

Thursday, May 18, 2023, 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. Welcome New RIO Team Members
- C. Executive Summary

II. ACCEPTANCE OF MINUTES (April 28, 2023) – (Board Action)

III. GOVERNANCE (60 minutes)

- A. 2021/ 2023 Biennium Review (*Information*) – Ms. Murtha
- B. Board Education and Planning Calendar – (*Board Action*) Ms. Murtha
- C. Investment Committee (*Board Action*) – Treasurer Beadle, Mr. Anderson
 - 1. Introduction & First Reading of Amendment of Policy E-3 & Ex. E-II
- D. Executive Review & Compensation Committee (*Board Action*) – Mr. Miller, Mr. Skor
 - 1. Executive Director Review

(Break)

IV. INVESTMENTS (120 minutes)

- A. Markets Trends & Update (*Information*) - Callan
- B. Quarterly Performance Review (*Board Action*) – Callan
- C. Risk Strategy Presentation
 - 1. Enhancing Investment Outcomes (*Information*) – Mr. Vaidya
 - 2. Country Risk (*Information*) – Mr. Chin
 - 3. Recommended Portfolio Changes¹ (*Board Action*)

V. Quarterly Monitoring Reports (10 minutes) – (Board Action)

- A. Quarterly Audit Activities Report – Ms. Seiler
- B. Executive Limitations/Staff Relations – Ms. Murtha

VI. OTHER (5 minutes)

Resolution for Claire Ness - (Board Action)

Resolution for Yvonne Smith - (Board Action)

Resolution for Mel Olson – (Board Action)

Next Meetings:

Investment Committee -June 9, 2023, & July 14, 2023, at 9:00 a.m.

SIB Securities Litigation – June 14, 2023, at 10:00 a.m.

SIB ERCC –July 12, 2023, at 10:00 a.m.

SIB GPR – July 13, 2023, at 10:00 a.m.

SIB Meeting – July 21, 2023, at 8:30 a.m.

VII. ADJOURNMENT

An informal reception for exiting board members will follow the regular meeting.

The SIB Governance and Policy Review Committee will meet following the regular SIB meeting and informal reception.

¹ Executive session pursuant to NDCC 44-04-18.4(1), 44-04-19.1(9), and 44-04-19.2 to discuss confidential commercial information and contract negotiating strategy.

EXECUTIVE SUMMARY

SIB Regular Meeting
May 18, 2023 – 8:30am CT

- I. **Agenda:** The May Board Meeting will be **In-Person at the WSI Conference Room**, a link will be provided so that Board members and the public may join via video conference. The board member video link is included in the email with the Board materials.
 - **New RIO Team members will be introduced to the Board.**
- II. **Minutes (Board Action):** The April 28, 2023, Board meeting minutes are included for review and approval.
- III.
 - A. **2021/2023 Biennium Review (Information Only):** Ms. Murtha will review agency goals, initiatives and accomplishments during the 2021/2023 biennium.
 - B. **Board Education Planning Calendar (Board Action):** Ms. Murtha will present a proposed Board education and planning calendar for the next fiscal year.
 - C. **Investment Committee (Board Action):** The Committee Chair and Mr. Anderson will provide the Board with an overview of discussion items from the most recent committee meeting and request approval for a delegation of duties.
 - D. **Executive Review & Compensation Committee Report (Board Action):** The Committee Chair will present the ED performance review and compensation recommendation.
- IV.
 - A. **Market Trends & Updates (Information Only):** Representatives from Callan will share updates to market trends. RIO staff will also be available to comment on recent market activity including activity within the banking industry.
 - B. **Performance Review (Board Action):** Representatives from Callan will present on fund performance.
 - C. **Risk Strategy Presentation (Board Action):** Mr. Chin and Mr. Vaidya will present to the Board on enhancing investment performance through risk management. Proposed portfolio changes will be presented in executive session. Confidential materials will be sent to Board members via a secure link.
- V. **A-B. Reports (Board Action):** Staff will provide monitoring reports on quarterly internal audit activities and executive limitations/staff relations.
- VI. **Other (Board Action):** Resolutions for exiting board members will be presented.

Adjournment.

**NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
APRIL 28, 2023, BOARD MEETING (IN-PERSON)**

MEMBERS PRESENT: Tammy Miller, Lt. Governor, Chair
Dr. Rob Lech, TFFR Board, Vice Chair
Thomas Beadle, State Treasurer
Jon Godfread, Insurance Commissioner
Joseph Herringer, Commissioner of Unv. & School Lands
Cody Mickelson, TFFR Board
Adam Miller, PERS Board
Claire Ness, PERS Board, Parliamentarian
Mel Olson, TFFR Board
Yvonne Smith, PERS Board
Art Thompson, Director of WSI

STAFF PRESENT: Scott Anderson, CIO
Eric Chin, Deputy CIO
Derek Dukart, Investment Officer
Rachel Kmetz, Accounting Mgr.
Missy Kopp, Exec. Assistant
George Moss, Sr. Investment Officer
Sarah Mudder, Communications/Outreach Dir.
Jan Murtha, Exec. Dir.
Ann Nagel, Retirement Accountant
Matt Posch, Sr. Investment Officer
Emmalee Riegler, Contracts/Records Admin.
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 Zietlow, Sr. Investment Officer

GUESTS: Dean DePountis, Attorney General's Office
Perry Hopper, Callan
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, April 28, 2023. 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, Commissioner Godfread, Commissioner Heringer, Dr. Lech, Mr. Mickelson, Lt. Gov. Miller, Mr. Miller, Mr. Olson, Ms. Smith, and Mr. Thompson.

The Chair, who was attending remotely, turned the meeting over to Dr. Lech.

ACCEPTANCE OF AGENDA:

The Board considered the agenda for the April 28, 2023, meeting.

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

AYES: COMMISSIONER HERINGER, TREASURER BEADLE, MR. MILLER, COMMISSIONER GODFREAD, MR. OLSON, MR. THOMPSON, MR. MICKELSON, DR. LECH, MS. SMITH, AND LT. GOV. MILLER
NAYS: NONE
ABSENT: MS. NESS
MOTION CARRIED

MINUTES:

The Board considered the minutes of the March 24, 2023, SIB meeting.

IT WAS MOVED BY COMMISSIONER HERINGER AND SECONDED BY TREASURER BEADLE AND CARRIED BY A VOICE VOTE TO APPROVE THE MARCH 24, 2023, MINUTES AS DISTRIBUTED.

AYES: MR. MICKELSON, COMMISSIONER HERINGER, MS. SMITH, MR. THOMPSON, TREASURER BEADLE, DR. LECH, COMMISSIONER GODFREAD, MR. OLSON, MR. MILLER, AND LT. GOV. MILLER
NAYS: NONE
ABSENT: MS. NESS
MOTION CARRIED

Ms. Ness joined the meeting at 8:40 a.m.

INVESTMENTS:

Quarterly Performance Review:

Mr. Anderson provided the quarterly performance review for the period ended December 31, 2022. The markets were very challenging with both equity and fixed income producing negative returns but looking at performance over the long term provides a better understanding of returns. Mr. Anderson reviewed the performance for PERS, TFFR, Legacy Fund, and WSI. Board discussion followed.

IT WAS MOVED BY COMMISSIONER GODFREAD AND SECONDED BY MR. THOMPSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY PERFORMANCE REVIEW.

AYES: MR. OLSON, MS. NESS, COMMISSIONER HERINGER, MR. MICKELSON, COMMISSIONER GODFREAD, MS. SMITH, MR. MILLER, TREASURER BEADLE, MR. THOMPSON, DR. LECH, AND LT. GOV. MILLER
NAYS: NONE
MOTION CARRIED

The Board recessed at 9:29 a.m. and reconvened at 9:40 a.m.

GOVERNANCE:

2023 Legislative Session Update:

Ms. Murtha reviewed the connection between the bills staff were closely monitoring during the legislative session and the goals in RIO's strategic plan. Many of the goals in the strategic plan required legislative changes to be accomplished. Those goals include intern development, adjustment to SIB membership, internal investment program, in-state investment program, talent management, and the Pioneer Project. These goals were accomplished through three bills passed by the Legislature. HB 1088 changes the SIB composition to

support governance and program changes. HB 1219 provided TFFR changes to support the Pioneer Project. SB 2022 is RIO's budget bill which was signed by the Governor on April 21, 2023. In this budget, RIO received nine new Full Time Equivalent (FTE) positions, funding for temporary positions, interns, and equity. The budget also includes statutory authorization for a talent management plan with incentive compensation. Ms. Murtha will provide a full review of the 2023 Legislative Session at the May 2023 SIB meeting. Board discussion followed.

Investment Committee (IC) Update:

Treasurer Beadle provided an update from the April 21, 2023, IC meeting. The Committee received a presentation on the high-level investment strategy for RIO. The Committee concurred with the staff recommendation for benchmark weighting. Mr. Anderson summarized the benchmark recommendation for the Board.

IT WAS MOVED BY MR. THOMPSON AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO CHANGE BENCHMARK TARGET WEIGHT METHODOLOGY TO ONE WHERE BENCHMARK TARGET WEIGHTS ARE ADJUSTED MONTHLY TO REFLECT THE ACTUAL EXPOSURE TO PRIVATE MARKETS WITH OFFSETTING ADJUSTMENTS MADE TO PUBLIC EQUITIES AND PUBLIC FIXED INCOME.

AYES: TREASURER BEADLE, MR. MICKELSON, COMMISSIONER GODFREAD, MR. THOMPSON, COMMISSIONER HERINGER, MS. SMITH, DR. LECH, MR. MILLER, MS. NESS, MR. OLSON, AND LT. GOV. MILLER

NAYS: NONE

MOTION CARRIED

Governance & Policy Review (GPR) Committee:

Dr. Lech provided an update from the April 26, 2023, GPR meeting. The Committee continued discussion regarding changes to the SIB member onboarding process and the proposed curriculum. The Committee discussed the process for searching for two investment professionals for the SIB.

Executive Review & Compensation Committee (ERCC) Update:

Mr. Skor provided an update from the April 19, 2023, ERCC meeting. The Committee received and reviewed the survey results from the Boards for the Executive Director (ED), Chief Investment Officer (CIO), and Deputy ED/Chief Retirement Officer (DED/CRO) along with the staff survey of the ED. The Committee reviewed compensation information and asked staff to provide some additional information at the May 2023 meeting. At that meeting, the ERCC will finalize the ED evaluation. The evaluation and compensation recommendation will be brought to the May 2023 SIB meeting.

Board & Committee Calendar:

The proposed 2023-24 Board and Committee Calendar was provided to the Board. The calendar includes all TFFR, SIB, and committee meetings for the fiscal year. Staff asked the Board to approve the SIB schedule.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MR. THOMPSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE 2023-24 BOARD CALENDAR.

AYES: MS. SMITH, MR. MILLER, MR. OLSON, MR. MICKELSON, DR. LECH, MS. NESS, MR. THOMPSON, COMMISSIONER GODFREAD, COMMISSIONER HERINGER, TREASURER BEADLE, AND LT. GOV. MILLER

NAYS: NONE

MOTION CARRIED

QUARTERLY MONITORING REPORTS:

Investment Ends:

Mr. Chin reviewed the Quarterly Investment Ends Report for the quarter ended March 31, 2023. During the quarter, two new staff members joined the investment team. Staff completed a \$2.7 billion fixed income (FI) portfolio transition which harmonized the investment grade FI strategies into a single implementation across the three pools. The Private Markets Team has issued a request for proposals for a portfolio monitoring and analytics system. There are currently no managers on the watch list. The quarterly investment due diligence monitoring report was provided to the Board. Board discussion followed.

Budget/Financial Conditions:

Mr. Skor provided the budget and expense reports for the quarter ended March 31, 2023. The reports provided included budget appropriations status, expenditure summary, PAS modernization project status and investment expenditures. Board discussion followed.

Executive Limitations/Staff Relations:

Ms. Murtha provided an update on staffing. All FTEs have been filled. The new Investment Accountant and Legal Intern will start in May 2023. Interviews have been scheduled for a new Accounting Intern. Ms. Murtha reviewed current projects and initiatives and provided a list of meetings and presentations from the last month. Board discussion followed.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MR. THOMPSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE QUARTERLY INVESTMENT ENDS, BUDGET/FINANCIAL CONDITIONS, AND EXECUTIVE LIMITATIONS/STAFF RELATIONS REPORTS.

**AYES: TREASURER BEADLE, MS. NESS, MR. OLSON, COMMISSIONER HERINGER, DR. LECH, MR. MILLER, COMMISSIONER GODFREAD, MR. MICKELSON, MS. SMITH, MR. THOMPSON, AND LT. GOV. MILLER
NAYS: NONE
MOTION CARRIED**

RESOLUTION FOR COMMISSIONER GODFREAD:

WHEREAS, Commissioner Godfread has served as the Insurance Commissioner and a member of the State Investment Board since 2016; and

WHEREAS, Commissioner Godfread has diligently carried out his duties and responsibilities as a member of the SIB and fiduciary of the SIB Program; and

WHEREAS, Commissioner Godfread has been a valued and dedicated member of the SIB in helping maintain the integrity and stability of the SIB Program.

NOW THEREFORE, BE IT RESOLVED that Commissioner Godfread be duly recognized by the SIB for his years of unselfish dedication to the State of North Dakota through his service on the State Investment Board.

DATED this 28th day of April 2023

IT WAS MOVED BY MR. THOMPSON AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE BOARD RESOLUTION.

AYES: MR. THOMPSON, MR. OLSON, TREASURER BEADLE, COMMISSIONER HERINGER, MS. NESS, DR. LECH, MR. MILLER, MS. SMITH, MR. MICKELSON, AND LT. GOV. MILLER

NAYS: NONE
MOTION CARRIED

ADJOURNMENT:

With no further business to come before the SIB, Dr. Lech adjourned the meeting at 10:30 a.m.

Prepared by: Missy Kopp, Assistant to the Board

2021-2023 Biennium Review

North Dakota Retirement and Investment



WORKING TO #BELEGENDARY

State Investment Board – May 18, 2023

Jan Murtha – Executive Director

NORTH
Dakota
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JUNE 2021 RIO AGENCY STATUS

▪ **2021 Legislative Session**

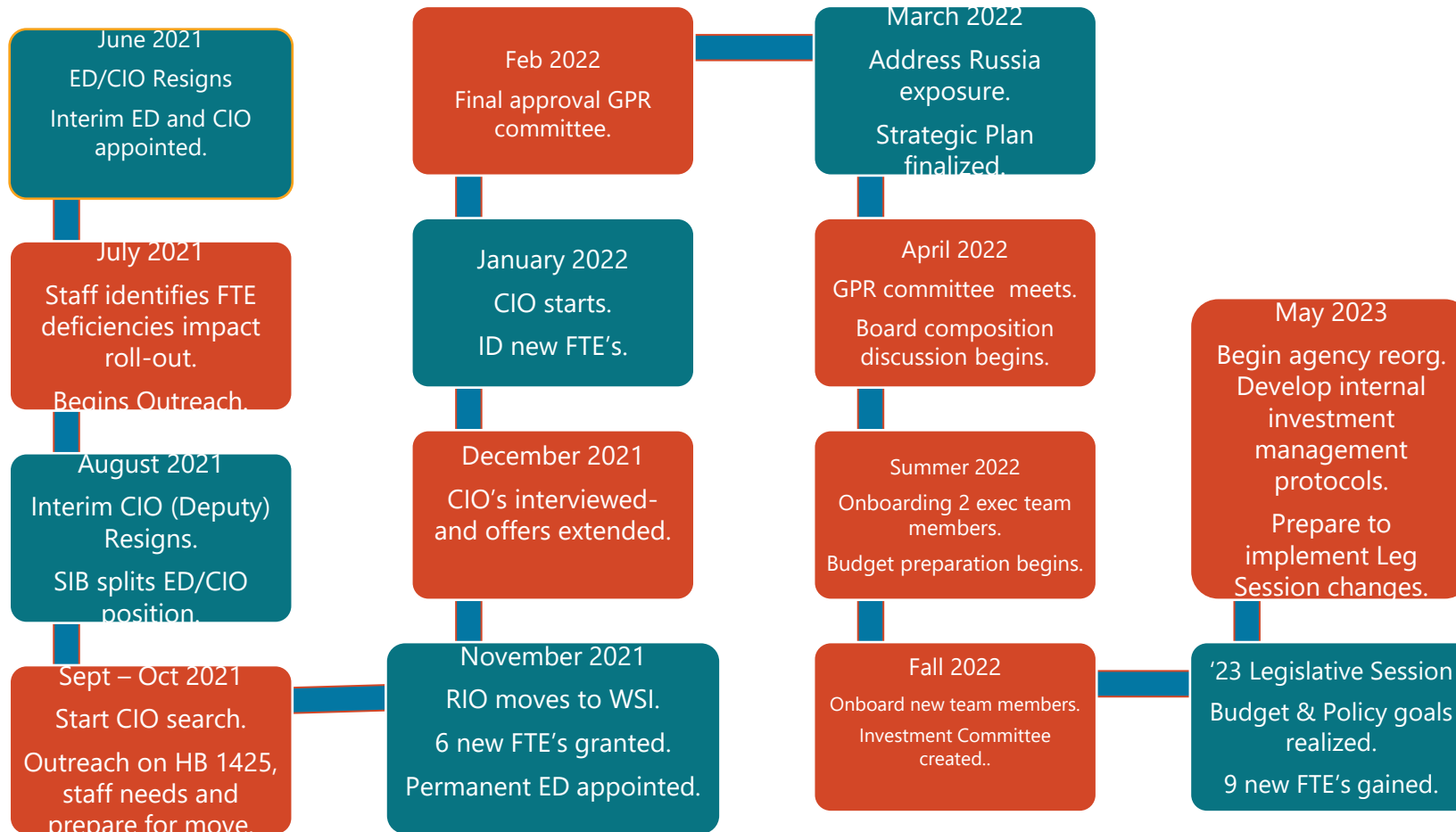
- H.B. 1425 created In-State Investment Program.
- NDIT Unification approved.
- Agency move funded.
- Pension Administration System modernization project funding continues.

▪ **Agency Changes**

- Executive Director- Chief Investment Officer resigns.
- Two internal IT staff unify with NDIT.
- RIO plans for move from private lease space to WSI building.
- RIO prepares for vendor procurement for PAS.

