perspectives, ND RIO incentive eligible roles are most closely aligned to the Public Pension market data, with differences in individual roles' positioning, but with an overall gap of -13% comparing ND RIO base salary to the Public Pension Base Salary median and, when comparing with ND RIO's Total Cash (base salary + incentive target) to market TCC, a gap of -14%. Comparing ND RIO base salary to Public Pension total cash decreases competitiveness to a gap of -37%.
- Lower ND RIO levels tend to be more competitive than higher levels compared to both Base Salary and Total Cash.
- With the implementation of an incentive program, ND RIO can remain competitive in compensating these roles, maintaining positioning between the 25th and 50th percentiles.

ND RIO Base Salary vs Market Base Salary (Incentive Elig. Roles) Public Pension

50th Percentile

-13%

Gov / NFP

50th Percentile

-41%

General Industry

50th Percentile

-31%

E&F

50th Percentile

-34%

ND RIO Base Salary vs Market Total Cash (Incentive Elig. Roles)

Public Pension

50th Percentile

-37%

Gov / NFP

50th Percentile

-47%

General Industry

50th Percentile

-45%

E&F

50th Percentile

-54%

ND RIO TCC (Base Salary + Incentive) vs Market Total Cash (Incentive Elig. Roles) Public Pension 50th Percentile

-14%

Gov / NFP

50th Percentile

-30%

General Industry

50th Percentile

-25%

E&F

50th Percentile

-35%

Benchmarking Findings

. ___

Accounting Manager

CFO/COO

- Sr. Investment Accountant
- Investment Accountant

For Incentive Eligible Fiscal/Investment Operations Roles

- Across the perspectives, ND RIO Fiscal/Operations incentive eligible roles are most closely aligned to the Public Pension market data, with
 differences in individual roles' positioning, but with an overall gap of -8% comparing ND RIO base salary to the Public Pension Base Salary
 median and, when comparing with ND RIO's Total Cash (base salary + incentive target) to market TCC, a gap of -9%. Comparing ND RIO base
 salary to Public Pension total cash, competitiveness decreases to a gap of -25%.
- With the implementation of an incentive program, ND RIO can remain competitive in compensating these roles, maintaining positioning between the
 25th and 50th percentiles.

ND RIO Base Salary vs Market Base Salary (Fiscal/Ops Incentive Elig. Roles) Public Pension 50th Percentile

-8%

Gov / NFP

50th Percentile

-33%

General Industry

50th Percentile

-32%

E&F

50th Percentile

NA

ND RIO Base Salary vs Market Total Cash (Fiscal/Ops Incentive Elig. Roles) **Public Pension**

50th Percentile

-25%

Gov / NFP

50th Percentile

-35%

General Industry

50th Percentile

-42%

E&F

50th Percentile

NA

ND RIO TCC (Base Salary + Incentive) vs Market Total Cash (Fiscal/Ops Incentive Elig. Roles) Public Pension 50th Percentile

-9%

Gov / NFP

50th Percentile

-21%

General Industry

50th Percentile

-29%

E&F

50th Percentile

NA

Benchmarking Findings

For Non-Incentive Eligible Roles

- Across the perspectives, ND RIO non-incentive eligible roles are most closely aligned to the Public Pension market base salary data, with differences in individual roles' positioning, but overall, +2% over the 50th percentile (aggregate median).
- Non-incentive eligible roles fall within the 25th and 50th percentile range for both Gov/NFP and General Industry market base salary data, positioning -9% and -10% below the respective 50th percentiles.

ND RIO Base Salary vs Market Base Salary (Incentive Ineligible Roles) Public Pension 50th Percentile

2%

Gov / NFP 50th Percentile

-9%

General Industry
50th Percentile

-10%

E & F 50th Percentile

NA

Endowment and Foundation data only available for investment and some investment operations roles.



New ND RIO Roles

As of 7/1/2024, 5 new incentive eligible positions will be included in ND RIO's roster

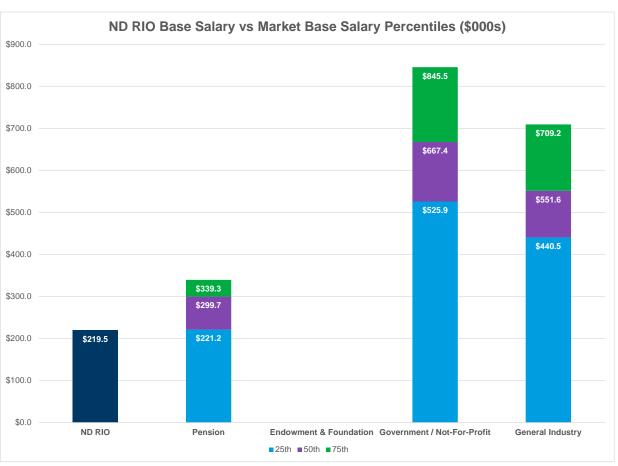
- ND RIO proposed base salaries align with the market, generally falling between the 25th and 50th percentiles for Public Pension and closer to the 25th percentile for E&F on base salaries but with lower positioning compared to Total Cash Compensation (TCC).
- It is advisable for ND RIO to leverage incentives to remain competitive with regards to Public Pension Total Cash (TCC)
 market data, ensuring competitiveness within the market and the ability to attract and retain top talent.