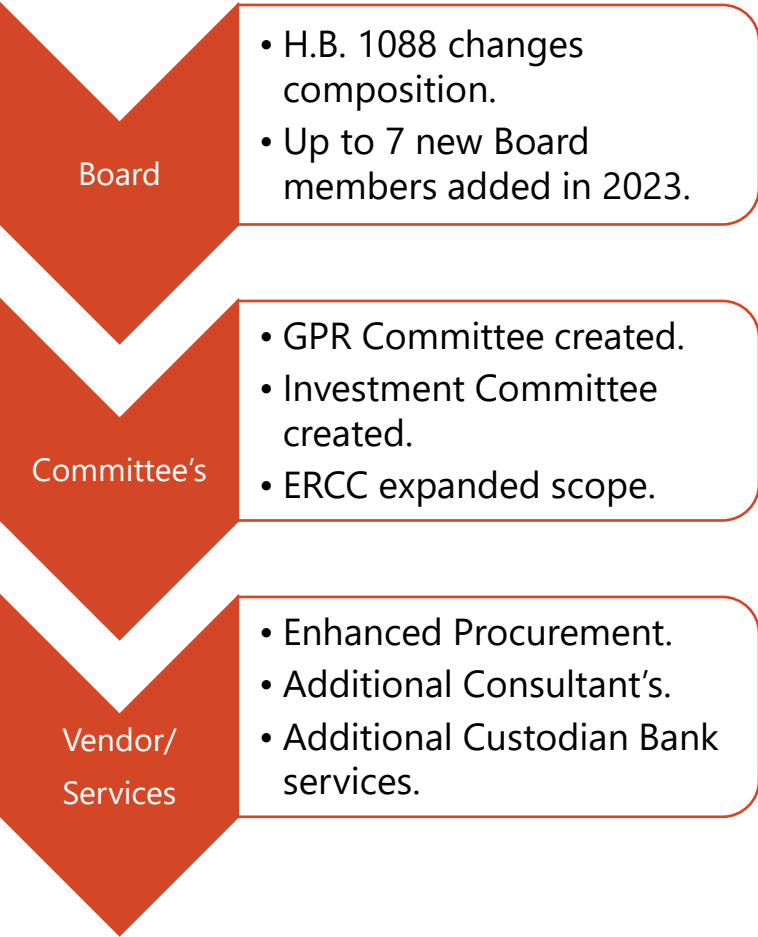
RIO MILESTONES 2021-2023

What we did..



WHAT WE ACCOMPLISHED

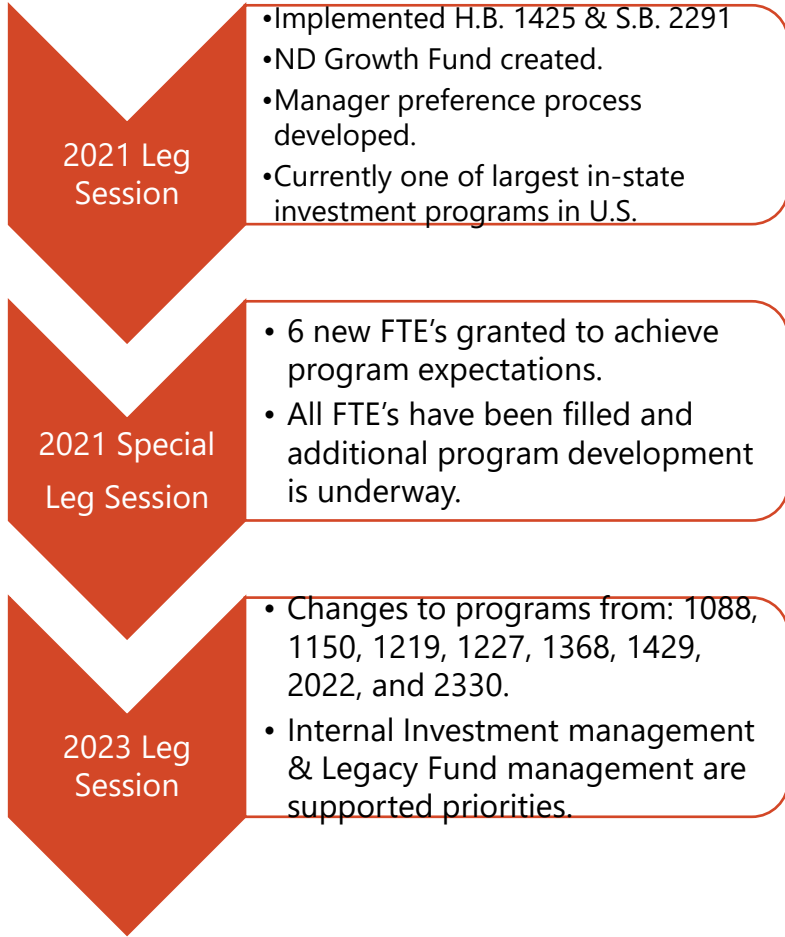
Governance Structure



Agency Organization



Legal Framework



Retirement and Investments Core Priorities



HORIZON-BASED TRANSFORMATION



WE CHOSE TO LISTEN

- Fall 2021 Gallup Results - Increase in team member engagement over the prior year despite strain on agency resources.
- Significant Increase in Mission/Purpose.

Gallup Q¹² Items

Questions	Total N	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q00: Overall Satisfaction	12	4.00	3.69	▲+0.31	46	3.69
Q01: Know What's Expected	12	4.08	4.06	+0.02	18	4.19
Q02: Materials and Equipment	12	4.33	4.31	+0.02	58	4.03
Q03: Opportunity to do Best	12	3.92	4.00	-0.08	31	3.89
Q04: Recognition	12	4.17	4.06	+0.11	68	3.41
Q05: Cares About Me	12	4.58	4.19	▲+0.39	68	4.07
Q06: Development	12	4.17	4.00	+0.17	55	3.75
Q07: Opinions Count	12	4.00	3.69	▲+0.31	54	3.52
Q08: Mission/Purpose	12	4.92	4.19	▲+0.73	93	3.91
Q09: Committed to Quality	12	4.42	4.50	-0.08	66	3.95
Q10: Best Friend	11	3.55	3.63	-0.08	39	3.28
Q11: Progress	12	4.08	3.94	+0.14	49	3.69
Q12: Learn and Grow	12	4.42	4.13	▲+0.29	65	3.88

Not shown if n < 4 for Mean, Top Box, Verbatim Responses, and Sentiment, n < 10 for Frequency, or data is unavailable.
 Scores are not available due to data suppression. Respondents can select multiple responses for multi-select questions.
 Percentile Rank in Gallup Overall Database: ■ < 25th Percentile ■ 25-49th Percentile ■ 50-74th Percentile ■ 75-89th Percentile ■ ≥ 90th Percentile

3 Copyright 2021 Gallup, Inc. All rights reserved. Copyright © 1993-1998 Gallup, Inc. All rights reserved. The Gallup Q12 items are Gallup proprietary information and are protected by law. You may not administer a survey with the Q12 items or reproduce them without consent from Gallup.

GALLUP

WE CHOOSE TO LISTEN

- Fall 2022 Gallup Results -.
- Statistically Significant Increases in 8 of 12 categories.
- Decrease in Mission/Purpose.
- Addressing Mission/Vision.

Q12 Mean

The Gallup Q12 score represents the average, combined score of the 12 elements that measure employee engagement. Each element has consistently been linked to better business outcomes.

12 Respondents

Engagement Mean
4.42

Change
↑ +0.20

Mean Percentile Rank - Gallup Overall
76

Engagement Index
Engagement Index is unavailable for the currently selected scorecard.

	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q00: On a five-point scale, where 5 means extremely satisfied and 1 means extremely dissatisfied, how satisfied are you with your agency as a place to work?	12	4.17	4.00	0.17	53	3.72
Q01: I know what is expected of me at work.	12	4.25	4.08	0.17	30	4.21
Q02: I have the materials and equipment I need to do my work right.	12	4.33	4.33	0.00	58	4.04
Q03: At work, I have the opportunity to do what I do best every day.	12	4.17	3.92	↑ +0.25	48	3.90
Q04: In the last seven days, I have received recognition or praise for doing good work.	12	4.42	4.17	↑ +0.25	80	3.37
Q05: My manager, or someone at work, seems to care about me as a person.	12	4.92	4.58	↑ +0.34	90	4.08
Q06: There is someone at work who encourages my development.	12	4.42	4.17	↑ +0.25	71	3.77
Q07: At work, my opinions seem to count.	12	4.00	4.00	0.00	56	3.54
Q08: The mission or purpose of my agency makes me feel my job is important.	12	4.58	4.92	↓ -0.34	77	3.92
Q09: My coworkers are committed to doing quality work.	12	4.87	4.42	↑ +0.25	82	3.96
Q10: I have a best friend at work.	11	3.91	3.55	↑ +0.36	59	3.22
Q11: In the last six months, someone at work has talked to me about my progress.	12	4.58	4.08	↑ +0.50	77	3.85
Q12: This last year, I have had opportunities at work to learn and grow.	12	4.83	4.42	↑ +0.41	91	3.90

RIO MISSION, VISION AND VALUES

Mission Statement

“To provide prudent and transparent investment services for our client funds and support North Dakota public school educators with responsible benefit administration.”

Vision Statement

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

Core Values

Integrity

We value honesty and are committed to doing what’s best for our customers.

Accountability

We are responsible for our actions and work as a team to produce the desired outcomes.

Service

We care about the people we serve and take time to understand their unique needs.

N O R T H
Dakota

Be Legendary.™

State Investment Board Education and Planning Calendar 2023-2024

July 21, 2023 – 8:30am

Election of Officers
Committee Appointments
Annual Governance Policy Review Report
Staff Qtrly Performance Report (3/31)
Qtrly Investment Ends (6/30)
Qtrly TFFR Ends Report (6/30)
Educ: Investments (manager selection process, due diligence, watch list) – RIO

August 25, 2023 – 8:30am

Qtrly & Annual Audit Activities Report (6/30)
Qtrly Budget/Fiscal Conditions Report (6/30)
Educ: TBD

September 21, 2023 – 8:30am

Consultant Qtrly & Annual Perf Report (6/30)
Annual Technology Report (6/30)
Annual TFFR Ends Report (6/30)
Educ: Cybersecurity - NDIT

October 27, 2023 – 8:30am

Staff Qtrly & Annual Performance Report (6/30)
Annual SIB Customer Satisfaction Survey
Annual Budget/Fiscal Conditions Report (6/30)
Qtrly Investment Ends (9/30)
Educ: TBD

November 17, 2023 – 8:30am

Strategic Communication Plan
Consultant Qtrly Performance Report (9/30)
Qtrly TFFR Ends Report (9/30)
Qtrly Budget/Fiscal Conditions Report (9/30)
Qtrly Audit Activities Report (9/30)
Educ: TBD

January 26, 2024 – 8:30am

Staff Qtrly Performance Report (9/30)
Qtrly Investment Ends (12/31)
Qtrly TFFR Ends Report (12/31)
Educ: Open Meetings & Records - AGO

February 23, 2024 – 8:30am

Board Self-Assessment Results
Qtrly Audit Activities Report (12/31)
Qtrly Budget/Fiscal Conditions Report (12/31)
Educ: TBD

March 22, 2024 – 8:30am

Agency Strategic Plan Review
Consultant Qtrly Performance Report (12/31)
Educ: Fiduciary Duties & Ethics - AGO

April 26, 2024 – 8:30am

Staff Qtrly Performance Report (12/31)
2024-25 Board Calendar and Educ Plan
Qtrly TFFR Ends Report (3/31)
Qtrly Audit Services Report (3/31)
Qtrly Investment Ends Report (3/31)
Qtrly Budget/Fiscal Conditions Report (3/31)
Educ: TBD

May 17, 2024 – 8:30am

Consultant Qtrly Performance Report (3/31)
Qtrly Audit Services Report (3/31)
Executive Director Review
Educ: TBD

NOTE: Agenda items or education topics may be rearranged if needed

MEMORANDUM

TO: SIB
FROM: Scott Anderson, Chief Investment Officer
DATE: May 12, 2023
RE: Investment Committee Update

The Investment Committee met Friday May 12, 2023. The meeting was called to order and there was an acceptance of the agenda followed by an acceptance of the minutes from the April 21, 2023, meeting. Mr. Vaidya then presented the high-level risk management strategy for RIO. The investment committee voted to concur with the strategy as presented. The strategy document is included in the board meeting materials as part of the risk strategy presentation.

Mr. Zietlow and Mr. Moss then presented a timber discussion in closed session followed by a presentation by Mr. Chin of country risk in closed session. The country risk presentation had an approval by the investment committee. The approval will be discussed in closed session of this board meeting. Lastly, Mr. Anderson presented a delegation matrix that aligns with the Investment Committee Charter and governance manual for delegation of authority clarity. A proposed updated governance manual list of responsibilities and authority to accommodate future governance of an internal direct investment strategy was also presented and approved for recommendation to the board. The delegation matrix and proposed governance manual changes are included with the board materials.

<https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Investment/Board/Materials/sibinvestmat20230512.pdf>

BOARD ACTION REQUESTED: Motion to approve introduction and first reading of guidelines and delegation matrix.

Guideline Changes to Accommodate Direct Investment and Incentive Comp

SIB

1. Invest funds entrusted by statute and contracted entities, delegating investment authority when deemed appropriate.
2. Set policies for appropriate investments and investment practices of entrusted funds.
3. Approve asset allocation and investment policies of participating trust funds or establish pool asset allocation previously approved by the Investment Committee.
4. Monitor the progress of the implementation of the investment strategy.
5. Monitor the performance and risk of the investment program provided by an independent third-party performance appraisal.
6. The Board will receive program updates, training regarding investment topics, market updates, investment performance/risk, investment procedures, program costs and updates on investment execution of investment strategies from Investment Committee representatives.
7. Approve benchmark recommendations from an independent third-party benchmark consultant previously approved by the Investment Committee.
8. Review summaries of Investment Committee proceedings.
9. Review updates regarding specific investment strategies, manager selection, termination, guideline changes and changes to instrument usage.
10. The Board may choose to have decision authority over specific Investment Committee decisions when deemed appropriate including new investment programs, strategies, techniques, instruments, and initiatives.

Investment Committee

1. The Committee will suggest and recommend changes to the SIB Investment Policy, as necessary including any delegation of authority to RIO investment staff.
2. The Committee will review periodically and approve changes and additions to the IC Guidelines and will report any revisions to the SIB.
3. The Committee may examine internally direct management portfolios and externally managed portfolios, individual investments, correlation among portfolios, and such other matters as the Committee deems appropriate for the purpose of understanding, measuring, controlling, monitoring, and reporting SIB investment exposure.

4. The Committee will review and approve new investment strategies (both internal direct and external), portfolios, and the use of new investment instruments prior to their implementation.
5. The Committee will oversee the review and implementation of any other new investment programs or initiatives in all SIB portfolios and will coordinate any necessary related SIB approvals.
6. For purposes of fulfilling its risk management and oversight responsibilities, the Committee will act as liaison between the RIO investment Staff and the SIB on issues concerning investment risk management.
7. The Committee will review subset of asset class strategies at least quarterly to assess established risk limits and evaluate strategy and will approve such strategies annually. The relevant Investment Staff shall be responsible for the specific investment decisions and implementations including internally and externally managed mandates that are used to execute the approved strategies.
8. The Committee will review all compliance-related issues including compliance with statutes, administrative rules, internal and external manager investment guidelines or as otherwise requested.
9. The Committee will review asset allocation plans and strategies and will review and approve for recommendation to the board any proposed changes to SIB's strategic asset allocations and fund-level active risk objectives before they are presented to the Board for approval. The Committee will provide consultation and assistance to the SIB, ED and staff concerning total fund allocation changes or rebalance decisions, as needed.
10. The Committee will review and act on all requests from investment managers, both internal and external for waivers to provisions in their investment guidelines. On an emergency basis when it is impractical to timely convene a meeting of the Investment Committee, either the Chair or Vice Chair of the committee with the concurrence of the Chief Investment Officer of the Committee or the Executive Director, may approve a waiver. That waiver will be brought to the Committee for ratification at its next regularly scheduled meeting.
11. The Committee may review and analyze other compliance-, risk- or derivative-related matters that are directed to the attention of the Committee by the SIB, external auditors, the Internal Audit group, and RIO investment and accounting staff.
12. The Committee will receive quarterly reports regarding transitions (if any) and shall review with the applicable Investment Staff the costs and impacts associated with the transitions. It will also from time-to-time review reports on the trading effectiveness of investment execution of internal investment strategies (if approved).
13. The Committee will review annual benchmark recommendations from a Board-appointed benchmark consultant and will provide its evaluation and recommendation to the Board.
14. The Committee will review and approve revised portfolio guidelines as necessary.
15. The Committee will establish procedures for the methodology and frequency of review of (i) fund, asset class and portfolio performance, (ii) performance attribution, (iii) allocation

within asset classes and (iv) risk levels. Procedures will be shared with the Board.

16. The Committee will conduct periodic round table discussions of the economic and investment environment.

Chief Investment Officer and RIO Staff

1. Participate on the Investment Committee and report to the Board as required.
2. Implement investment policies approved by the Investment Committee and the Board.
3. Provide research and administration for SIB client funds and client projects.
4. Recommend investment policies and procedures appropriate for governing the investment of entrusted funds.
5. Lead the development of asset allocations, investment strategies, manager mandates, manager guidelines, investment implementations and investment policies to be approved by the Investment Committee and Board.
6. Recommend to the investment committee the hiring or terminating of money managers, custodians, consultants, and other outside services needed to effectively manage the investment funds.
7. Hire and terminate money managers, custodians, and consultants as delegated by the Investment Committee and Board.
8. Negotiate manager contract terms and conditions as delegated by the Investment Committee and Board.
9. Evaluate money manager adherence to investment objectives, mandate requirements and guidelines.
10. Provide performance reports to the Investment Committee, the Board and Boards of participating funds as a representative of the Investment Committee and the SIB.
11. Develop and maintain appropriate accounting policies and investment systems for the funds entrusted to the SIB.
12. Recommend to the investment committee new investment strategies (both internal direct and external), portfolios, and the use of new investment instruments prior to their implementation.
13. Manage direct investment strategies approved by the investment committee including the allocation of capital within the strategies, as well as security selection, weighting, and trading.
14. Provide rebalance instructions to the fiscal team that comply with client policy statements.

Delegation Matrix

ACTIVITY	RECOMMEND	APPROVE FOR RECOMMENDATION	APPROVE	OVERSIGHT	IMPLEMENT
Investment Policy	Staff/IC	IC	Board	IC and Board	Staff
Asset Allocation	Staff	IC	Board	IC and Board	Staff
Third Party Performance Assessment	Third Party			IC and Board	
Program Updates/Training				IC and Board	Staff/IC
Benchmarks	Third Party	IC	Board	IC and Board	Staff
IC Proceedings		IC	Board	Board	Staff
Any Authority			Board	Board	Staff/IC
Manager Guidelines	IC/Staff		IC	IC and Board	Staff
Monitor Funds and Portfolios				IC and Board	Staff
New Investment Strategies	Staff		IC	IC and Board	Staff
New Investment Portfolios	Staff		IC	IC and Board	Staff
New Investment Instruments	Staff		IC	IC and Board	Staff
Compliance	Staff		IC	IC and Board	Staff
Waivers	Staff		IC	IC and Board	Staff
Transitions			Staff	IC and Board	Staff
Rebalance			Staff	IC and Board	Staff
Hire/Terminate Managers	Staff		IC	IC and Board	Staff
Hire/Terminate Benchmark, Hurdle Rate Consultants	Staff	IC	Board	IC and Board	Staff
Hire/Terminate Custodians, Staff Consultants	Staff		Staff	IC and Board	Staff
Negotiate Manager Contracts				IC and Board	Staff
Manage Approved Direct Strategies				IC and Board	Staff

MEMORANDUM

TO: State Investment Board
FROM: Executive Review and Compensation Committee
DATE: May 18th, 2023
RE: Executive Director Compensation

During the May 16, 2023, Executive Review and Compensation Committee (ERCC) meeting, the committee met to formalize its compensation recommendation for the Executive Director to the full State Investment Board (SIB).

As part of the overall budget approved during the recently adjourned 2023 legislative session, there was approved funding to allow for a 6% increase in all permanent salaries within the Retirement and Investment Office (RIO), including the Executive Director.

- The committee is recommending an increase of 6% to the current annual salary for the Executive Director.

BOARD ACTION REQUESTED:

- **Approval of recommended increase of 6% for Executive Director salary**

Executive Review
Janilyn Murtha, Executive Director
May 16, 2023

Evaluation Process:

In compliance with the State Investment Board (SIB) Governance Policy, the SIB conducted a formal evaluation of the Executive Director, based on accomplishment of *Ends and Compliance with Executive Limitations*. The Executive Review and Compensation Committee, consisting of SIB board members Adam Miller, Dr. Robert Lech, and Treasurer Thomas Beadle, was appointed to oversee the evaluation process. Staff assistance was provided by Sara Seiler, Supervisor of Internal Audit, Ryan Skor, Chief Financial Officer/Chief Operating Officer, and by Missy Kopp, Executive Assistant.

- The following surveys and reports were reviewed as part of the evaluation:
 - Executive Director Performance Survey
 - Independent Audit Report for the period ending June 30, 2022, issued by CliftonLarsonAllen LLP.
 - RIO Financial FY Ended 6/30/2022 – October 28, 2022
 - Quarterly Monitoring Reports
 - Executive Limitation Audit CY 2022 – February 15, 2023
 - Executive Director Staff Survey
 - Executive Director Self-Survey

On May 16, 2023, The Executive Review and Compensation Committee reviewed the results and discussed areas of strength and professional development opportunities. The results and subsequent discussion form the basis for the formal evaluation. The evaluation will be presented to the SIB for final approval at the May 19, 2023, SIB Board Meeting.

Board Member Responses to the Executive Director Survey:

All twelve SIB members completed the evaluation survey. The questionnaire included 13 questions: Responses to 12 questions were given on a 3-point Likert scale [Exceeds expectations, Met expectations, and Below expectations] and there was 1 open-ended question for written comments.

- Overall, Board members are pleased with the Executive Directors performance and recognize the change, organizational restructuring, and growth at the North Dakota Retirement and Investment Office (NDRIO) in 2022 was substantial. Board members feel changes at NDRIO are in a positive direction.
- Ms. Murtha operates with a high level of integrity and strength of character in the leadership of the North Dakota Retirement and Investment Office. This is a foundational ability to build relationships with stakeholders, foster trust with the

department and continue to make organizational changes for the betterment of the NDRIO, client funds, and the State of North Dakota.

- Ms. Murtha has exhibited outstanding leadership through her ability to lead transformational change in the department and the State Investment Board through a significant amount of change with a future-focus that is crucial to the evolution and growth of NDRIO. This is evidenced in initiatives to expand technological capabilities, assisted with board governance changes, and supporting the board during the legislative session.

Staff Responses to the Executive Director Survey:

Nineteen team members completed the evaluation survey. The questionnaire included 8 questions: Responses to 7 questions were given on a 5-point Likert scale [Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree] and there was 1 open-ended question for written comments. Overall, the survey responses were positive, although some disagreement was noted.

- Sixteen out of the nineteen responses suggest the Executive Director provides a clear sense of purpose and direction for agency staff. Two responses were neutral, and one response indicated disagreement.
- Most employees agree that the Executive Director seeks input from team members
- The Executive Director received favorable responses in valuing employees. Most staff agree that the Executive Director shows care and concern for staff.
- Responses to the open-ended question about satisfaction with the job performance of the Executive Director were mostly positive, with most employees indicating that they are very satisfied with the job being done by the Executive Director. Many staff members recognize that the job of the Executive Director is difficult, and the job is even more difficult during the legislative session.
- Two of the nineteen responses suggest there is a desire for the Executive Director to be more available and to communicate with each member of staff more regularly. In recognition of the fact that due to the size of the agency and the remote and hybrid schedules of the team members at RIO communicating with every team member on an individual basis is infeasible, Ms. Murtha has indicated that she will nonetheless schedule monthly office hours available to team members that would like to check in and are not already direct reports.

Executive Director Self-Evaluation

Ms. Murtha collaborates with Executive Team members to ensure that boards receive education materials that are both relevant and in close proximity to decisions each Board must make. Ms. Murtha ensures that investment presentations, while necessarily

complex, are nonetheless presented in a manner that distills the necessary information in an easy to digest manner that is readily disseminated to board members and stakeholders. Ms. Murtha ensures all reports required by board governance have been presented to both boards in a timely, comprehensive, and concise manner. Ms. Murtha believes her areas of strength include working with internal and external stakeholders to develop and achieve goals which are in alignment with RIO's strategic plan under an aggressive time frame and an area of improvement includes the need to allocate additional time to administrative duties to improve response time.

Summary

This evaluation shows that Ms. Murtha provides excellent leadership as the Executive Director. Ms. Murtha led RIO through many challenges the past year in a positive, professional, and strategic-focused way. Her credibility and respect among board members, stakeholders, clients, and staff are evident.

Ms. Murtha is encouraged to continue to focus on communication with legislators, clients, and the public. The anticipated growth and increasing complexity of the investment program and changes to workflows among team members will demand much attention from Ms. Murtha in the upcoming year.

Ms. Janilyn Murtha, State Investment Board ED

Date

Adam M. Miller, Executive Review & Compensation
Committee Chair

Date

Callan



May 2023

North Dakota State Investment Board

Performance Evaluation
as of March 31, 2023

Alex Browning
Senior Vice President

Craig Chaikin, CFA
Senior Vice President

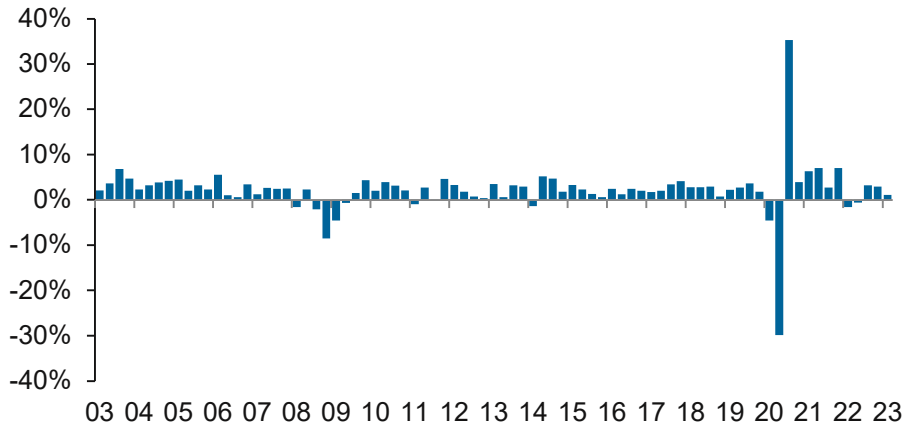
Callan

Market Update

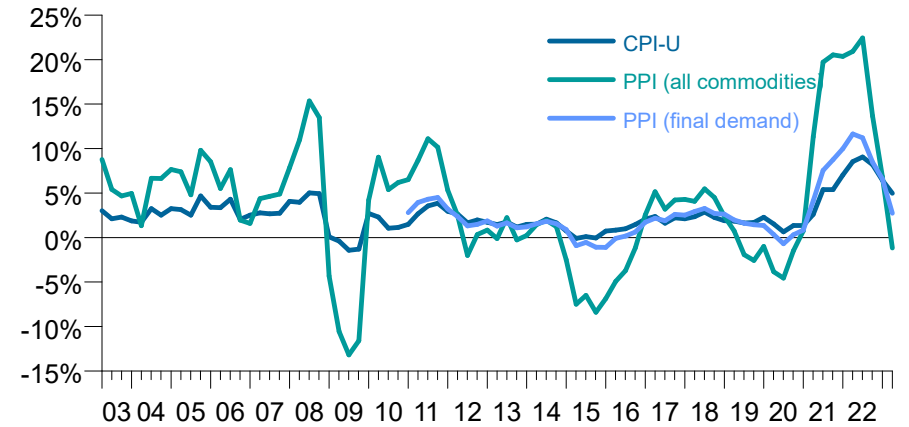
U.S. Economy—Summary

For periods ended 3/31/23

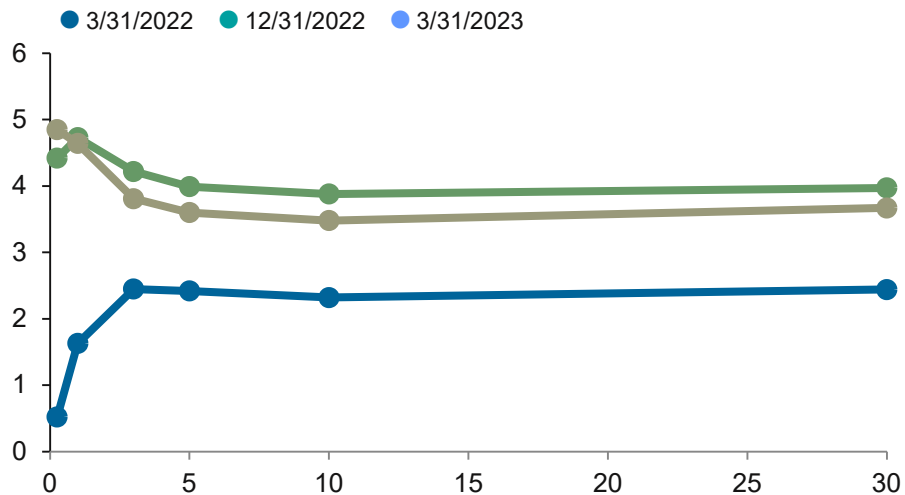
Quarterly Real GDP Growth



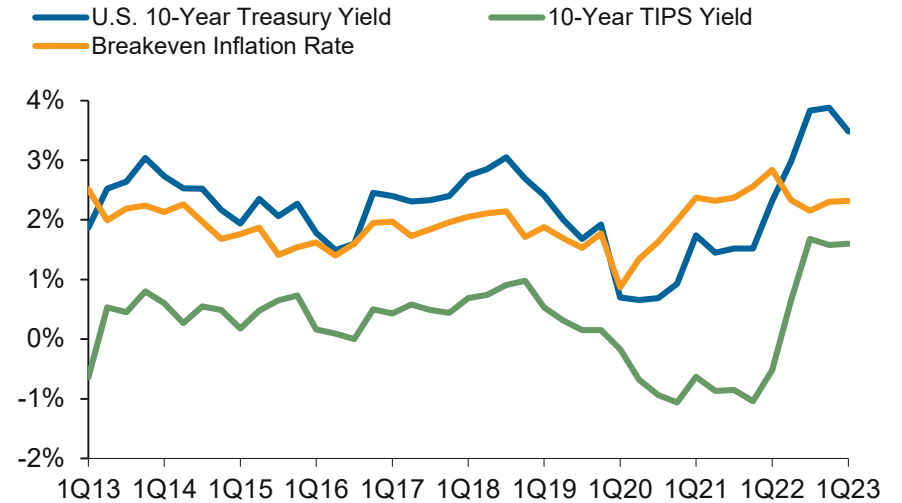
Inflation Year-Over-Year



U.S. Treasury Yield Curves



Historical 10-Year Yields Through 3/31/23



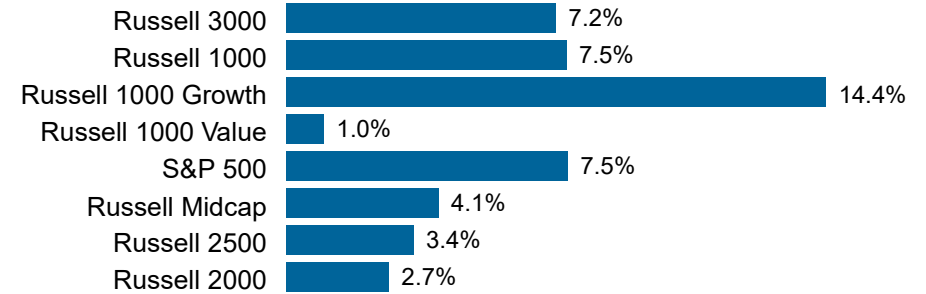
Sources: Bloomberg, Bureau of Labor Statistics, Callan

U.S. Equity Performance: 1Q23

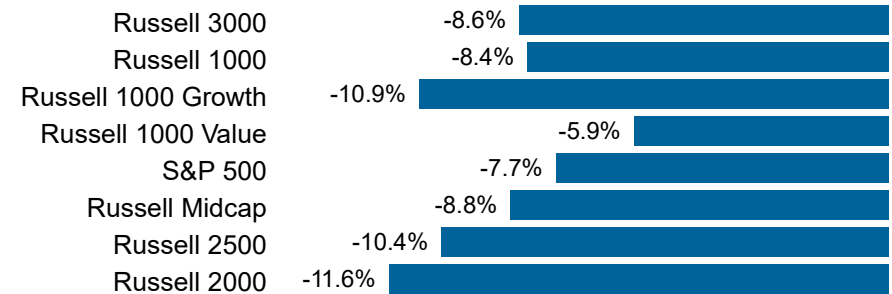
Large cap growth stocks lead broad indices higher; small cap indices hurt by regional bank sell-off

- The S&P 500 posted a second straight quarter of positive performance, gaining 7.5%; large cap growth led all styles, advancing 14.4%; Russell 2000 Value was an exception with a slight decline (0.7%) due to greater exposure to Financials, specifically small banks.
- Three sectors comprising 44% of S&P 500 (63% of Russell 1000 Growth) drove performance: Technology (+21.8%), Communication Services (+20.5%), and Consumer Discretionary (+16.1%). Financials, Energy, and Health Care were negative but had only a modest impact given smaller weights in these benchmarks.
- Small caps (Russell 2000) underperformed large caps (Russell 1000) and growth outperformed value during the quarter, a reversal of trend from 2022. Greater exposure to small banks in Russell 2000 (8.3%) versus Russell 1000 (3.3%) was one differentiator; strong returns for mega-cap Technology also increased divergence.

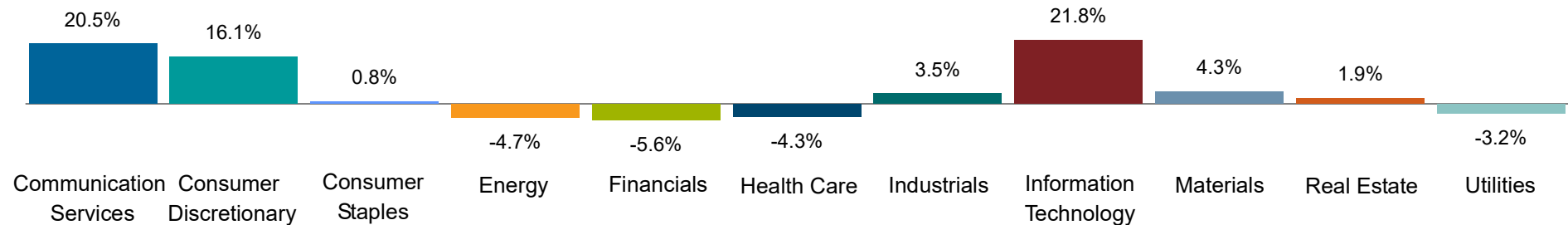
U.S. Equity: Quarter Ended 3/31/23



U.S. Equity: One-Year Returns Ended 3/31/23



Industry Sector Quarterly Performance (S&P 500) as of 3/31/23



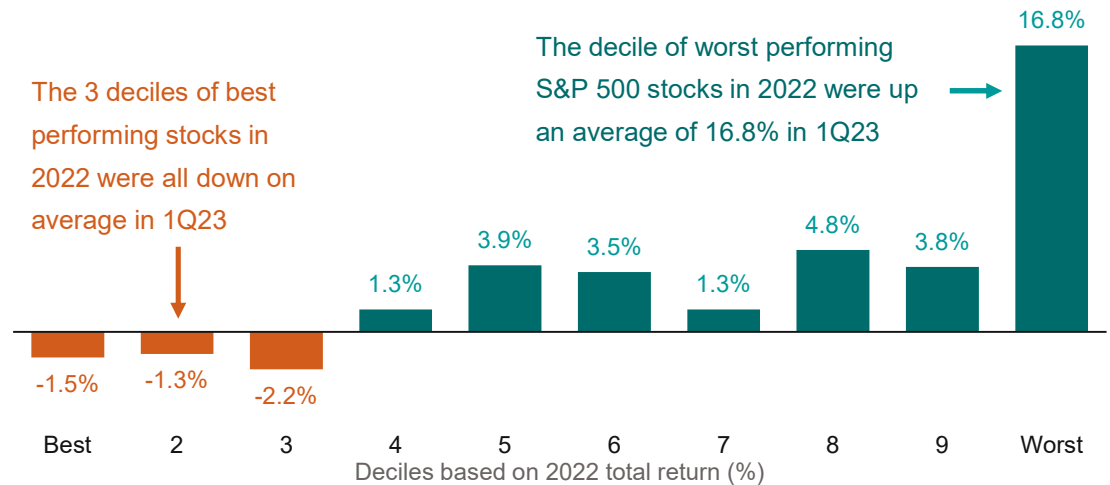
Sources: FTSE Russell, S&P Dow Jones Indices

U.S. Equity Overview

Worst to best: Large caps reverse 2022 trends during 1Q23

- Investors “bought the dip” as stock performance reversed from the prior year—the worst-performing stocks for 2022 became the best-performing stocks during 1Q23 in the S&P 500.
- The top chart illustrates the S&P 500 as deciles (10 groups of 50 stocks each) based on how stocks performed in 2022.
 - *Decile 1 contains the 50 stocks that performed the best in 2022, decile 2 contains the 50 next best, etc.*
 - *Decile 10 contains the 50 stocks that did the worst in 2022.*
- The three deciles containing the 150 best performing stocks in 2022 all averaged declines during 1Q23.
- On the flip side, the worst performers in 2022 averaged a gain of 16.8% during 1Q23, with strong absolute performance from mega-cap growth names such as NVIDIA, Meta, Tesla, and Salesforce.

S&P 500 Deciles: 1Q23 Avg Performance Based on 2022 Performance



Best-Performing S&P 500 Stocks in 1Q23

Name	Sector	Price	Market Cap (\$bn)	Total Return (%)	
				2022	QTD
NVIDIA	Technology	277.77	686.1	-50.27	90.10
Meta Platforms	Comm Svcs	211.94	549.5	-64.22	76.12
Tesla	Cons Discret	207.46	656.4	-65.03	68.42
Warner Bros Discovery	Comm Svcs	15.10	36.8	--	59.28
Align Technology	Health Care	334.14	25.6	-67.91	58.44
Advanced Micro Devices	Technology	98.01	157.9	-54.99	51.32
Salesforce	Technology	199.78	199.8	-47.83	50.68
West Pharmaceutical	Health Care	346.47	25.7	-49.70	47.32
General Electric	Industrials	95.60	104.2	-10.92	46.35
Catalent	Health Care	65.71	11.8	-64.84	45.99

Source: Bespoke Investment

U.S. Equity Key Theme

Small cap valuations point to potential opportunity

- Small cap continues to trade at a meaningful discount to its historical valuations; large cap (particularly growth) continues to trade at a premium to its historical valuations.
- Small cap universe continues to have a high level of unprofitable companies, leading to an emphasis on “quality” for many small cap core, value, and even growth investment managers.
- High intra-stock return dispersion has led to broad outperformance for many active small cap managers.