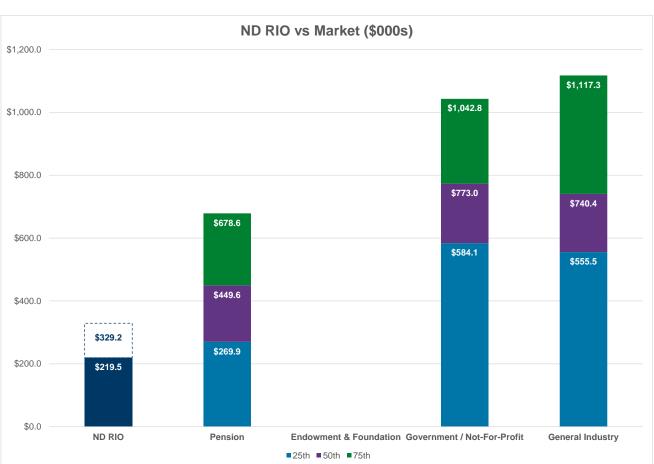
					Public Pension (Percentiles)				E & F (Percentiles)														
					E	Base Salar	у		тсс			Base Salar	у		тсс								
Position	Base Salary	Target STI %	Target Total Cash (TCC)		25	50	75	25	50	75	25	50	75	25	50	75							
Portfolio		37.5%									\$	\$170,000	\$189,000	\$209,000	\$201,000	\$274,000	\$351,000	-	-	-	-	-	-
Manager (2)	\$175,000		\$240,625	% gap	3%	-8%	-16%	20%	-12%	-31%	-	-	-	-	-	-							
Analyst	Analyst Fund Mgmt Overlays \$150,000			\$	\$148,000	\$176,000	\$198,000	-	\$202,000	-	\$181,000	\$210,000	\$231,000	\$225,000	\$269,000	\$292,000							
		\$150,000	25%	25%	25%	25%	25%	\$187,500	% gap	1%	-15%	-24%	-	-7%	-	-17%	-29%	-35%	-17%	-30%	-36%		
Investment	estment	120,000 25%					\$	\$104,000	\$123,000	\$139,000	-	\$141,000	-	\$109,000	\$140,000	\$154,000	\$134,000	\$179,000	\$230,000				
	\$120,000		\$150,000	% gap	15%	-2%	-14%	-	6%	-	11%	-14%	-22%	12%	-16%	-35%							

Example Benchmarking Details

Executive Director

RIO Base Salary vs.		Base Salary	alary TCC				
Pension Market	25 th	50 th	75 th	25 th	50 th	75 th	
\$220	-1%	-27%	-35%	-19%	-51%	-68%	



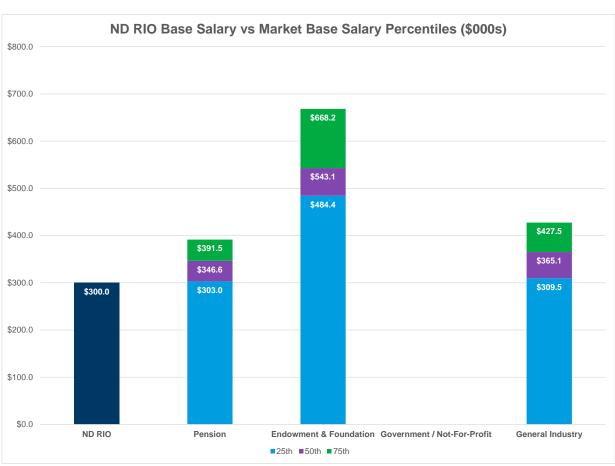


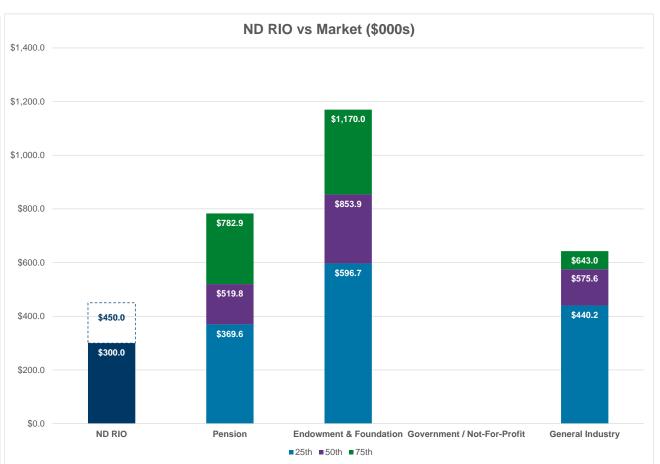




Chief Investment Officer

RIO Base Salary vs.	I	Base Salary	′		тсс	
Pension Market	25 th	50 th	75 th	25 th	50 th	75 th
\$303	-1%	-13%	-23%	-19%	-42%	-62%





Proposed ND RIO Total Cash





STRATEGY REVIEW Retirement & Investment Office

Jan Murtha, J.D., M.P.A.P. – Executive Director March 2024



AGENCY VISION STATEMENT

To be recognized as a trusted and innovative provider of investment and pension services.





Outreach – Implementing a communication strategy with our stakeholders and the public that supports education and transparency.

Organizational Culture – Recognizing that talent management, a growth mindset, and a remote enabled workforce supports agency success.

Technology - Leveraging technology enabled processes and infrastructure to enhance organizational efficiency and support quality fiscal and risk management practices.

BIG HAIRY AUDACIOUS GOALS (BHAG) LOOKING AHEAD 5 TO 10 YEARS

BHAG Goals (Draft)

ND Cash Management Practices – Leveraging opportunities across agencies.

Internal Investment Initiative Expansion – Building on the business case to optimize benefits of scale.

Benefits Administration Optimization – Leveraging opportunities across agencies through unification.