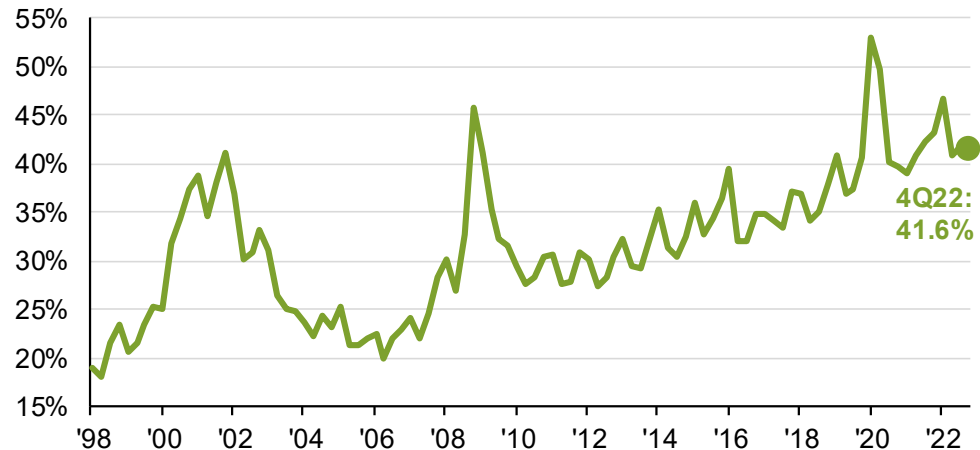
Current P/E Valuation vs 20-year average P/E as of 3/31/23

Current P/E vs. 20-year avg. P/E			
	Value	Blend	Growth
Large	14.1 / 13.7	17.8 / 15.5	23.8 / 18.7
Mid	13.6 / 14.5	16.0 / 16.4	22.8 / 20.4
Small	15.6 / 16.8	20.3 / 21.4	28.1 / 31.3

Current P/E as % of 20-year avg. PE			
	Value	Blend	Growth
Large	103.1%	114.8%	127.5%
Mid	94.3%	97.7%	111.9%
Small	92.8%	95.2%	89.9%

Percent of unprofitable companies in the Russell 2000

1Q98 – 4Q22, pro-forma EPS



Sources: FactSet, FTSE Russell, J.P. Morgan Asset Management.

Global/Global ex-U.S. Equity Performance: 1Q23

A reversal of 2022

1Q23 brought global and global ex-U.S. equity markets back to black.

Positive results despite hiccups

- The first quarter of the year was marked by the collapse of Silicon Valley Bank and Credit Suisse, which sent fears of a banking crisis across global markets.
- Despite a Fed hike during the period, investors began to price in lower rate expectations.
- Europe outperformed other regions, making up ground lost in 2022 as inflation eased and recession fears lessened.

Growth vs. value

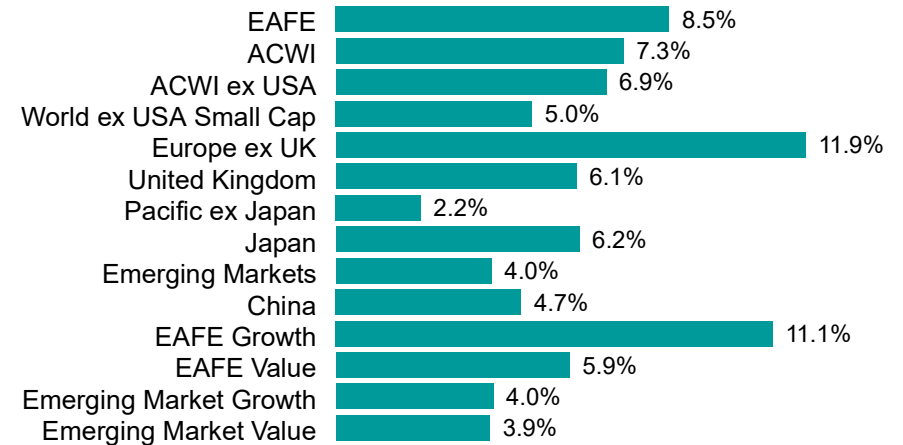
- Growth outpaced value across developed and emerging markets.
 - In a reversal from 2022, investors preferred growth alongside a drawdown in banks; Information Technology was the largest outperformer.

U.S. dollar vs. other currencies

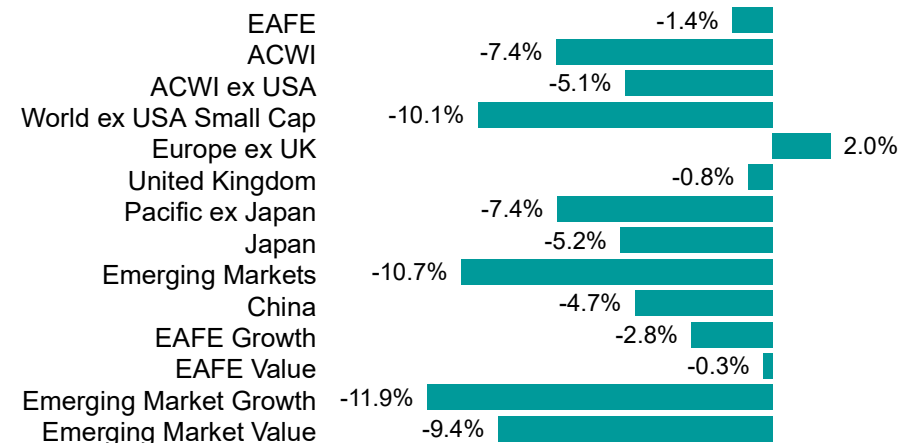
- After some strength early in the quarter, the U.S. dollar declined 1% as interest rate differentials narrowed globally.

Source: MSCI

Global Equity Returns: Quarter Ended 3/31/23



Global Equity Returns: One Year Ended 3/31/23



Global/Global ex-U.S. Equity Key Themes

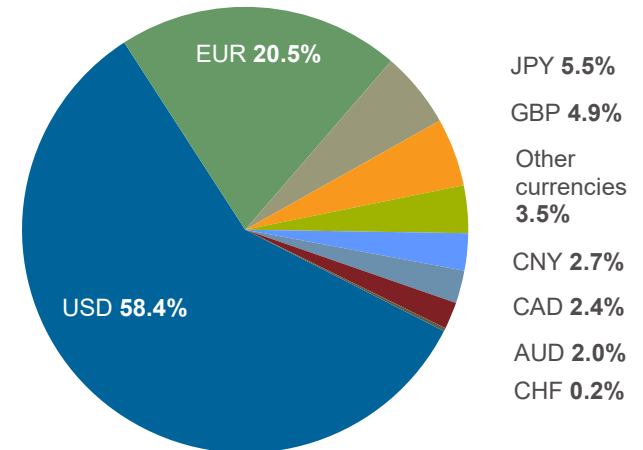
Dollar hegemony intact despite debt ceiling concerns

- Around \$2 trillion notes in circulation, half of which are outside of the U.S.
- Approximately 88% of all international transactions are done with the dollar.
- The U.S. dollar constituted 58% of global foreign exchange reserves as of 4Q22.
 - The euro was a distant second with 21%, followed by the yen with 6%.
 - The Chinese yuan only accounted for 3%.

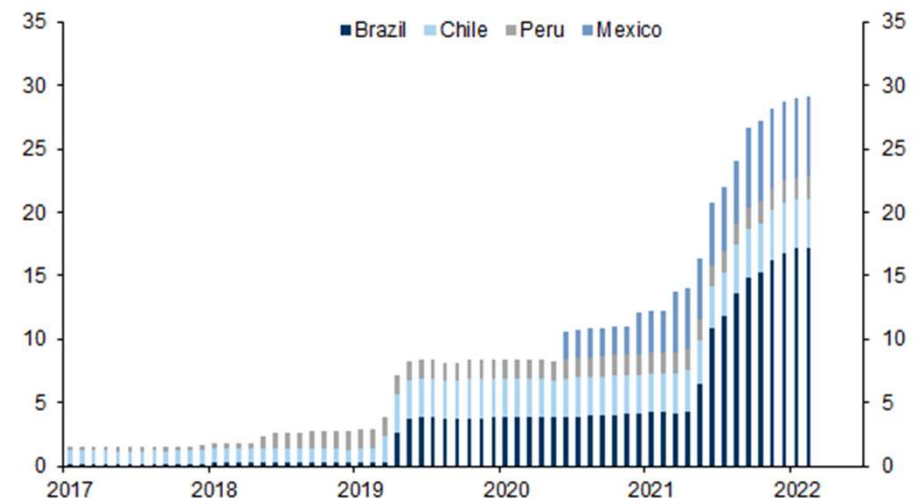
Geopolitics and de-globalization may erode dominance

- As the U.S. sanctioned more than \$300 billion of Russia's foreign currency reserves in February 2022 after the invasion of Ukraine, appetite to diversify reserve holdings increased.
- Bilateral trade agreements are starting to settle in local currencies and reducing reliance on the dollar.
 - Brazil, Chile, Peru, and Mexico have added nearly \$30 billion in yuan reserves combined over the past five years given the shifting commodity demand.
- Due to limited transparency and capital controls, the yuan may not replace the dollar as the reserve currency. However, the rise of bilateral trades may lead to diversified reserve holdings to mitigate dependence on the dollar.

Foreign Exchange Reserves by Currency (4Q22)



LatAm CNY Reserves (\$billion)



Sources: Goldman Sachs Global Investment Research, I/B/E/S, IMF, MSCI

U.S. Fixed Income Performance: 1Q23

Bloomberg Aggregate was positive in 1Q but mixed

- January: +3.1%
- February: -2.6%
- March: +2.5%

U.S. Treasury volatility was pronounced

- 2-year US Treasury yield high was 5.08% on 3/8 and low was 3.77% on 3/24
- MOVE Index highest since 2008

Yield curve remained inverted but was also volatile

- 2yr/10yr => 3/31: -58 bps; max 3/8: -109; min 3/23: -38
- 1yr/10yr => 3/31: -116 bps

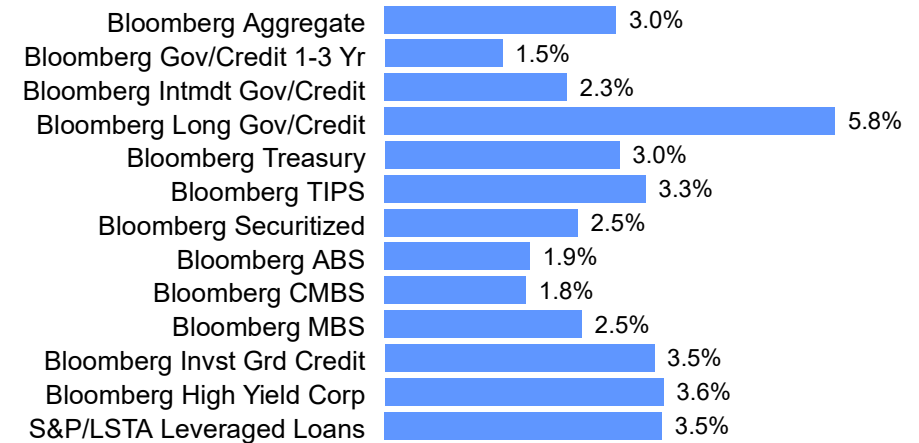
Fed raised rates bringing target to 4.75%–5.00%

- Median expectation from Fed is 5.1% for year-end 2023; market pricing in Fed cuts by year-end
- Inflation moderated but still high and job market tight

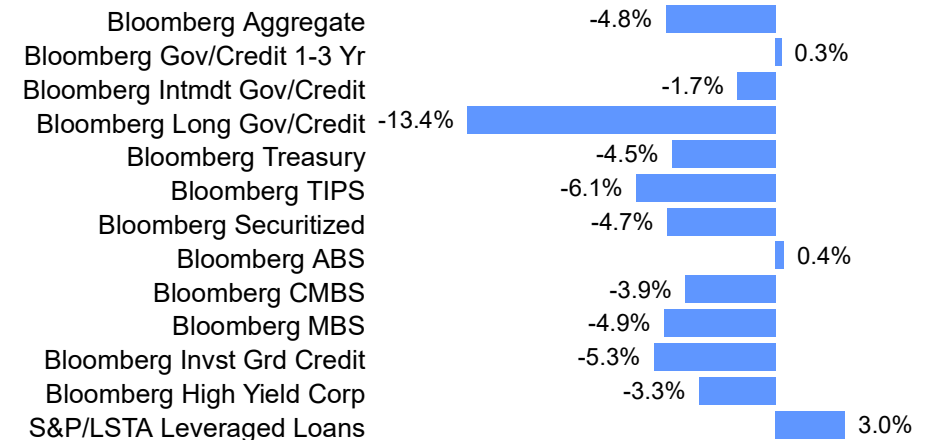
Sector performance mixed

- Corporate Industrials excess return: +58 bps
- Corporate Financials excess return: -39 bps
- RMBS: -50 bps
- CMBS excess return: -74 bps
- High Yield excess return: +123 bps
- Valuations fair
- Credit spreads have not widened materially and are close to historical averages

U.S. Fixed Income Returns: Quarter Ended 3/31/23



U.S. Fixed Income Returns: One Year Ended 3/31/23

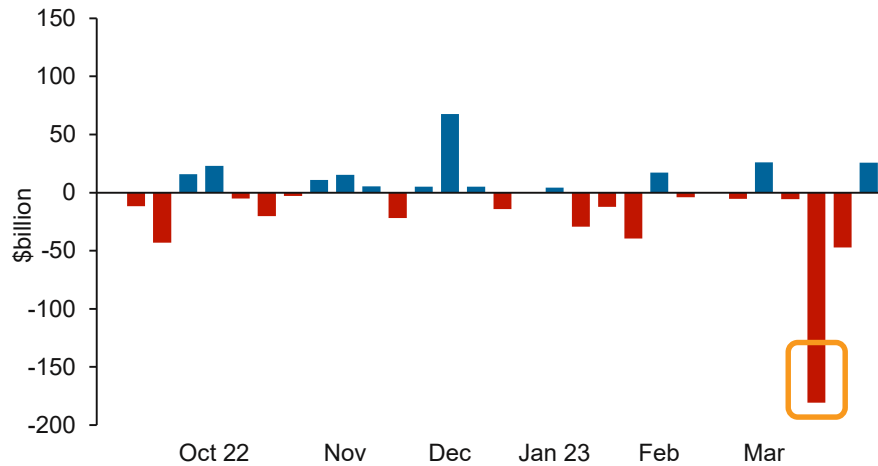


Sources: Bloomberg, S&P Dow Jones Indices

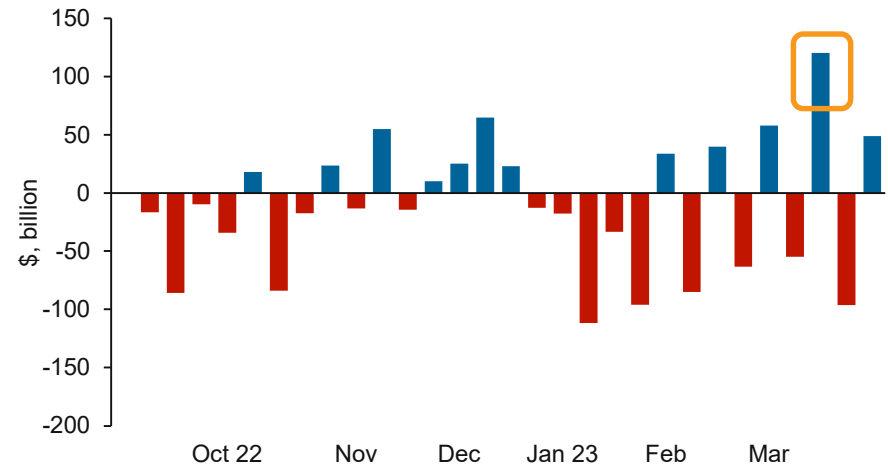
Fixed Income Themes

Regional bank contagion fears ignited as the FDIC took over Silicon Valley and Signature banks

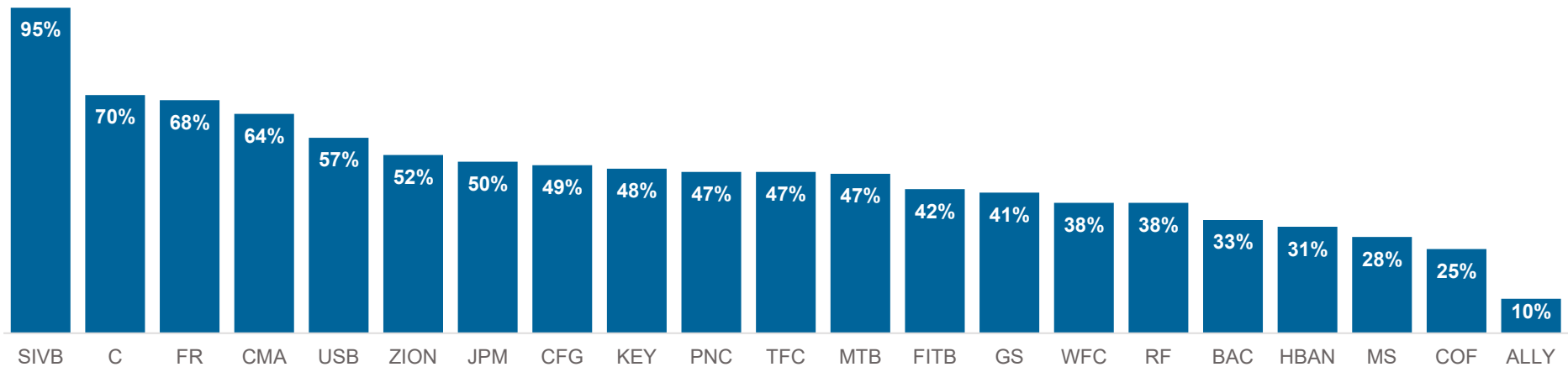
Small Banks – Deposits change from a week ago



Large Banks – Deposits change from a week ago



Uninsured Domestic U.S. Deposits as Percent of Total Deposits (ex-trust banks), 4Q22