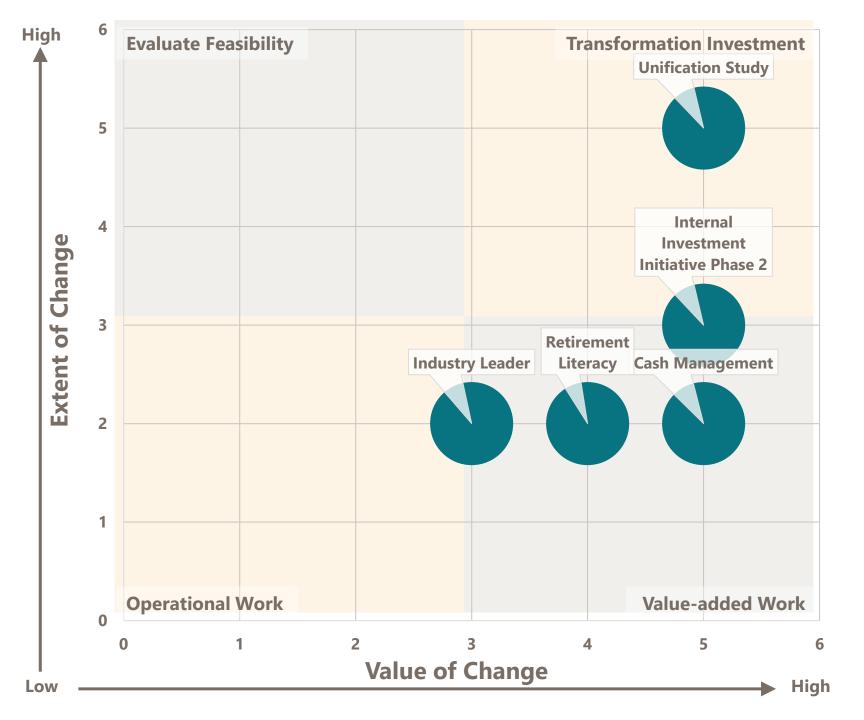
Financial/Retirement Literacy Initiative – Educating for teacher retention and recruitment success.

Industry Leader Initiative – Innovation in operations to excel in education, technology, and talent pool.

2025-27STRATEGIC GOALS

Strategic Goals	Problem Being Solved
ND Cash Management Practices – Implementing Cash Management Study Recommendations.	Unnecessary expense, failure to leverage benefits of scale, governance to support growth.
Internal Direct Investment Initiative 2.0 – Building on the business case to optimize benefits of scale.	Exposure management and active management of assets beyond simple indexing, bringing up to 30% of assets managed internally with additional savings to client funds. Expanded Compliance and Internal Audit functions. Fiscal large IT project to improve efficiency.
Benefits Administration Optimization – Interim Legislative Study during the 2025-2027 session.	RIO and PERS collaboration and possible unification to realize benefits of mission alignment, specialization, and outreach.
Financial/Retirement Literacy Initiative – Educating for teacher recruitment and retention success.	Lack of understanding of industry not just benefit. Economic health of citizens in state. Educating students interested in education and supporting retention and recruitment of new teachers.
Industry Leader Initiative – Innovation in operations to excel in education, technology, and talent pool.	Improving external communication, leveraging IT resources including AI, increase industry participation relating to public policy, promote and support growth mindset org. culture.