Sources: Barclays, Federal Reserve

Credit Refinancing

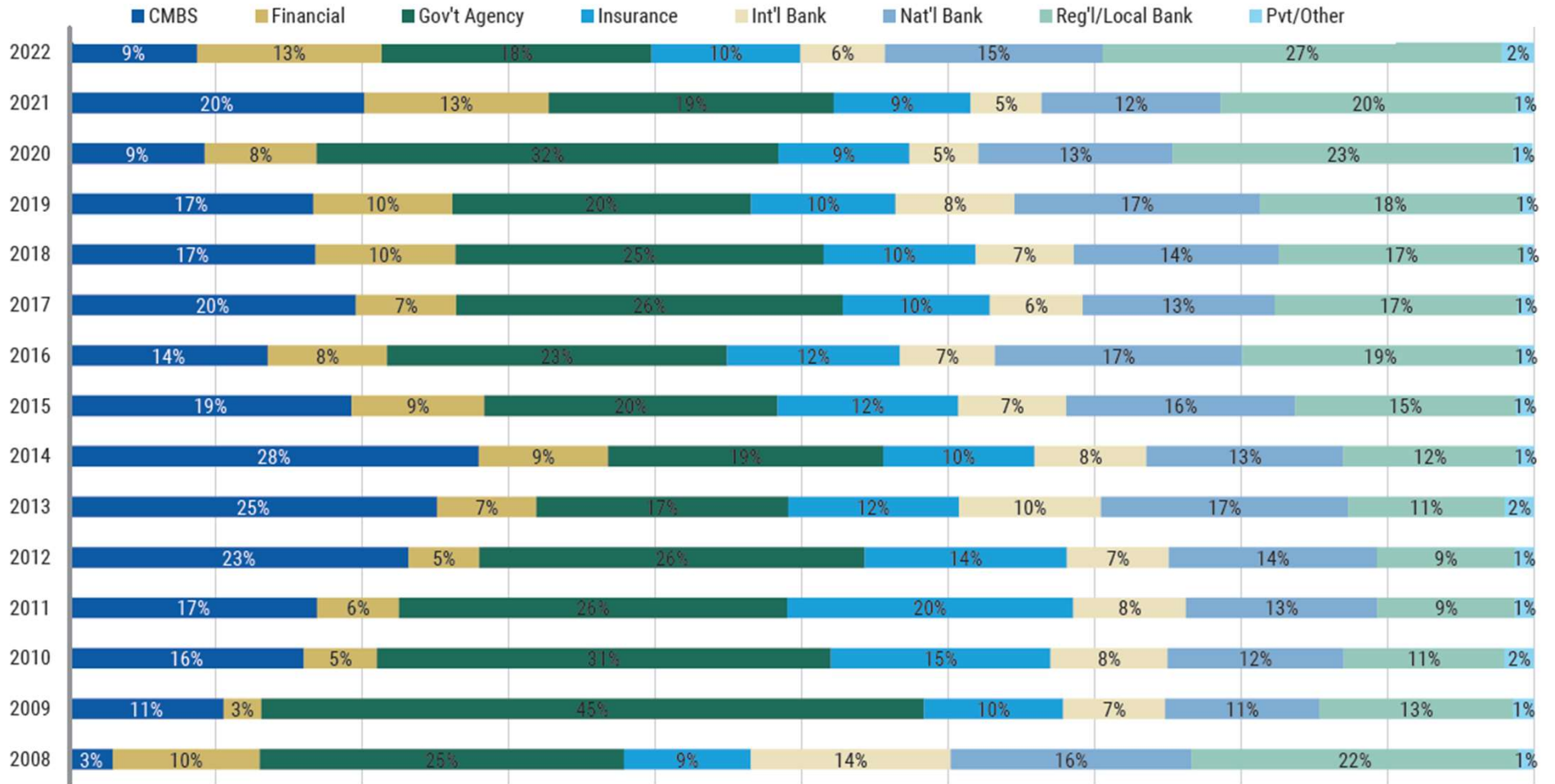
Maturity wall across asset classes

	\$USD, billions			% of Total Due 2023-25	Index YTW - Avg Coupon of Maturing Debt	Sectors in Focus
	Market Size	2023 / 2024 Maturities	2025 Maturities			
Real Estate Debt						
US Core CRE	2,571	615	339	37%		• Office and retail are the property types most in focus. They constitute 25% and 20% of the CRE stock, respectively
US Multifamily	1,961	321	183	26%		
Leveraged Credit						
US HY	1,410	78	143	16%	2.3	• BB-heavy. Rating mix on par with the overall index • Fin. Services, Real Estate and Autos have more front-load maturities and higher incremental funding cost
US Lev Loans	1,341	78	182	19%	2.5	• B3 or lower accounts for a higher portion vs index • Staples, Technology and Healthcare have higher refi needs and weaker refi economics
Europe HY	365	58	70	35%	4.2	• Maturities 66% BB rated • Real estate, media, retail and fin services have higher shares of both <2026 maturities and <90 cash price bonds
EM Sovereign HY	533	35	38	15%	3.7	• Single Bs • Turkey, Egypt highest. Tunisia, Pakistan and Kenya smaller but in focus
Asia HY	163	58	37	59%	7.8	• China HY property sector
Investment Grade Credit						
US IG	8,950	1,231	889	24%	2.1	• Lower BBB3 weight vs index • Auto, leisure and cap goods drive near-term maturities in ICE index
Europe IG	2,556	357	258	24%	2.6	• Autos <2026 bonds have 2nd highest exposure to BBB- • Autos, retail and cap goods have largest share of <2026 maturities
Asia IG	808	203	137	42%	2.3	• China SOEs account for nearly half near-term maturities

Source: Morgan Stanley Research; Note: for EM sovereign HY, we used 10yr yield instead of index YTW in calculating refinancing economics.

Commercial Real Estate Lending

Proportions by type of lending institution

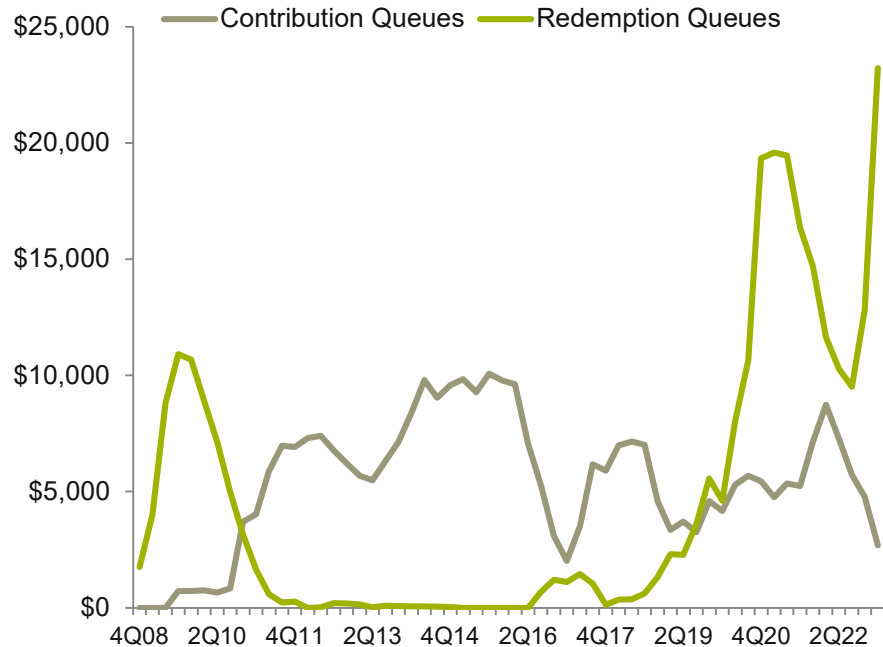


Source: RCA, Morgan Stanley Research

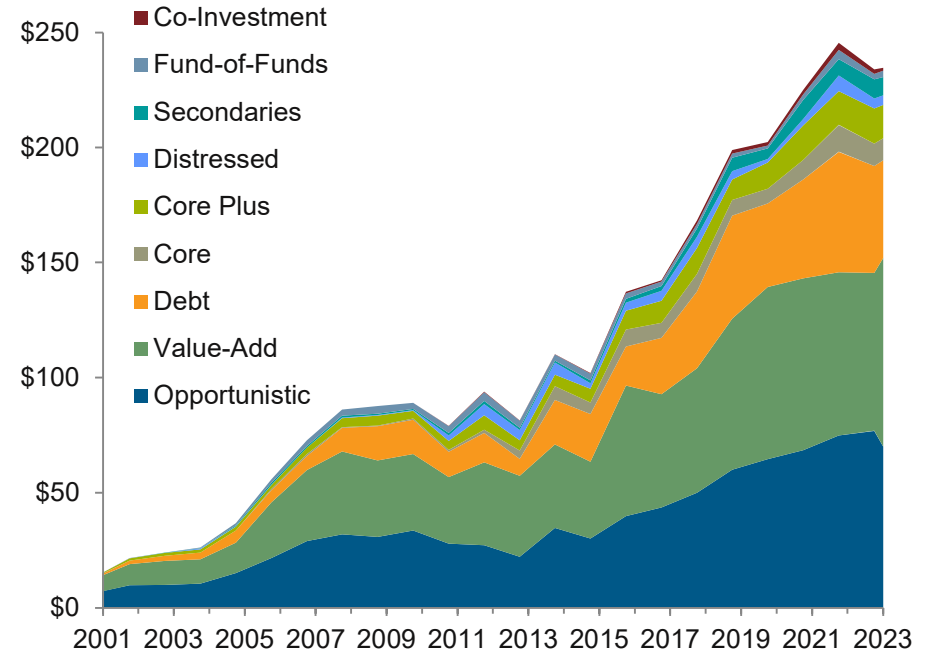
U.S. Private Real Estate Market Trends

Dry powder exceeds \$200 billion

Core Fund Contribution/Redemption Queues (\$mm)*



Dry Powder for CRE Investment in North America (\$bn)



- Net core activity down for the past three quarters; investors rebalancing due to the denominator effect
- Outstanding redemption requests for most large ODCE funds are approximately 8% to 16% of net asset value.
- >\$200 billion of capital waiting to be deployed in North America
- Majority of dry powder capital in opportunistic, value-add, and debt funds
 - Value-add and opportunistic strategies have experienced larger fundraises due to the opportunity set and number of offerings. Debt fund offerings have increased due to stricter lending standards requiring alternative sources of capital than banks and relative attractiveness as compared to equity investments.

Sources: AEW, NCREIF, Preqin

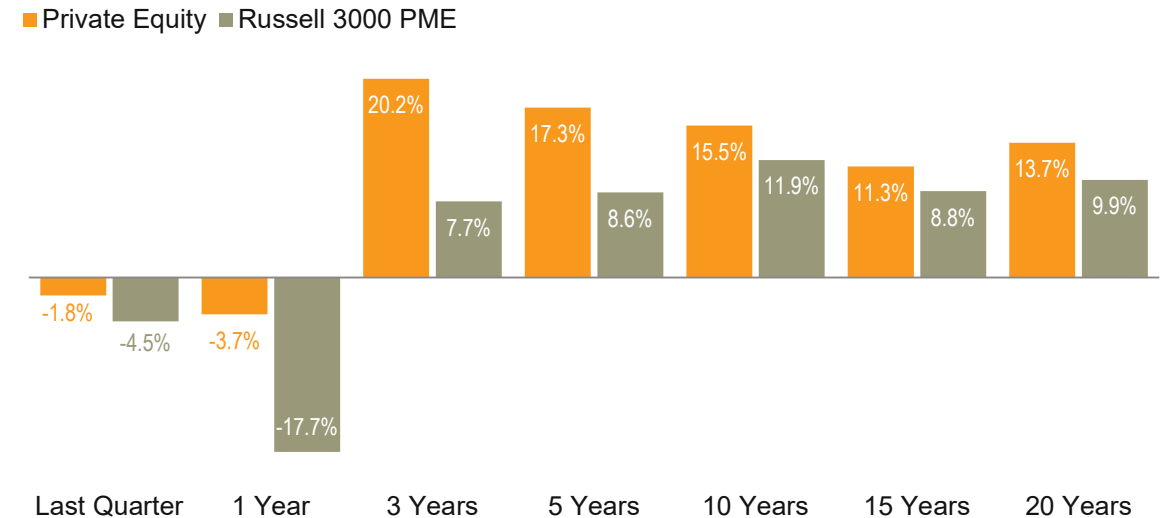
*Queue data as of 4Q22, the latest available at time of publication

Private Equity Performance

Smoothing effect in 3Q22 private equity returns

- As is typical for the asset class, private equity returns have experienced a smoothing effect in 2022 compared to the sharp declines seen in the public markets.
- Private equity was only down about a third as much as the public markets during 2022, on a PME basis.
- Portfolio companies are typically valued internally by the manager on a quarterly basis. Valuations are based on the operating metrics of the company, recent comparable transactions, and public market comps.
- Venture capital and growth equity experienced the sharpest declines, given their technology focus as well as post-IPO public equity holdings.

Net IRRs as of 09/30/22



Net IRRs by Strategy as of 09/30/22

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Venture Capital	-2.7%	-9.1%	28.4%	23.8%	19.4%	12.4%
Growth Equity	-1.8%	-9.4%	20.8%	18.4%	15.7%	14.3%
Buyouts	-1.9%	-1.4%	18.5%	16.1%	15.2%	14.7%
Mezzanine	0.2%	5.0%	11.8%	11.1%	11.3%	11.1%
Credit Opportunities	0.7%	3.9%	8.4%	7.2%	8.3%	9.9%
Control-Oriented Distressed	-0.2%	11.3%	19.4%	13.8%	12.7%	11.9%
Total Private Equity	-1.8%	-3.7%	20.2%	17.3%	15.5%	13.7%

Source: Refinitiv/Cambridge

Private Equity Overview

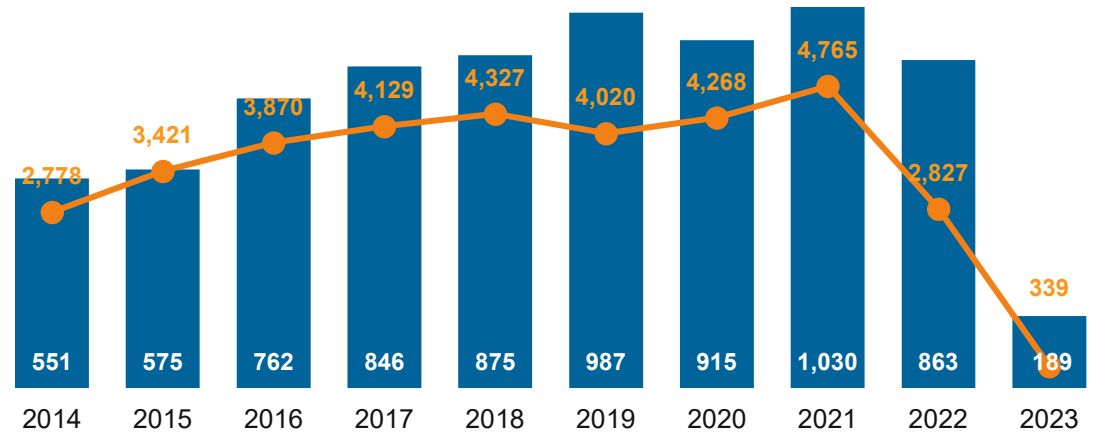
Fundraising slows and timelines become extended

Fundraising continues to slow in 1Q23

- Total capital raised during the quarter was in line with 4Q22 but was significantly down relative to a year ago.
- LPs have slimmer commitment budgets this year and have been consolidating with high-conviction GPs.
- Fundraising timelines extending due to so many funds in the market, slowing distributions, and constrained LP commitment budgets because of the “denominator effect,” delaying many final closes

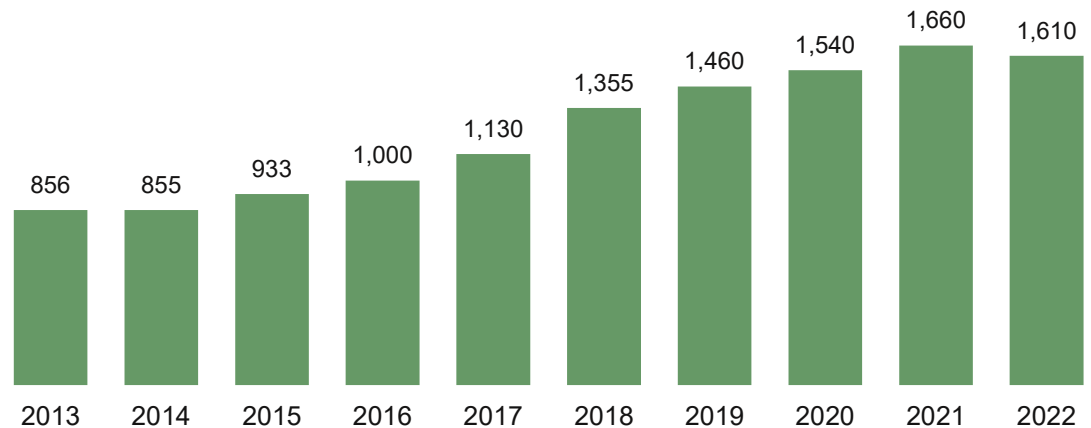
Annual Fundraising

● Amount Raised (\$bn) ● Number of Funds



Dry Powder (\$bn)

Cumulative as of yearend



Dry powder levels off

- Level of dry powder influenced by two factors: fundraising and capital deployment.
- Dry powder peaked in 2021 at \$1.7 trillion due to strong annual fundraising levels.
- Dry powder dropped slightly in 2022 due to a slower fundraising environment.

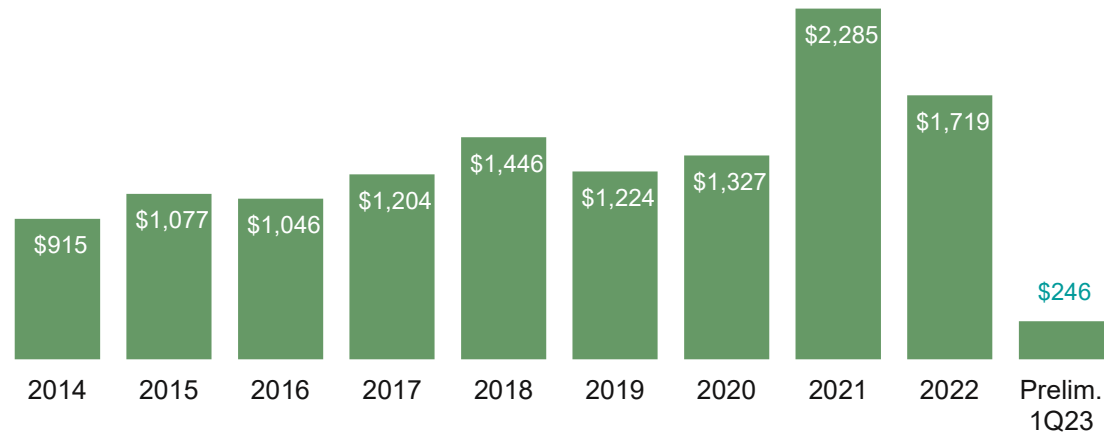
Source: PitchBook

Private Equity Key Themes

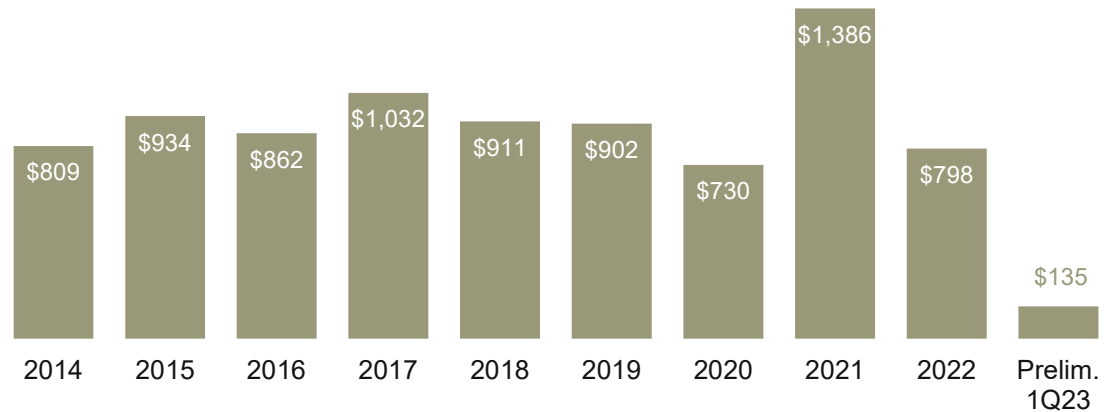
Investment pace below pre-pandemic levels

- New investments and exits are incrementally slowing, particularly in venture capital, with exits suffering the most.
- New investments and exits declined significantly from exuberant 2021 levels and remain just below pre-pandemic levels.
- 2023 may see volumes drop slightly below pre-pandemic levels, given expected tighter lending and a volatile and directionless public equity market.

Private Equity Deal Activity (\$b)



Private Equity Exits (\$b)



Source: PitchBook

Callan

NDSIB Total Performance 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 March 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 March 31, 2023.
- 3. Are the Plans' investment results meeting strategic objectives?**
 - Most Total Fund returns have each exceeded their respective benchmarks on a net-of-fee basis for the trailing five-year period ended March 31, 2023. PERS trails by an annualized 2 bps and TFFR by an annualized 30 bps.
- 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.

NDSIB Consolidated Gross Performance Summary

As of March 31, 2023

	Last Quarter	Last Year	Last 5 Years
Consolidated Pension Trust	3.66%	-3.84%	6.67%
<i>Consolidated Pension Trust Target</i>	3.76%	-4.41%	6.56%
<i>Consolidated Pension Trust Corridor Target</i>	3.51%	-4.94%	6.24%
Relative Performance vs. Target	-0.10%	0.57%	0.11%
Relative Performance vs. Corridor Target	0.15%	1.10%	0.43%
PERS Total Fund	3.76%	-3.84%	6.73%
<i>NDSIB PERS Total Fund Target</i>	3.88%	-4.54%	6.49%
Relative Performance vs. Target	-0.12%	0.70%	0.24%
TFFR Total Fund	3.51%	-3.88%	6.64%
<i>NDSIB TFFR Total Fund Target</i>	3.62%	-4.24%	6.69%
Relative Performance vs. Target	-0.11%	0.36%	-0.05%
WSI Total Fund	3.43%	-4.31%	3.59%
<i>NDSIB WSI Total Fund Target</i>	3.33%	-4.84%	3.13%
Relative Performance vs. Target	0.10%	0.53%	0.46%
Legacy - Total Fund	4.59%	-3.74%	5.26%
<i>NDSIB Legacy - Total Fund Target</i>	4.24%	-5.68%	4.78%
<i>NDSIB Legacy - Total Fund Corridor Target</i>	4.31%	-5.52%	4.80%
Relative Performance vs. Target	0.35%	1.94%	0.48%
Relative Performance vs. Corridor Target	0.28%	1.78%	0.46%
Budget - Total Fund	1.67%	0.41%	1.56%
<i>NDSIB Budget - Total Fund Target</i>	1.51%	0.28%	1.26%
Relative Performance vs. Target	0.16%	0.13%	0.30%

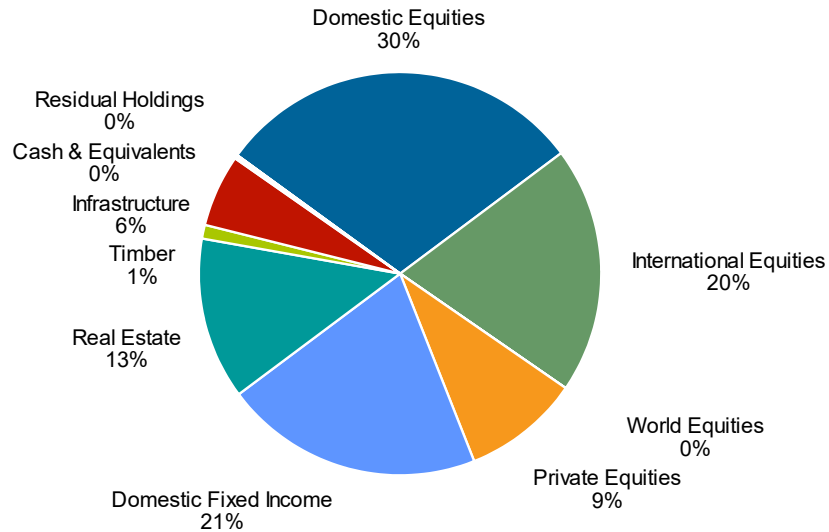
Consolidated Pension Trusts Quarterly Review

- Public Employees Retirement System
- Teachers' Fund for Retirement

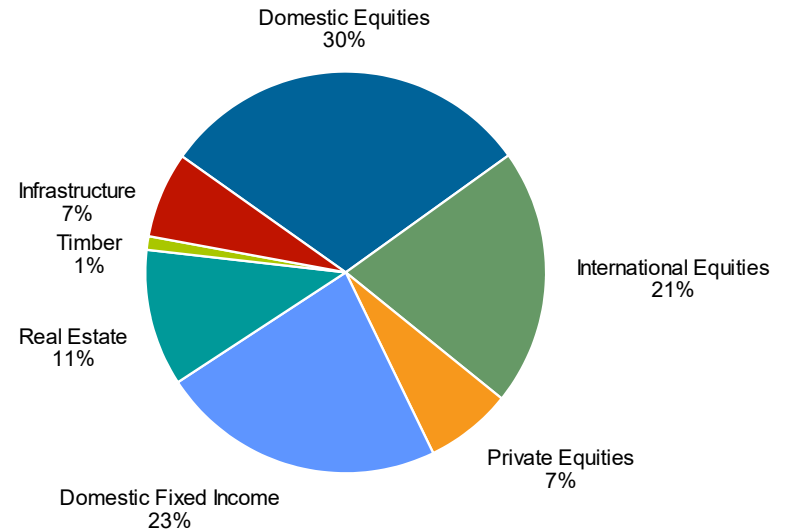
PERS Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation

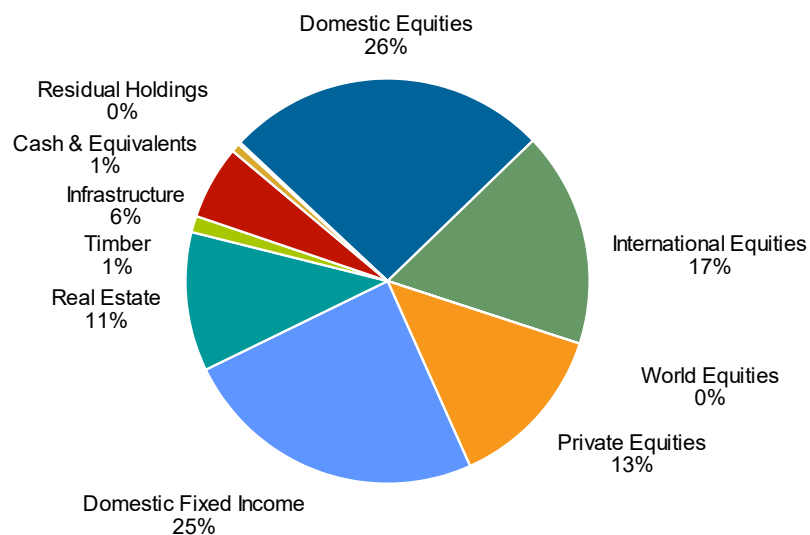


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	1,136,467	29.8%	30.3%	(0.5%)	(18,319)
International Equities	755,882	19.8%	20.7%	(0.9%)	(32,581)
World Equities	31	0.0%	0.0%	0.0%	31
Private Equities	356,737	9.4%	7.0%	2.4%	90,017
Domestic Fixed Income	790,862	20.8%	23.0%	(2.2%)	(85,505)
Real Estate	493,746	13.0%	11.0%	2.0%	74,614
Timber	43,549	1.1%	1.1%	0.0%	0
Infrastructure	220,603	5.8%	6.9%	(1.1%)	(40,671)
Cash & Equivalents	12,047	0.3%	0.0%	0.3%	12,047
Residual Holdings	368	0.0%	0.0%	0.0%	368
Total	3,810,292	100.0%	100.0%		

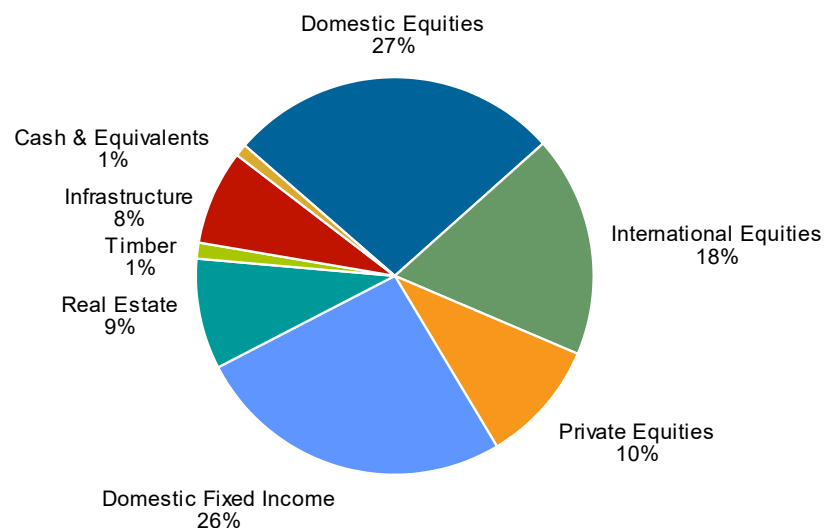
TFFR Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation

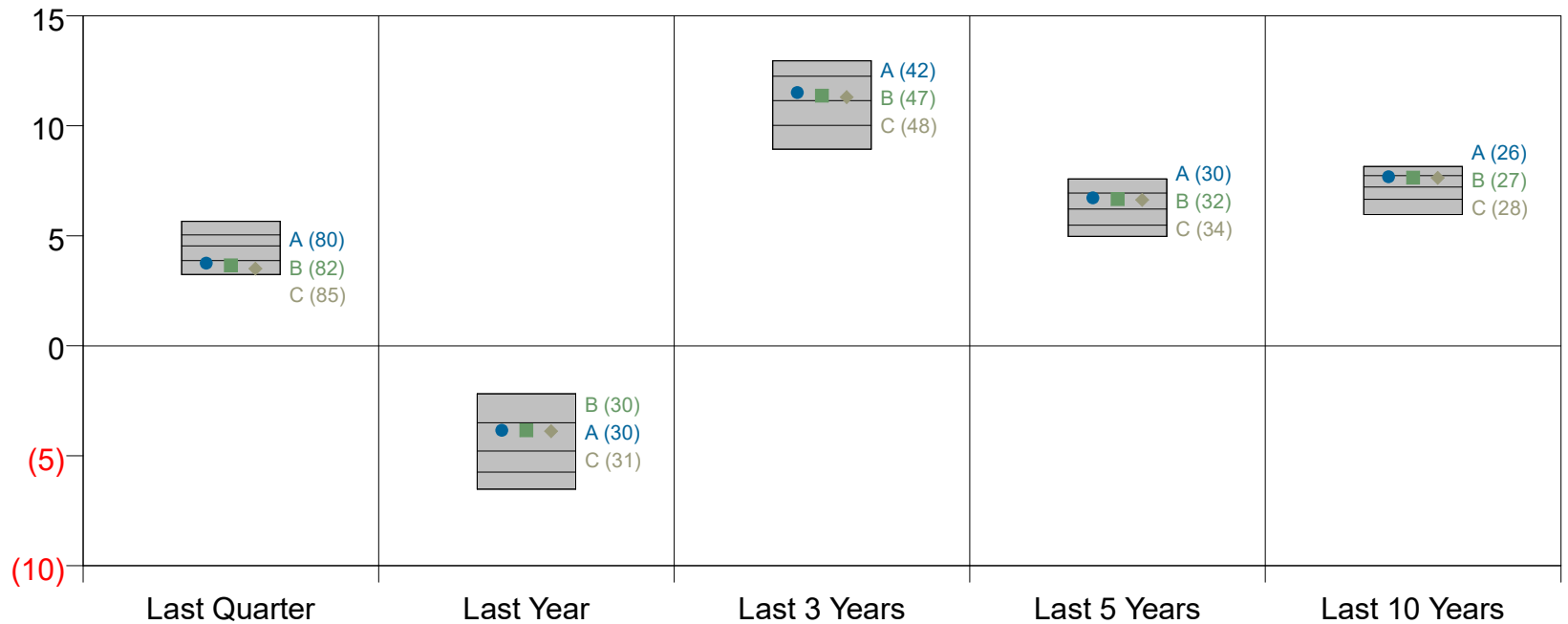


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	784,501	25.8%	26.7%	(0.9%)	(28,464)
International Equities	521,562	17.2%	18.3%	(1.1%)	(33,513)
World Equities	284	0.0%	0.0%	0.0%	284
Private Equities	404,682	13.3%	10.0%	3.3%	100,673
Domestic Fixed Income	745,303	24.5%	26.0%	(1.5%)	(45,120)
Real Estate	338,963	11.1%	9.0%	2.1%	65,355
Timber	38,873	1.3%	1.3%	0.0%	0
Infrastructure	180,717	5.9%	7.7%	(1.8%)	(54,018)
Cash & Equivalents	21,858	0.7%	1.0%	(0.3%)	(8,542)
Residual Holdings	3,346	0.1%	0.0%	0.1%	3,346
Total	3,040,089	100.0%	100.0%		

Consolidated Pension Trust, PERS, and TFFR Performance Rankings

Returns for Periods Ended March 31, 2023

Group: Callan Public Fund Sponsor Database



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	5.67	(2.18)	12.96	7.59	8.16
25th Percentile	5.05	(3.49)	12.26	6.95	7.74
Median	4.55	(4.78)	11.15	6.22	7.22
75th Percentile	3.88	(5.75)	10.02	5.48	6.67
90th Percentile	3.25	(6.52)	8.94	4.98	5.97
NDPERS-Total Fund ● A	3.76	(3.84)	11.52	6.73	7.69
NDPEN-Total Fund ■ B	3.66	(3.84)	11.38	6.67	7.64
NDTFFR-Total Fund ◆ C	3.51	(3.88)	11.31	6.64	7.63

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 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 cash flows as private/less liquid strategies have control of asking for and returning capital making rebalancing difficult.
 - Rebalancing, not the inability to move assets, would drive asset allocation and its impact.

3. How will weights be adjusted?

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

Consolidated Pension Trust Attribution – Strategic and Corridor Target

As of March 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 Return
Domestic Equities	25%	26%	(7.31%)	(8.74%)	0.36%	(0.40%)	(0.04%)
World Equities	5%	5%	345.25%	333.62%	0.25%	0.09%	0.34%
International Equities	16%	17%	(5.84%)	(5.43%)	(0.07%)	0.06%	(0.01%)
Private Equities	10%	8%	(3.37%)	(3.37%)	0.00%	(0.07%)	(0.07%)
Domestic Fixed Income	24%	25%	(3.53%)	(4.29%)	0.21%	(0.00%)	0.21%
Real Estate	12%	10%	0.47%	(1.63%)	0.25%	(0.16%)	0.09%
Timber	1%	1%	(3.60%)	11.31%	(0.18%)	(0.02%)	(0.20%)
Infrastructure	6%	7%	10.18%	1.28%	0.45%	(0.17%)	0.28%
Cash & Equivalents	1%	0%	2.81%	2.50%	0.00%	(0.03%)	(0.03%)
Transition Account	0%	0%	-	-	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total (3.84%) = (4.41%) + 1.27% + (0.71%) **0.57%**

Corridor One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	(7.31%)	(8.74%)	0.36%	(0.24%)	0.12%
World Equities	5%	5%	345.25%	333.62%	0.25%	0.11%	0.36%
International Equities	16%	17%	(5.84%)	(5.43%)	(0.07%)	0.05%	(0.02%)
Private Equities	10%	10%	(3.37%)	(3.37%)	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	(3.53%)	(4.29%)	0.21%	(0.05%)	0.16%
Real Estate	12%	13%	0.47%	(1.63%)	0.25%	0.00%	0.25%
Timber	1%	1%	(3.60%)	11.31%	(0.18%)	0.00%	(0.18%)
Infrastructure	6%	6%	10.18%	1.28%	0.45%	0.00%	0.45%
Cash & Equivalents	1%	0%	2.81%	2.50%	0.00%	(0.03%)	(0.02%)
Transition Account	0%	0%	-	-	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total (3.84%) = (4.94%) + 1.27% + (0.17%) **1.11%**

Consolidated Pension Trust Attribution – Strategic and Corridor Target

As of March 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%	23%	19.48%	18.66%	0.20%	(0.10%)	0.10%
World Equities	10%	10%	96.05%	94.48%	0.09%	(0.01%)	0.08%
International Equities	15%	16%	13.27%	11.81%	0.21%	0.03%	0.24%
Private Equities	7%	8%	19.60%	19.60%	0.00%	(0.22%)	(0.22%)
Domestic Fixed Income	25%	24%	0.65%	(0.19%)	0.24%	(0.11%)	0.13%
Real Estate	11%	10%	7.88%	7.15%	0.09%	(0.13%)	(0.05%)
Timber	2%	2%	2.35%	8.09%	(0.08%)	(0.02%)	(0.10%)
Infrastructure	5%	7%	9.71%	6.56%	0.19%	(0.07%)	0.12%
Cash & Equivalents	1%	0%	1.02%	0.89%	0.00%	(0.06%)	(0.06%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	11.38%	=	11.11%	+	0.94%	+	(0.68%)	0.26%
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Corridor Three Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	24%	19.48%	18.66%	0.20%	(0.23%)	(0.02%)
World Equities	10%	10%	96.05%	94.48%	0.09%	0.00%	0.09%
International Equities	15%	16%	13.27%	11.81%	0.21%	0.03%	0.24%
Private Equities	7%	7%	19.60%	19.60%	0.00%	0.00%	0.00%
Domestic Fixed Income	25%	25%	0.65%	(0.19%)	0.24%	(0.04%)	0.20%
Real Estate	11%	11%	7.88%	7.15%	0.09%	0.00%	0.09%
Timber	2%	2%	2.35%	8.09%	(0.08%)	0.00%	(0.08%)
Infrastructure	5%	5%	9.71%	6.56%	0.19%	0.00%	0.19%
Cash & Equivalents	1%	0%	1.02%	0.89%	0.00%	(0.06%)	(0.05%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	11.38%	=	10.73%	+	0.94%	+	(0.29%)	0.65%
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Consolidated Pension Trust Attribution – Strategic and Corridor Target

As of March 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	23%	22%	11.17%	9.63%	0.34%	(0.07%)	0.27%
World Equities	13%	12%	43.98%	46.96%	(0.36%)	(0.00%)	(0.37%)
International Equities	15%	15%	3.22%	2.55%	0.11%	(0.01%)	0.09%
Private Equities	6%	7%	13.88%	13.88%	0.00%	(0.19%)	(0.19%)
Domestic Fixed Income	24%	24%	2.65%	1.66%	0.27%	(0.03%)	0.23%
International Fixed Inc.	0%	0%	-	-	0.00%	0.00%	0.00%
Real Estate	11%	10%	7.69%	6.71%	0.11%	(0.08%)	0.03%
Timber	2%	2%	3.24%	5.54%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	6%	7.97%	5.36%	0.15%	(0.04%)	0.10%
Cash & Equivalents	1%	0%	1.43%	1.41%	0.00%	(0.02%)	(0.02%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	6.67%	=	6.56%	+	0.58%	+	(0.47%)	0.11%
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Corridor Five Year Relative Attribution Effects