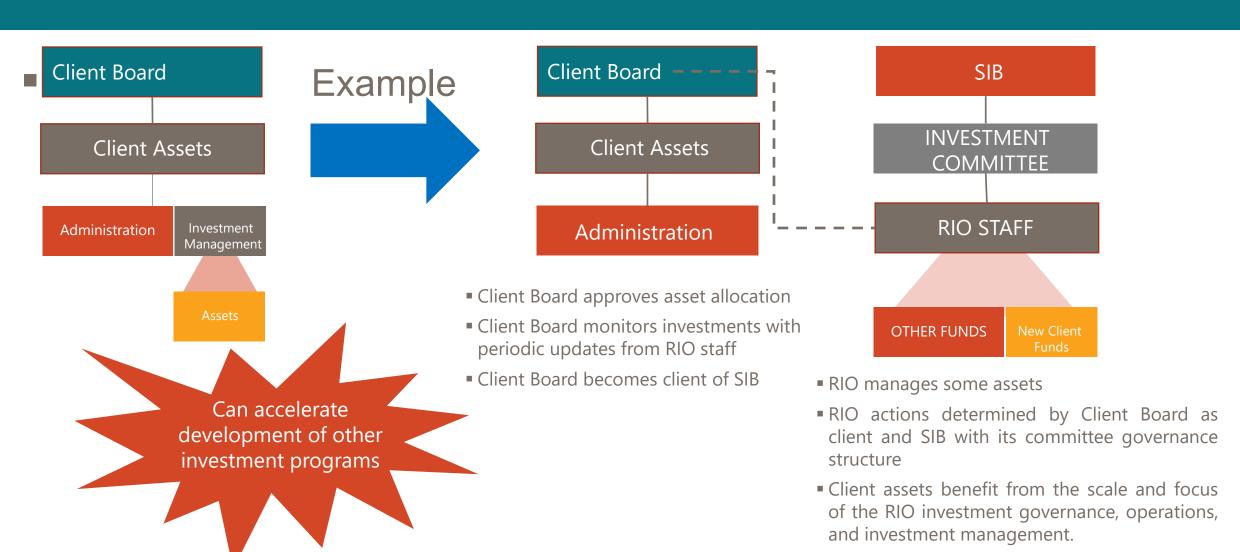
2025-2027 PRIORITIZATION MATRIX



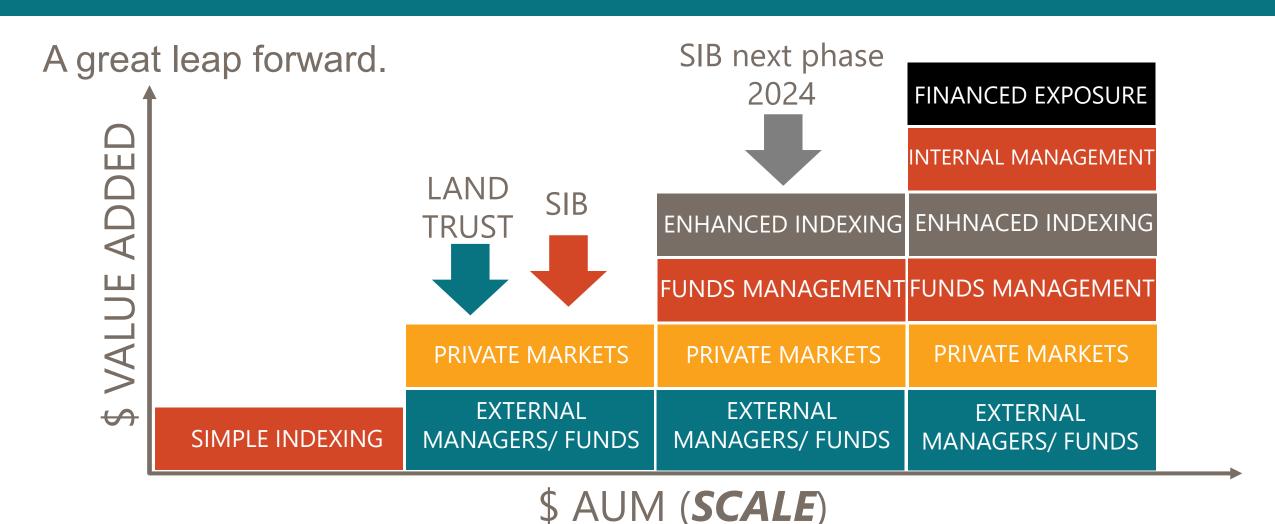
CASH MANAGEMENT

 Study may include recommendations to pool funds.

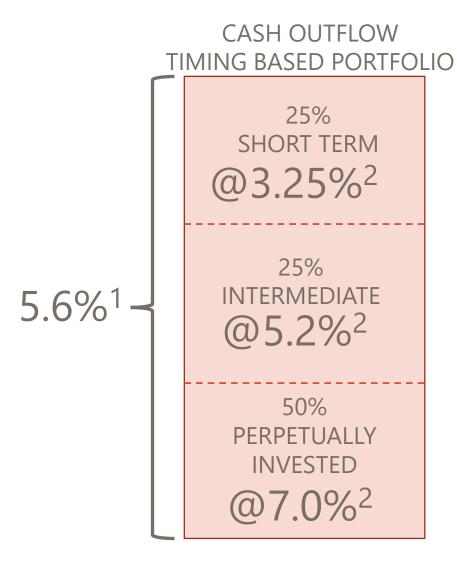
CASH MANAGEMENT STUDY MAY INCLUDE INVESTMENT RELATED RECOMMENDATIONS



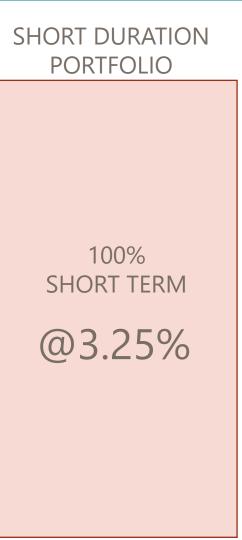
COLLABORATION LEADS TO INNOVATION



EXAMPLE: MANAGEMENT OF SIIF ASSETS¹



Versus





- Based on cash flow timing assumption illustration, actual timing yet to be determined. Cost savings of implementation captured in combination business case
- Cash overlay, intermediate credit and cash return based on consultant assumptions



WHY UNIFY? BENEFITS OF CONSOLIDATION

- Current structure fails to leverage benefits of scale, promotes unnecessary competition for workforce, distorts stakeholder feedback, and duplicates services.
- SB2030 (1989) created RIO. The original bill proposed supporting SIB, TFFR and PERS through RIO.
- Through specialization, succession planning, and a cohesive mission strategy we can deliver better services to members, the funds, and the state. 11

RIO AND PERS: WHAT WE SHARE

Mission

Agencies provide benefits administration and education to public employees.

Workforce

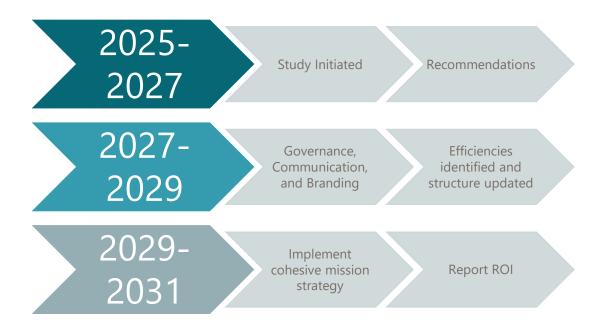
 Agencies compete for employees with the same skillsets to perform similar roles and send employees to the same or similar trainings.

Operations

- In addition to having a similar internal operation structure, we retain the same or similar vendor services.
- Both retain Sagitec as a software vendor, GRS for actuarial services, and the state auditor retains the same external auditor for both agencies.
- Both belong to same or similar national associations.

PLANNING FOR SUCCESS

- 2025-2027 Interim Study to examine benefits of Unification.
- If Unification recommended, recognize multi-biennium roll-out needed to manage change.



2027-29STRATEGIC GOALS

Strategic Goals	Problem Being Solved
Internal Investment Initiative Phase 3	Potential to bring up to 50% of assets managed internally for additional cost savings to funds.
RIO- PERS Unification Phase 1	Governance, Communication and Branding addressed. Operational efficiencies identified and organization structure updated.
Retirement Education Programing – Plan Changes	Focus groups and surveys conducted to determine impact of retirement literacy campaign and elicit stakeholder input regarding preferred plan changes.
Industry Leader Initiative	Consistent publications and seminar host, expanded internship program to promote agency recruitment.