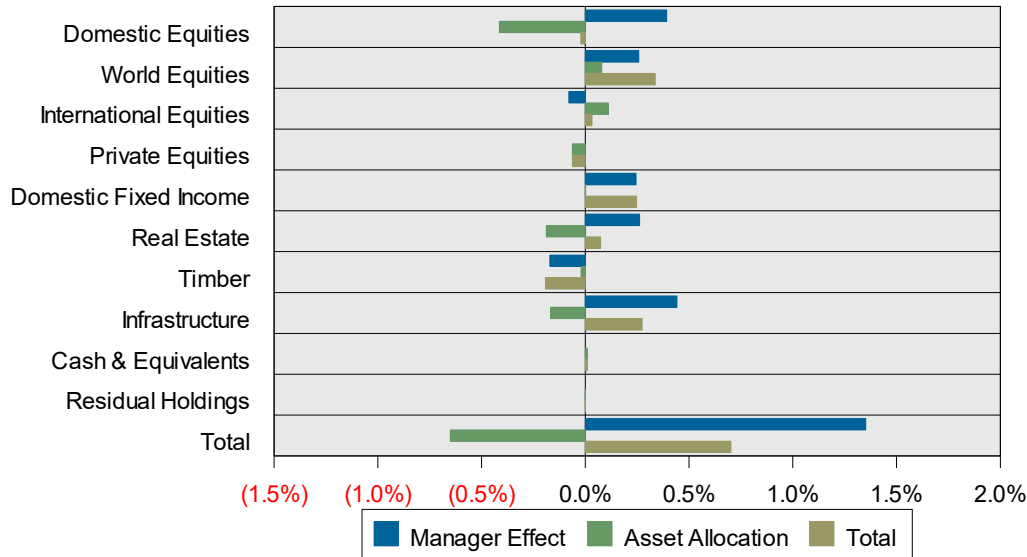
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	24%	11.17%	9.63%	0.34%	(0.12%)	0.22%
World Equities	13%	12%	43.98%	46.96%	(0.36%)	0.01%	(0.36%)
International Equities	15%	15%	3.22%	2.55%	0.11%	(0.01%)	0.09%
Private Equities	6%	6%	13.88%	13.88%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	2.65%	1.66%	0.27%	(0.00%)	0.26%
International Fixed Inc.	0%	0%	-	-	0.00%	0.00%	0.00%
Real Estate	11%	11%	7.69%	6.71%	0.11%	0.00%	0.11%
Timber	2%	2%	3.24%	5.54%	(0.02%)	0.00%	(0.02%)
Infrastructure	5%	5%	7.97%	5.36%	0.15%	0.00%	0.15%
Cash & Equivalents	1%	0%	1.43%	1.41%	0.00%	(0.02%)	(0.02%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	6.67%	=	6.24%	+	0.58%	+	(0.15%)	0.43%
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PERS Performance and Attribution

As of March 31, 2023

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2023

Return Type	Return (%)
Gross	-3.84%
Net of fees	-4.07%
Target	-4.54%
Net added	0.47%

One Year Relative Attribution Effects

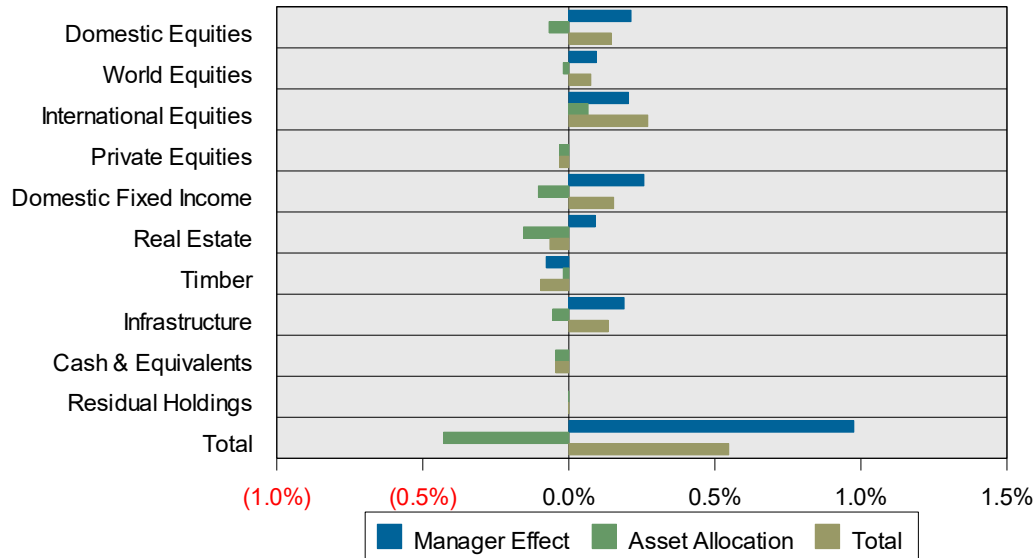
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	27%	(7.28%)	(8.74%)	0.39%	(0.41%)	(0.02%)
World Equities	5%	5%	(19.66%)	(21.80%)	0.26%	0.08%	0.34%
International Equities	17%	19%	(5.84%)	(5.43%)	(0.08%)	0.11%	0.03%
Private Equities	9%	7%	(3.37%)	(3.37%)	0.00%	(0.06%)	(0.06%)
Domestic Fixed Income	22%	23%	(3.34%)	(4.29%)	0.24%	0.00%	0.25%
Real Estate	13%	11%	0.47%	(1.63%)	0.26%	(0.19%)	0.07%
Timber	1%	1%	(3.60%)	11.31%	(0.17%)	(0.02%)	(0.19%)
Infrastructure	5%	7%	10.18%	1.28%	0.44%	(0.17%)	0.27%
Cash & Equivalents	0%	0%	2.66%	2.66%	0.00%	0.01%	0.01%
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	(3.84%) = (4.54%) + 1.35% + (0.65%)	0.70%
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PERS Performance and Attribution

As of March 31, 2023

Three Year Annualized Relative Attribution Effects



Returns for 3 Years Ended 03/31/2023

Return Type	Return (%)
Gross	11.52%
Net of fees	11.24%
Target	10.97%
Net added	0.27%

Three Year Annualized Relative Attribution Effects

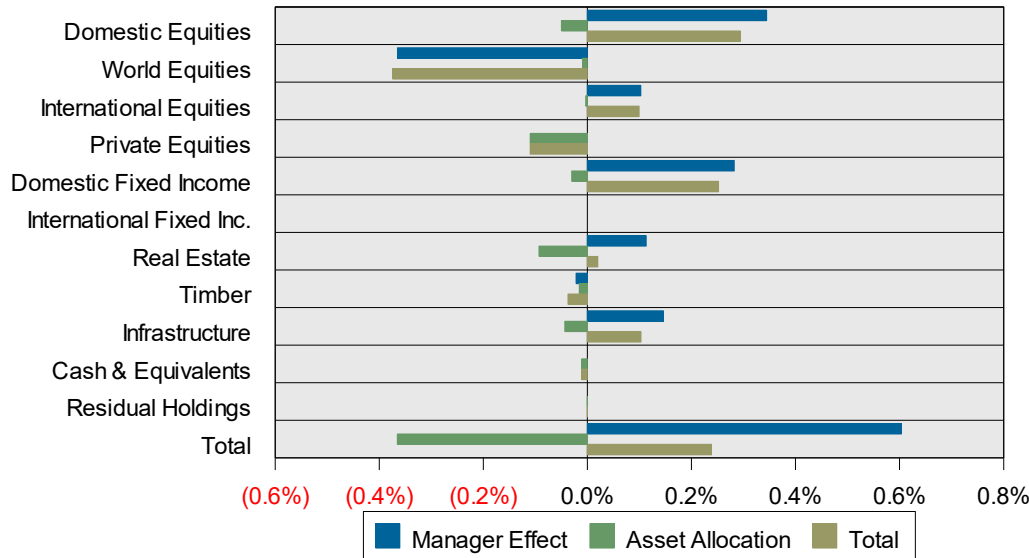
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	19.49%	18.67%	0.21%	(0.07%)	0.15%
World Equities	10%	10%	10.79%	9.88%	0.09%	(0.02%)	0.08%
International Equities	16%	17%	13.34%	11.86%	0.20%	0.07%	0.27%
Private Equities	7%	7%	19.61%	19.61%	0.00%	(0.03%)	(0.03%)
Domestic Fixed Income	23%	23%	0.81%	(0.17%)	0.26%	(0.10%)	0.15%
Real Estate	12%	11%	7.88%	7.15%	0.09%	(0.15%)	(0.06%)
Timber	2%	1%	2.35%	8.09%	(0.08%)	(0.02%)	(0.10%)
Infrastructure	5%	7%	9.72%	6.56%	0.19%	(0.05%)	0.14%
Cash & Equivalents	0%	0%	0.97%	0.97%	0.00%	(0.05%)	(0.05%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	11.52% = 10.97% + 0.98% + (0.43%)	0.55%
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PERS Performance and Attribution

As of March 31, 2023

Five Year Annualized Relative Attribution Effects



Returns for 5 Years Ended 03/31/2023

Return Type	Return (%)
Gross	6.73%
Net of fees	6.47%
Target	6.49%
Net added	-0.02%

Five Year Annualized Relative Attribution Effects

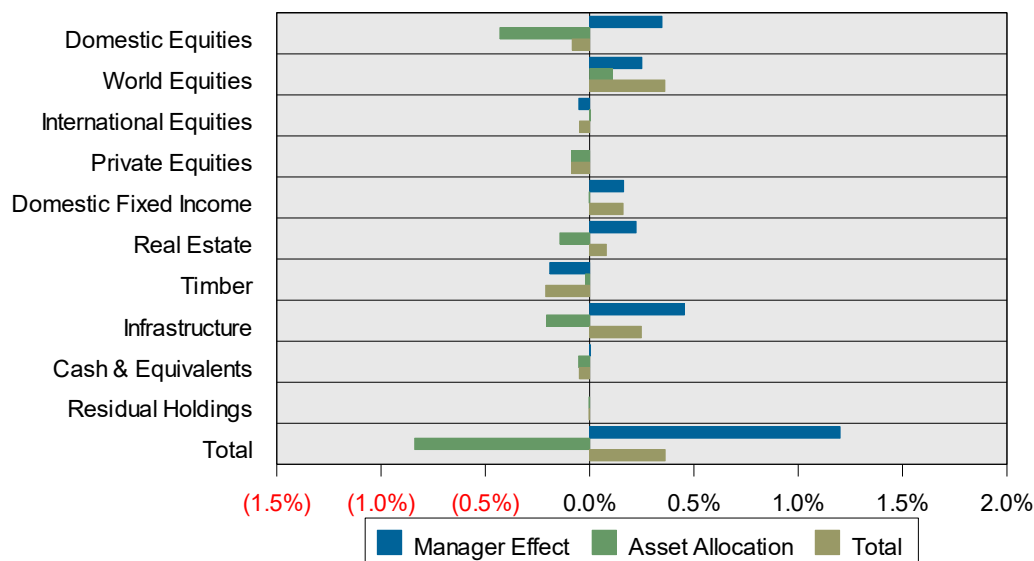
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	23%	11.18%	9.64%	0.34%	(0.05%)	0.29%
World Equities	13%	12%	2.23%	4.34%	(0.37%)	(0.01%)	(0.37%)
International Equities	16%	16%	3.23%	2.55%	0.10%	(0.00%)	0.10%
Private Equities	5%	7%	13.88%	13.88%	0.00%	(0.11%)	(0.11%)
Domestic Fixed Income	23%	23%	2.77%	1.67%	0.28%	(0.03%)	0.25%
International Fixed Inc.	0%	0%	-	-	0.00%	0.00%	0.00%
Real Estate	12%	11%	7.68%	6.71%	0.11%	(0.09%)	0.02%
Timber	2%	2%	3.25%	5.54%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	6%	7.97%	5.36%	0.15%	(0.04%)	0.10%
Cash & Equivalents	0%	0%	1.41%	1.41%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total **6.73% = 6.49% + 0.60% + (0.37%)** **0.24%**

TFFR Performance and Attribution

As of March 31, 2023

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2023

Return Type	Return (%)
Gross	-3.88%
Net of fees	-4.09%
Target	-4.24%
Net added	0.15%

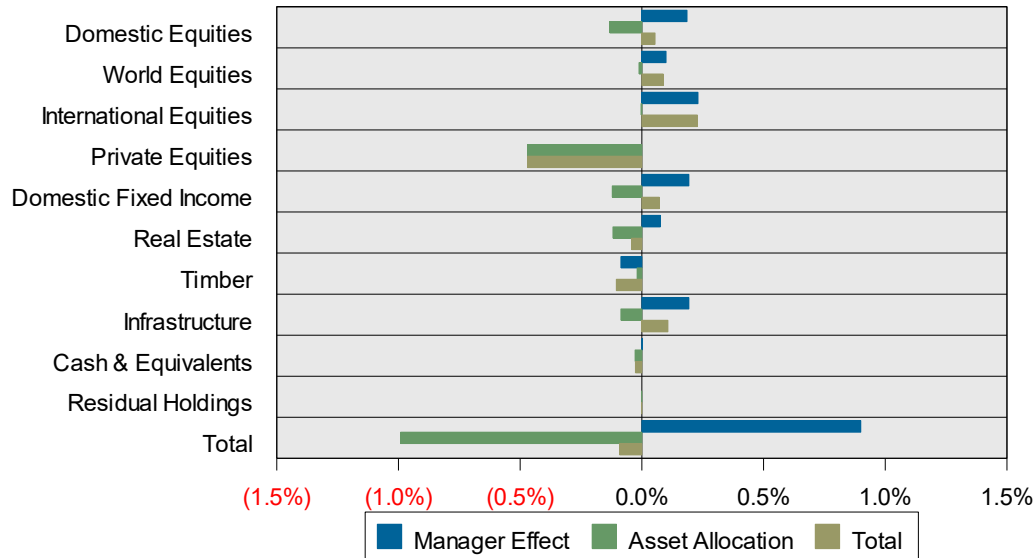
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	24%	(7.27%)	(8.74%)	0.35%	(0.43%)	(0.08%)
World Equities	5%	5%	(19.86%)	(21.99%)	0.25%	0.11%	0.36%
International Equities	14%	16%	(5.73%)	(5.43%)	(0.05%)	0.00%	(0.05%)
Private Equities	12%	10%	(3.38%)	(3.38%)	0.00%	(0.09%)	(0.09%)
Domestic Fixed Income	26%	26%	(3.75%)	(4.28%)	0.16%	(0.00%)	0.16%
Real Estate	11%	9%	0.46%	(1.63%)	0.22%	(0.14%)	0.08%
Timber	1%	1%	(3.60%)	11.31%	(0.19%)	(0.02%)	(0.21%)
Infrastructure	6%	8%	10.18%	1.28%	0.45%	(0.21%)	0.25%
Cash & Equivalents	1%	1%	2.82%	2.50%	0.00%	(0.05%)	(0.05%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			(3.88%)	(4.24%)	1.20%	(0.84%)	0.36%

TFFR Performance and Attribution

As of March 31, 2023

Three Year Annualized Relative Attribution Effects



Returns for 3 Years Ended 03/31/2023

Return Type	Return (%)
Gross	11.31%
Net of fees	11.05%
Target	11.40%
Net added	-0.35%

Three Year Annualized Relative Attribution Effects

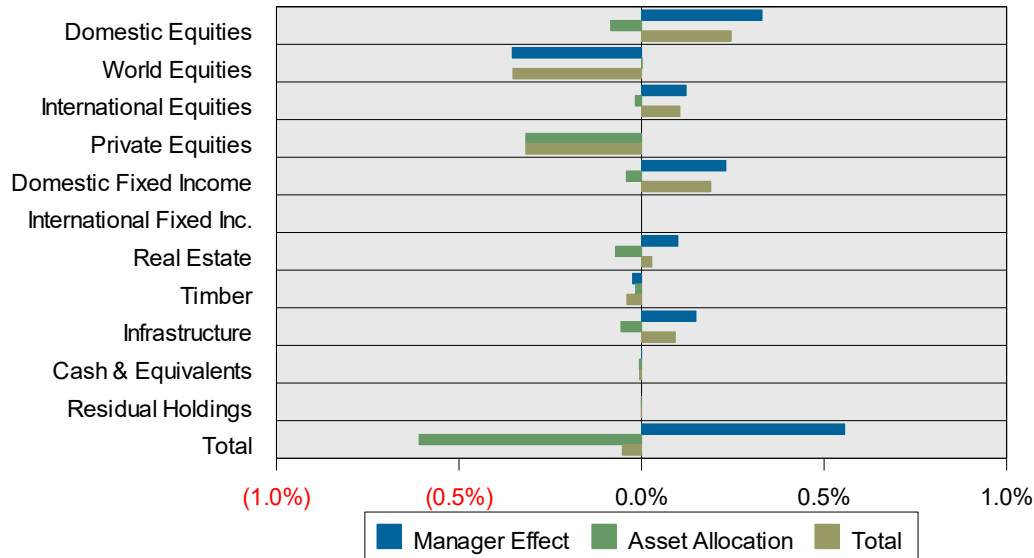
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	22%	19.46%	18.65%	0.19%	(0.13%)	0.05%
World Equities	10%	10%	10.70%	9.78%	0.10%	(0.01%)	0.09%
International Equities	15%	15%	13.28%	11.73%	0.23%	(0.00%)	0.23%
Private Equities	8%	9%	19.61%	19.61%	0.00%	(0.47%)	(0.47%)
Domestic Fixed Income	26%	25%	0.44%	(0.16%)	0.19%	(0.12%)	0.07%
Real Estate	10%	9%	7.88%	7.15%	0.08%	(0.12%)	(0.04%)
Timber	2%	2%	2.35%	8.09%	(0.09%)	(0.02%)	(0.10%)
Infrastructure	5%	7%	9.72%	6.56%	0.19%	(0.09%)	0.11%
Cash & Equivalents	1%	1%	1.02%	0.89%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	11.31% = 11.40% + 0.90% + (0.99%)	(0.09%)
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TFFR Performance and Attribution

As of March 31, 2023

Five Year Annualized Relative Attribution Effects



Returns for 5 Years Ended 03/31/2023

Return Type	Return (%)
Gross	6.64%
Net of fees	6.39%
Target	6.69%
Net added	-0.30%

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	22%	11.21%	9.67%	0.33%	(0.08%)	0.25%
World Equities	13%	12%	2.18%	4.28%	(0.35%)	0.00%	(0.35%)
International Equities	15%	15%	3.28%	2.54%	0.12%	(0.02%)	0.11%
Private Equities	7%	8%	13.88%	13.88%	0.00%	(0.32%)	(0.32%)
Domestic Fixed Income	25%	24%	2.49%	1.68%	0.23%	(0.04%)	0.19%
International Fixed Inc.	0%	0%	-	-	0.00%	0.00%	0.00%
Real Estate	10%	10%	7.68%	6.71%	0.10%	(0.07%)	0.03%
Timber	2%	2%	3.25%	5.54%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	7%	7.97%	5.36%	0.15%	(0.06%)	0.09%
Cash & Equivalents	1%	1%	1.45%	1.41%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)