2029-31 STRATEGIC GOALS

Strategic Goals	Problem Being Solved
Expanded Investment Program Strategy	Increasing portfolio management capabilities for the benefit of client funds and expanding client fund services.
RIO – PERS Unification Phase 2	Implementation of shared mission strategy and metrics for Return on Investment.
Industry Leader Initiative	Expanded ND participation in national public policy trends; cultivate institutional investment industry in state.

2025-27 ACTION PLAN

Strategic Goal: ND Cash Management Practices

Action Items:

- 1. Participate in Cash Management study led by OMB and RVK.
- 2. Based on results of study, merge SIIF and Budget Stabilization Funds and other as required. Enable a unitization of the funds.
- 3. Transition the funds to be managed with new internal direct investment capability.
- 4. Enable overlays of the new cash as required and as beneficial.
- 5. Overlay working cash in all investment portfolios.

Resources Needed:

- 1. EXISTING in '24 + NEW: Two new investment positions to support treasury management function.
- 2. EXISTING: Completion of the order management/portfolio management system with treasury function enabled.
- 3. NEW: Additional data sets used for financed exposures and new internal direct investment strategies.

Challenges:

- 1. Hiring the talent to manage the advanced overlays and internal direct strategies requires a total rewards package including incentive compensation.
- 2. Gaining the resources and budget in the 2025 legislative session.
- 3. Developing the capabilities of a remote and hybrid investment organization (most large investment organizations have this capability)
- 4. Opportunity to merge all of RIO and Land assets to streamline operations, reduce cost and gain scale.

- 1. Merging and unitization of cash funds.
- 2. Successful internal direct management cash funds with demonstrated returns and returns per risk after cost.
- 3. Successful overlay of all operating cash across all investment portfolios including Land.

2025-27 ACTION PLAN

Strategic Goal: Internal Direct Investment Initiative 2.0

Action Items:

- 1. Develop framework for financed exposures to enable porting of active portfolios, overloading of active sub-asset classes, and managing systematic risks.
- 2. Develop a liquidity management framework to enable the cost management of financed exposures and risk management.
- 3. Develop risk and performance tools, staff and trading capabilities for financed exposures.
- 4. Develop risk and performance tools, staff and capability for first internal direct management strategies.

Resources Needed:

- 1. EXISTING in 24-25: Advanced data warehouse and exchange for analysis of exposure cost, risk management and for security level data used for internal direct management strategies.
- 2. NEW: Five additional analysts two fixed income, two equity and one liquidity management analyst in addition to existing five analysts hired in 2024. Additional fiscal, compliance and internal audit positions. Fiscal large IT project to increase functionality.
- 3. EXISTING+NEW: Additional data sets used for financed exposures and new internal direct investment strategies.

Challenges:

- 1. Hiring the talent to manage the advanced overlays and internal direct strategies requires a total rewards package including incentive compensation.
- 2. Gaining the resources and budget in the 2025 legislative session.
- 3. Developing the capabilities of a remote and hybrid investment organization (most large investment organizations have this capability)

- 1. Completion of data warehouse, data content management and ongoing quantitative development framework centered on new data and IT related tools.
- 2. Successful implementation of an advanced portfolio rebalancing framework that incorporates exposure management with overlays as demonstrated by better returns and return per risk measurements.
- 3. Successful overloading of best active investment managers by off-setting systematic exposures demonstrated by better returns and return per risk measurements.
- 4. Additional 15% of investments managed internally (for a total of 30%) and reduction of additional \$16 million in fees/year for a total of \$32 millioη₇in savings per year with internal direct initative.

2027-29 FIRST BIENNIUM ACTION PLAN

IF RECOMMENDED BY STUDY - ACTION PLAN FOR RIO/PERS UNIFICATION OR COLLABORATION

Strategic Goal: RIO to support 3 Boards – SIB as governing board with PERS and TFFR as policy boards.

Action Items:

- 1. Legislation Change to allow Unification.
- 2. Board Governance Change to allow Unification.
- 3. Development and amendment to governance documents.
- 4. Development and implementation of a Change Management plan.
- 5. Communication of Change to internal and external parties.

Resources Needed:

- 1. NEW: Budgeting for change management.
- 2. EXISTING: Enhanced support for fiscal operations to coordinate reporting.
- 3. NEW: Additional support for branding/communication.
- 4. EXISTING: Interim contingency funds.

Challenges:

- 1. Internal Change Management Communicating the benefits of change
- 2. Communicating changes to stakeholders.
- 3. Governance alignment with Boards.
- 4. Branding.
- 5. Additional mandated program changes during period of unification.

- 1. Completion of necessary updates to governance structure by 2026.
- 2. Identifying opportunities to specialize positions.
- 3. Identifying opportunities to provide back-up.
- 4. Identifying operational efficiencies and support succession planning.
- 5. Prepared to propose operational changes for 2027-2029 biennium.

2025-27

ACTION PLAN FOR FINANCIAL/RETIREMENT LITERACY INITIATIVE

Strategic Goal: Increasing education to plan for program enhancements.

Action Items:

- 1. Collaborate with Governor's Financial Literacy Initiative Group on audience, strategy, and content.
- 2. Collaborate with NDPERS on audience, strategy, and content.
- 3. Collaborate with Teacher's Recruitment and Retention Task force on audience, strategy, and content.
- 4. Develop content and implement education campaign.
- 5. Develop success metrics and survey content.

Resources Needed:

- 1. NEW: Additional operation budget for materials and consultant for survey administration.
- 2. NEW: Additional appropriated dollars for education programing/presentations.

Challenges:

- 1. Coordinating and developing a cohesive campaign across multiple groups.
- 2. Communicating complex content to different audiences.
- 3. Additional mandated program changes during period of education campaign.

- 1. Participation rate in excess of 10% of population in survey.
- 2. Participant understanding of successful retirement factors. (Need to establish a base line.)

2025-27 ACTION PLAN

Strategic Goal: Industry Leader Initiative

Action Items:

- 1. In addition to existing intern program develop an ad hoc intern program for investments including budget for intern hire and for subsequent full-time hire. Ex: South Dakota
- 2. Program to include 2-3 summer graduate interns; 1-2 of whom will transition to year-round part-time internship with RIO Investment team for potential employment at RIO at end of internship.
- 3. Setup a "Student Investment Fund" for training on investments in the first year of graduate program at one or more university in North Dakota in conjunction with RIO Investment team. Or collaborate with existing funds ex: NDSU "Bison Fund".
- 4. Leverage AI use across programs. See Strategy Question #6.
- 5. Program outreach to include regular publications and seminar host.
- 6. Leverage wellness training to support engagement.

Resources Needed:

- 1. NEW: Budget for "Student Investment Fund" at ND universities
- 2. NEW: Budget for 2-3 interns per year and budget to hire one intern as a full-time role with the investment team.

Challenges:

- 1. Setting up "Student Investment Fund" at one or more North Dakota universities in conjunction with RIO Investment Team
- 2. Hiring the talent from local universities that will have the capability to be a full-time investment analyst in the program.
- 3. Gaining the resources and budget in the 2025 legislative session.
- 4. Address concerns of employee "burn-out" with wellness training.

- 1. Implement AI use to different degrees in both programs.
- 2. Setup of "Student Investment Fund"
- 3. Completion of intern training content and plan.
- 4. Host annual seminar and create and publish investment program education content annually.

STRATEGY DISCUSSION QUESTIONS 2025-27

How will your agency's strategic goals support Governor Burgum's Five Strategic Initiatives?

All five of RIO's proposed strategic initiatives illustrate what can be accomplished through reinventing government by leveraging the benefits of technology, unification services, and communication to reduce costs and provide better services to the state and the members and clients we serve.

How would your strategy change with unlimited resources?

All of RIO's proposed strategic initiatives are business case driven with an expectation of realizing a return on investment within the next five to ten years. Unlimited resources would allow for enhancements beyond those that can be identified through a strictly business case analysis to support stakeholder education of program operations, public relations and development of agency organizational culture.

STRATEGY DISCUSSION QUESTIONS 2025-27

What should your agency stop doing? (Red Tape Reduction Ideas)

The agency has declined to leverage a procurement exception for certain investment related services due to stakeholder feedback regarding transparency of process. While providing increased transparency this has slowed the pace of some program initiatives. Reconsideration of some procurement processes is needed.

What other agencies will your agency collaborate with to achieve your strategic goals?

Other agencies that RIO has and will continue to collaborate with are: AGO, BND, DFI, NDIT, OMB (fiscal, HRMS, and training), PERS (if unified), Securities, State Treasurer, and WSI (landlord).

STRATEGY DISCUSSION QUESTIONS 2025-27

What processes in your agency could be automated?

During the 2022 strategic plan development process RIO identified leveraging technology enabled processes as an agency priority and as such all processes are continually reviewed for technology enabled enhancements. Through two large IT projects for the retirement and investment programs respectively, RIO will realize the automation and transformation of both programs in 2024. RIO will seek an additional large IT project for fiscal and audit services in the 2025-2027 biennium. In addition, RIO routinely works with NDIT and OMB to adopt and implement the latest modules available for agency use.

How can artificial intelligence (AI) be utilized by your agency?

Al will be leveraged for investment data quality management including investment risk analysis. Al options will be explored for retirement program concierge services. RIO will seek the assistance of NDIT to explore Al options for information summaries, open records responses, and development of education materials.

2025 LEGISLATIVE INITIATIVES

- Procurement Clarification of procurement exemption for internal investment program infrastructure needs.
- Unification Study An interim legislative study to evaluate the feasibility and benefits of RIO and PERS unification.
- TFFR must submit a bill to obtain RMD change approved by Employee Benefits Programs committee. Due 4-1-24.



"If you want to succeed you should strike out on new paths, rather than travel the worn paths of accepted success." - John D. Rockefeller*

*Courtesy of www.brainyquote.com



2025-2027 RETIREMENT AND INVESTMENT WORKFORCE PLAN

Retirement and Investment Mission: Provide the Best Possible Customer Service to our Clients and Members

Internal and External Trends Impacting our Workforce Needs:

- Citizen perspectives due to lack of consensus with Legacy Fund utilization
- Interest of qualified applicants for evolving investment program needs.
- Teacher Retention & Recruitment.

Top Workforce Initiativ	Timeline	
	Successfully and expeditiously recruit new talent for investment, retirement, and internal divisions	2024-2025
Talent	Stand-up agency LinkedIn page to highlight the work of the agency and contributions and impact of team members	2025
	Build on Crucial Conversations learning to enhance interactions with internal/external stakeholders	Implemented
Leadership	Manager participation in targeted Boss to Coach sessions and utilization of 5 coaching conversations in team member interactions/engagement in alignment with agency mission and strategy	Implemented
	Technology enhancements to allow seamless transactions with enhanced efficiencies	In-progress
Organizational	Reorganization of divisions to optimize existing staff and business processes and build a better structure for future growth	Implemented

*Proposed FTE count excludes seasonal intern positions.

Authorized FTE	Full-Time	Temporary	Contractor
2023-2025 Biennium	34	2	0
2025-2027 Biennium (Proposed)	37	0	0
2025-2027 Initiative Contingent	45	0	0

Prioritized Workforce Competencies:

- Communicate Effectively and Build Collaborative Relationships
- Cultivate Innovation and Strategic Mindset
- Action-Oriented, Resourceful, Flexible and Adaptable

Success Measures	Current S ⁻ 2024	tate	End State 2024	
Successful acquisition of new talent	In-progress		7 positions filled	
Sustain team member engagement	4.55 mean		Exceeded prior goal of 4.25 - maintain	
Increase customer service/success scores	3.33 out of	4.00	3.50 out of 4.00	
Implementation of technology enhancements and systems	In-progress		In-progress	
Investment performance	TBD by Board		TBD by Board	
Talent Acquisition Priorities/Key Positions To Fill		Approx	Timing to Fill	
New Investment Position – Budget Authority 7/1/24		Summe	er 2024	
New Investment Position – Budget Authority 7/1/24	Summe		er 2024	
New Investment Position – Budget Authority 7/1/24	Summ		er 2024	
New Investment Position – Budget Authority 7/1/24	Summe		er 2024	
New Investment Position – Budget Authority 7/1/24	Summe		er 2024	
New Fiscal Position – Budget Authority 7/1/24		Summe	er 2024	
New Fiscal Position – Budget Authority 7/1/24		Summe	er 2024	

TO: State Investment Board

FROM: Dr. Rob Lech, Chair and Ryan Skor, CFO/COO

DATE: March 22nd, 2024

RE: Executive Review and Compensation Committee Update

The Executive Review and Compensation Committee met Wednesday, March 13th, 2023. The meeting was called to order and there was an acceptance of the agenda followed by an acceptance of the minutes from the February 20th, 2024, meeting.

The Committee received a presentation from Mercer with the results of the agency-wide compensation study they completed for RIO. The presentation included an overview of market benchmark comparisons of the whole agency along with specific data points for the executive director and chief investment officer positions. The Committee had an in-depth discussion on the details of the study's findings and gave direction to staff and Mercer as to additional information they would like to see presented to the full SIB. After discussion, the Committee moved to approve the report and forward on to the full SIB for presentation.

The Committee was then provided with a summary of their key responsibilities and any associated deadlines spelled out in its charter. The required timeline was discussed, after which the Committee provided direction to staff as to what information they would like to see in the coming meetings to assist them in completing the required tasks.

Ms. Seiler then provided the Committee with an updated draft of the executive director self-evaluation survey to be used by the Committee as part of the executive director performance evaluation. The Committee approved the format and timeline of the survey.

Additional information can be found at: https://www.rio.nd.gov/state-investment-board-sib/state-investment-board-s

BOARD ACTION REQUESTED: Information Only.

TO: State Investment Board

FROM: Sara Seiler, Supervisor of Internal Audit

DATE: March 7, 2024

RE: Performance Surveys

The State Investment Board Executive Review and Compensation Committee (ERCC) facilitates performance surveys of the Executive Director and Chief Investment Officer (CIO) on an annual basis. This is an opportunity for the Board to participate in surveys about the Executive Director and CIO's performance over the past fiscal year.

The ERCC will review the results as part of the Executive Director's annual performance review. The Executive Director will use the survey results for the CIO yearly performance review.

The Board members will receive the survey on Friday, March 22, 2024, and the survey will close on Monday, April 1, 2024.

BOARD ACTION REQUESTED: Information Only.



2024 Performance Surveys - SIB

As a member of the State Investment Board (SIB) you are asked to participate in giving feedback on the Executive Director Janilyn Murtha and the Chief Investment Officer (CIO), Scott Anderson. There are 10 multiple-choice questions and 1 open-ended for the Executive Director, and 8 multiple-choice and 1 open-ended question for the CIO.

The Executive Review and Compensation Committee, a committee of the SIB, will review the results.

If you have questions, please contact the Supervisor of Internal Audit Sara Seiler at 701-328-9896 or sseiler@nd.gov.

Survey responses are due by midnight on Monday, April 1, 2024.

Thank you in advance for your participation.

,	, ,	•		
* 1. Full name of State	Investment Bo	oard member	completing	the survey:
				,



2024 Performance Surveys - SIB

Executive Director Performance Survey

As a member of the State Investment Board, you are asked to evaluate the Executive Director's performance for the past year.

2. Prior to the meeting, the Executive Director ensures Board members are provided with an agenda that includes supporting information, identifies any items that need action, and includes staff recommendations when appropriate.
Exceeded expectations
O Met expectations
O Below expectations
3. The Executive Director is responsive to requests from the SIB, adapts to the Board's direction on policy, and works with the board as a team member.
Exceeded expectations
O Met expectations
O Below expectations
4. The Executive Director keeps the SIB aware of current issues and, when appropriate, provides information between board meetings.
Exceeded expectations
O Met expectations
O Below expectations

10. The Executive Director provides visionary and strategic leadership to the SIB.
Exceeded expectations
O Below expectations
11. The Executive Director exhibits a positive and results-oriented style with a predisposition to building consensus and goal achievement through collaboration with by exhibiting courtesy and respect in all interactions.
Exceeded expectations
O Below expectations
* 12. Overall, how satisfied are you with the job being done by the Executive Director?



2024 Performance Surveys - SIB

Chief Investment Officer Performance Survey

As a member of the State Investment Board you are asked to evaluate the Chief Investment Officer's (CIO) performance for the past year.

13. The CIO effectively communicates investment strategies, performance, and changes allowing the SIB members to adequately perform their roles.
Exceeded expectations
Met expectations
O Below expectations
14. The CIO successfully engages with stakeholders (i.e., clients, legislators, constituents etc.) to promote the investment program and fund performance.
Exceeded expectations
Met expectations
O Below expectations
15. The CIO ensures compliance with investment objectives and policies.
Exceeded expectations
Met expectations
O Below expectations

16. The CIO advises, monitors, and reports on investment performances comparing it to relevant benchmarks and industry standards.
C Exceeded expectations
Met expectations
O Below expectations
17. The CIO produces accurate and timely reports concerning investments and the progress of projects.
C Exceeded expectations
Met expectations
O Below expectations
18. The CIO has a track record of effectively managing risk and protecting investments.
C Exceeded expectations
Met expectations
O Below expectations
19. The CIO routinely analyzes and monitors investment expenses to ensure that the programs are operating efficiently and effectively based on comparable market standards.
C Exceeded expectations
Met expectations
O Below expectations
20. The CIO upholds ethical standards in their decisioning and investment practices.
Exceeded expectations
Met expectations
O Below expectations

TO: SIB

FROM: Scott Anderson, Chief Investment Officer

DATE: March 23, 2024

RE: Investment Committee Update

March 15, 2024, Investment Committee Meeting

The Investment Committee met Friday, March 15, 2024. The meeting was called to order and there was an acceptance of the agenda followed by an acceptance of the minutes from the February 9, 2024, meeting.

Mr. Moss and Mr. Ziettlow presented a Private Markets Strategy Review. This was followed by a Private Markets Manager Update announcing that The Portfolio Advisors Group Solutions was selected for a \$50 million commitment of capital. Mr. Chin and Mr. Yu presented guidelines for the previously approved HY mandate. The manager's name has not yet been disclosed as the contract negotiations have not yet completed.

Mr. Anderson then presented the Investment Performance Consultant RFP for review and approval by the Investment Committee. Lastly, there was a discussion regarding having two Investment Committee meetings in May as one of the meetings would be consumed with interviews for the Performance Consultant RFP.

https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Investment/Board/Materials/sibinvestmat20240315.pdf

BOARD ACTION REQUESTED: Information Only.

TO: SIB

FROM: Jan Murtha, Executive Director

DATE: March 21, 2024

RE: Legacy and Budget Stabilization Advisory Board Update

Senator Klein, Chair of the Advisory Board will update the SIB on current Advisory Board activities. At its March meeting the Advisory Board received multiple presentations from both the Retirement and Investment Office staff as well as representatives from 50 South Capital regarding the Legacy Fund and in-state investment program.

Advisory Board information and materials may be found at: <u>Legacy and Budget Stabilization Fund</u> <u>Advisory Board | North Dakota Legislative Branch (ndlegis.gov)</u>

Board Action Requested: Information only.

TO: SIB

FROM: Jan Murtha, Executive Director

DATE: March 15, 2024

RE: Executive Limitations

A verbal update will be provided at the meeting on staff relations and strategic planning. Including updates on the following topics:

I. Strategic Planning

RIO presented it's updated strategic plan to the Governor's Office in March. The presentation will be shared with both the TFFR Board and SIB for acceptance at the March meetings.

II. New Board & Committee Member Update

The next two new board member onboarding meetings are scheduled for Wednesday, April 3, 2024, at 10amCT, and Thursday, April 25, 2024, at 10amCT, respectively. The April 3, 2024, meeting is virtual only and a Teams link will be provided; the topic of this training is Governance Manual Part 3, Jan Murtha Executive Director presenting. The April 25, 2025, meeting will be in person with a virtual option; the topic of this training is Risk Strategy, Nitin Vaidya, Chief Risk Officer presenting.

III. Retirements/Resignations/FTE's/Temporary Assistance:

Position Title*	Status
All current positions filled.	

^{*}New FTEs related to the Internal Investment program are expected to be posted in Spring of 2024.

IV. Current Project Activities/Initiatives:

- BND Study: RIO is participating in the investment working group for the BND led study related to
 examining the impact of ESG related factors on state policy and industries. The working group is working
 together to present recommendations at the next steering committee meeting this April.
- Cash Management Study: RIO is participating in the OMB led cash management study. RVK has been contracted as the consultant to perform the study. RIO has participated in the kick-off and initial information gathering meetings related to the study.
- **TFFR Pioneer Project** The TFFR Pioneer Project continues with implementation consistent with the project plan. Currently the project is in the user acceptance testing phase. The amount of time spent on the project by various staff members continues to vary from 5 to 25 hours or more per week. The project is currently on time and on budget with an expected launch date by end of 2024.

- Investment Program Software Solutions: NDIT has determined that the investment software solution to provide the necessary infrastructure for internal investment management qualifies as a large IT project. RIO staff is still working with NDIT and State Procurement through the procurement process. The procurement process is pending.
- **Northern Trust Initiative** In an effort to enhance the infrastructure for the investment program the Investment and Fiscal teams continue to coordinate with Northern Trust for additional functionality/capabilities. This effort should be finalized coincident with the full implementation of the new investment program infrastructure.
- Internal Audit Co-Sourcing: Contract negotiations with Weaver for co-sourcing of additional internal audit functions in addition to those functions already being performed by current Internal Audit staff have been finalized and a kick-off to the collaboration has occurred. The ED, CFO/COO, and Supervisor of Internal Audit will meet with Weaver at least bi-monthly if not more frequently to coordinate consultant co-sourcing activities.
- Compensation Study: Mercer completed its presentation of the proposed incentive compensation plan at the February SIB meeting. Mercer will be presenting the compensation study results at the March SIB meeting.
- Other Agency Collaborations: Members of RIO's fiscal team were invited and are participating on compensation related committees/groups for both Trust Lands and HRMS.

Board Action Requested: Board acceptance.