Total	6.64% = 6.69% + 0.56% + (0.61%)	(0.05%)
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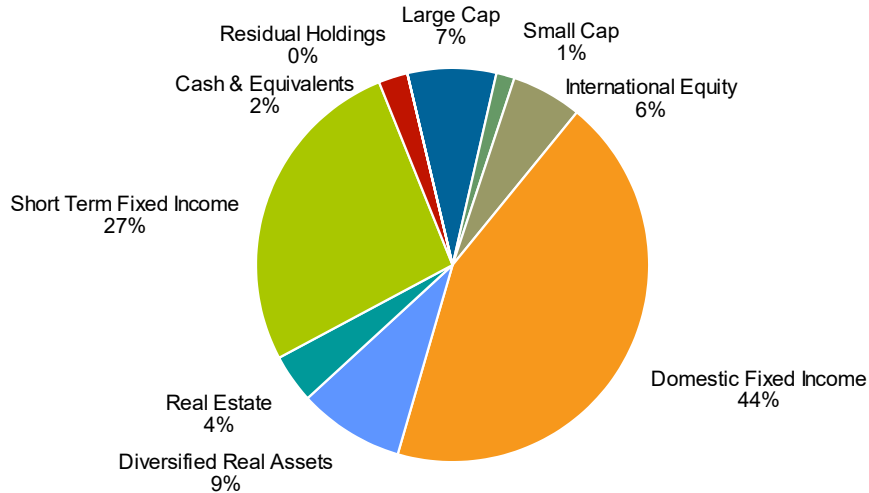
Consolidated Insurance Trust Quarterly Review

- Workforce Safety and Insurance Legacy Fund
- Budget Stabilization Fund

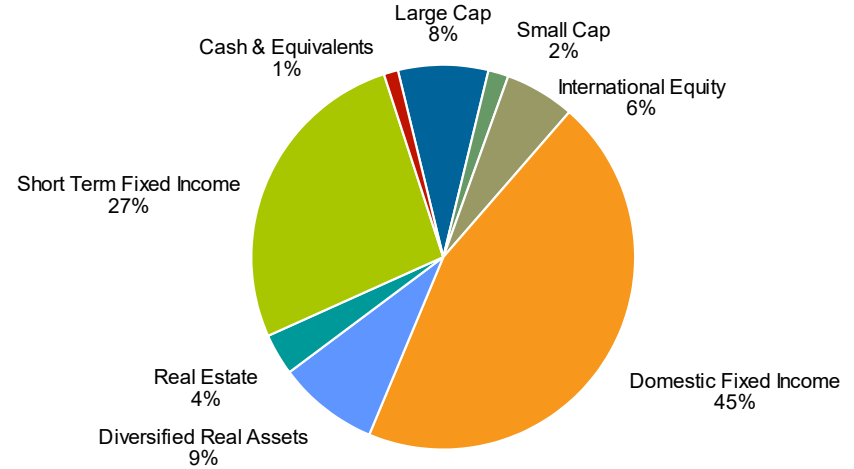
Consolidated Insurance Trust Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation

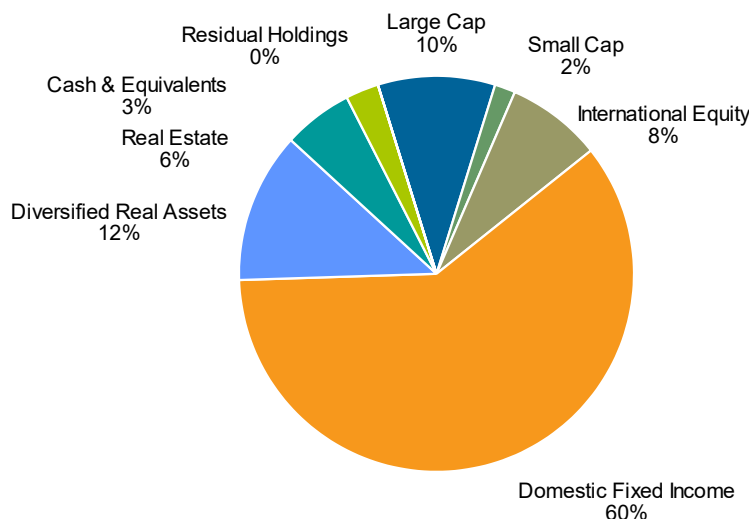


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	215,630	7.3%	7.6%	(0.3%)	(8,728)
Small Cap	43,029	1.5%	1.7%	(0.2%)	(5,735)
International Equity	170,342	5.8%	5.9%	(0.2%)	(4,951)
Domestic Fixed Income	1,288,507	43.6%	44.9%	(1.2%)	(36,768)
Diversified Real Assets	258,201	8.7%	8.5%	0.2%	6,182
Real Estate	118,873	4.0%	3.5%	0.5%	15,371
Short Term Fixed Income	787,578	26.7%	26.7%	0.0%	(0)
Cash & Equivalents	70,104	2.4%	1.2%	1.2%	34,310
Residual Holdings	319	0.0%	0.0%	0.0%	319
Total	2,952,583	100.0%	100.0%		

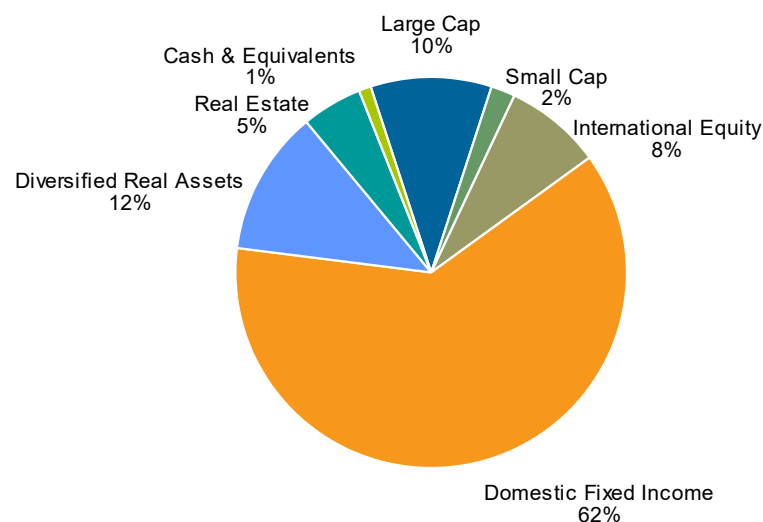
WSI Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation

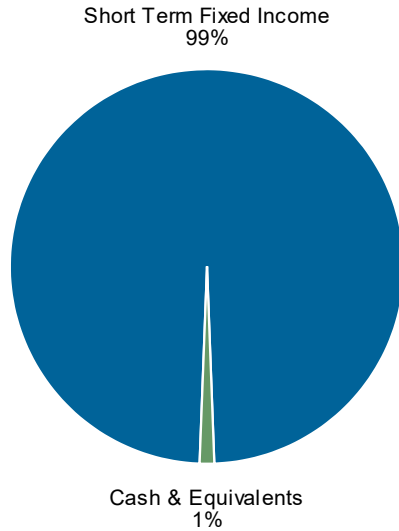


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	197,770	9.6%	10.0%	(0.4%)	(8,751)
Small Cap	35,559	1.7%	2.0%	(0.3%)	(5,745)
International Equity	160,262	7.8%	8.0%	(0.2%)	(4,955)
Domestic Fixed Income	1,243,625	60.2%	62.0%	(1.8%)	(36,805)
Diversified Real Assets	254,005	12.3%	12.0%	0.3%	6,180
Real Estate	118,633	5.7%	5.0%	0.7%	15,372
Cash & Equivalents	55,057	2.7%	1.0%	1.7%	34,405
Residual Holdings	299	0.0%	0.0%	0.0%	299
Total	2,065,211	100.0%	100.0%		

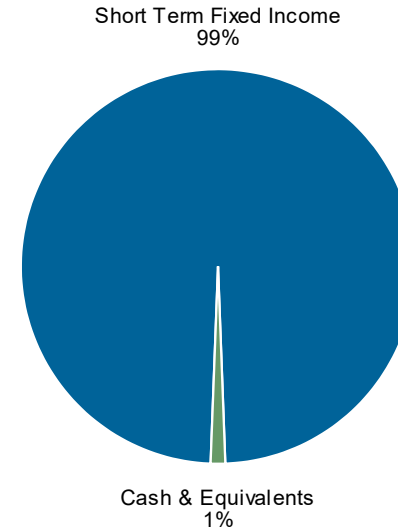
Budget Stabilization Fund Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Short Term Fixed Income	728,271	99.5%	99.4%	0.1%	660
Cash & Equivalents	3,805	0.5%	0.6%	(0.1%)	(660)
Total	732,076	100.0%	100.0%		

Consolidated Insurance Trust Attribution – Strategic and Corridor Target

As of March 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 Return
Large Cap	7%	8%	(7.31%)	(8.39%)	0.08%	0.00%	0.09%
Small Cap	2%	2%	(2.83%)	(11.61%)	0.13%	0.07%	0.20%
International Equity	6%	6%	(4.56%)	(5.74%)	0.06%	(0.05%)	0.00%
Domestic Fixed Income	45%	45%	(5.09%)	(4.78%)	(0.14%)	(0.02%)	(0.16%)
Diversified Real Assets	9%	9%	(1.98%)	(2.35%)	0.03%	0.00%	0.03%
Real Estate	4%	4%	5.70%	(1.63%)	0.29%	(0.03%)	0.26%
Short Term Fixed Income	26%	26%	0.39%	0.26%	0.04%	(0.08%)	(0.04%)
Cash & Equivalents	1%	1%	2.51%	2.50%	(0.00%)	(0.00%)	(0.00%)
Transition Account	0%	0%	-	-	0.00%	0.00%	0.00%
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			(3.08%)	(3.45%)	+ 0.48%	+ (0.11%)	0.37%

Corridor 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	7%	7%	(7.31%)	(8.39%)	0.08%	0.02%	0.10%
Small Cap	2%	2%	(2.83%)	(11.61%)	0.13%	0.08%	0.21%
International Equity	6%	6%	(4.56%)	(5.74%)	0.06%	(0.06%)	(0.00%)
Domestic Fixed Income	45%	44%	(5.09%)	(4.78%)	(0.14%)	(0.03%)	(0.17%)
Diversified Real Assets	9%	9%	(1.98%)	(2.35%)	0.03%	0.00%	0.03%
Real Estate	4%	4%	5.70%	(1.63%)	0.29%	0.00%	0.29%
Short Term Fixed Income	26%	26%	0.39%	0.26%	0.04%	(0.08%)	(0.04%)
Cash & Equivalents	1%	1%	2.51%	2.50%	(0.00%)	(0.00%)	(0.00%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			(3.08%)	(3.49%)	+ 0.48%	+ (0.07%)	0.41%

Consolidated Insurance Trust Attribution – Strategic and Corridor Target

As of March 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	8%	8%	20.66%	18.55%	0.15%	(0.05%)	0.10%
Small Cap	2%	2%	18.42%	17.51%	(0.03%)	0.01%	(0.02%)
International Equity	6%	6%	14.15%	12.32%	0.09%	(0.06%)	0.04%
Domestic Fixed Income	45%	45%	(0.69%)	(2.77%)	0.97%	(0.02%)	0.95%
Diversified Real Assets	9%	9%	2.84%	3.27%	(0.04%)	0.01%	(0.04%)
Real Estate	4%	4%	8.65%	7.15%	0.07%	(0.02%)	0.05%
Short Term Fixed Income	25%	25%	1.61%	(0.38%)	0.51%	(0.05%)	0.46%
Cash & Equivalents	1%	1%	0.88%	0.89%	(0.00%)	(0.01%)	(0.01%)
Transition Account	0%	0%	-	-	0.00%	0.00%	0.00%
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			3.53%	2.00%	1.73%	(0.20%)	1.53%

Corridor Three 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	8%	8%	20.66%	18.55%	0.15%	(0.06%)	0.09%
Small Cap	2%	2%	18.42%	17.51%	(0.03%)	0.01%	(0.02%)
International Equity	6%	6%	14.15%	12.32%	0.09%	(0.06%)	0.04%
Domestic Fixed Income	45%	45%	(0.69%)	(2.77%)	0.97%	(0.02%)	0.95%
Diversified Real Assets	9%	9%	2.84%	3.27%	(0.04%)	0.00%	(0.04%)
Real Estate	4%	4%	8.65%	7.15%	0.07%	0.00%	0.07%
Short Term Fixed Income	25%	25%	1.61%	(0.38%)	0.51%	(0.04%)	0.46%
Cash & Equivalents	1%	1%	0.88%	0.89%	(0.00%)	(0.01%)	(0.01%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			3.53%	1.98%	1.73%	(0.18%)	1.54%

Consolidated Insurance Trust Attribution – Strategic and Corridor Target

As of March 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	9%	9%	11.05%	10.87%	0.01%	(0.04%)	(0.03%)		
Small Cap	2%	2%	4.63%	4.71%	(0.03%)	0.01%	(0.02%)		
International Equity	6%	6%	3.42%	3.15%	0.01%	(0.04%)	(0.02%)		
Domestic Fixed Income	47%	47%	1.61%	0.91%	0.32%	0.01%	0.33%		
Diversified Real Assets	9%	9%	3.34%	3.30%	0.01%	0.01%	0.01%		
Real Estate	4%	4%	7.80%	6.71%	0.06%	0.00%	0.06%		
Short Term Fixed Income	20%	20%	1.56%	1.26%	0.05%	(0.03%)	0.02%		
Cash & Equivalents	2%	2%	1.30%	1.41%	(0.00%)	(0.03%)	(0.03%)		
Transition Account	0%	0%	-	-	0.00%	0.00%	0.00%		
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)		
Total			3.17%	2.86%	+	0.43%	+	(0.12%)	0.31%

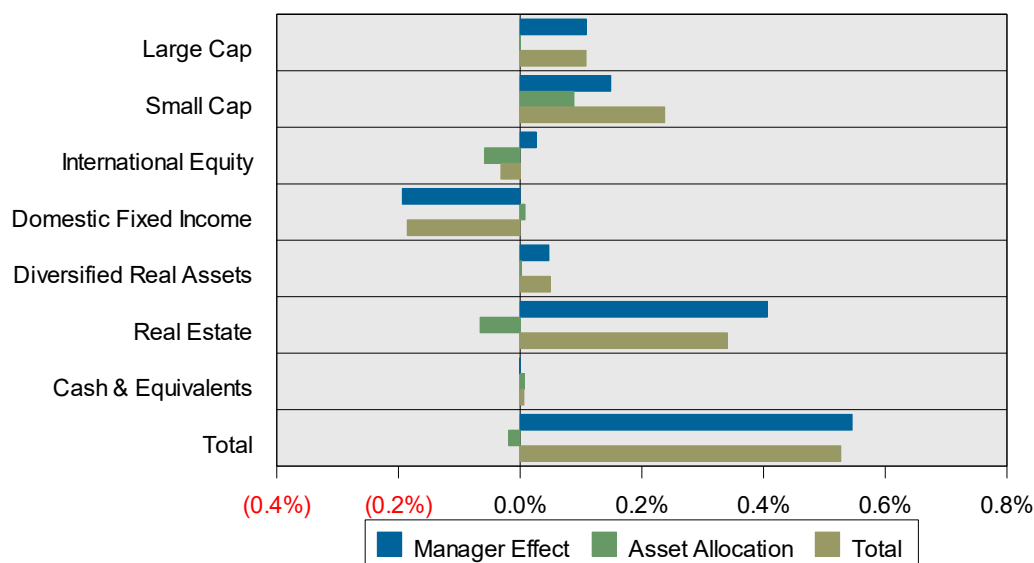
Corridor Five Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return		
Large Cap	9%	9%	11.05%	10.87%	0.01%	(0.05%)	(0.04%)		
Small Cap	2%	2%	4.63%	4.71%	(0.03%)	0.00%	(0.02%)		
International Equity	6%	6%	3.42%	3.15%	0.01%	(0.04%)	(0.02%)		
Domestic Fixed Income	47%	47%	1.61%	0.91%	0.32%	0.01%	0.34%		
Diversified Real Assets	9%	9%	3.34%	3.30%	0.01%	0.00%	0.01%		
Real Estate	4%	4%	7.80%	6.71%	0.06%	0.00%	0.06%		
Short Term Fixed Income	20%	20%	1.56%	1.26%	0.05%	(0.03%)	0.02%		
Cash & Equivalents	2%	2%	1.30%	1.41%	(0.00%)	(0.03%)	(0.03%)		
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)		
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%		
Total			3.17%	2.87%	+	0.43%	+	(0.13%)	0.30%

WSI Performance and Attribution

As of March 31, 2023

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2023

Return Type	Return (%)
Gross	-4.31%
Net of fees	-4.47%
Target	-4.84%
Net added	0.37%

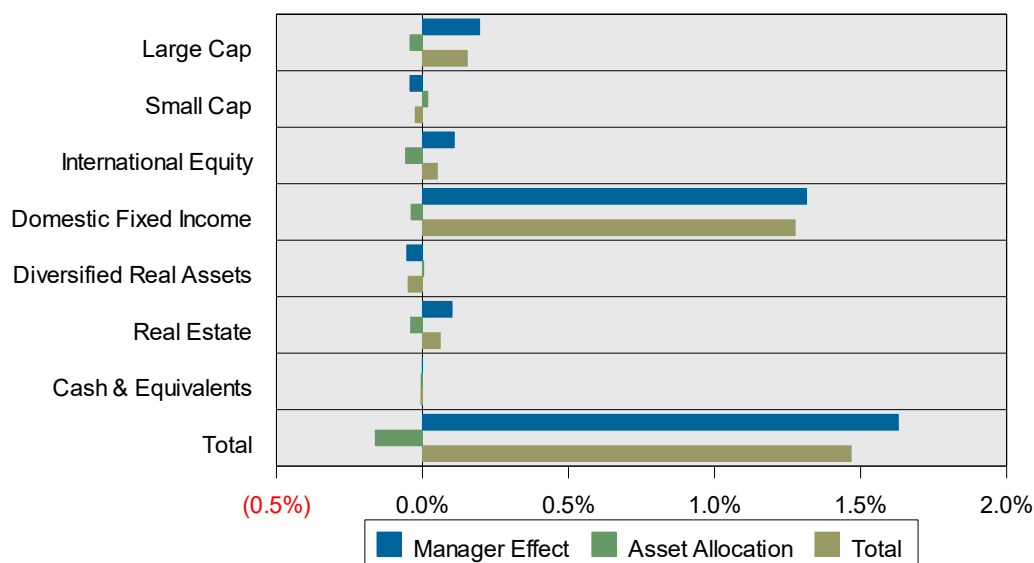
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	9%	10%	(7.28%)	(8.39%)	0.11%	(0.00%)	0.11%
Small Cap	2%	2%	(2.85%)	(11.61%)	0.15%	0.09%	0.24%
International Equity	7%	8%	(5.28%)	(5.74%)	0.03%	(0.06%)	(0.03%)
Domestic Fixed Income	62%	61%	(5.09%)	(4.78%)	(0.19%)	0.01%	(0.19%)
Diversified Real Assets	12%	12%	(1.89%)	(2.34%)	0.05%	0.00%	0.05%
Real Estate	6%	5%	5.70%	(1.63%)	0.41%	(0.07%)	0.34%
Cash & Equivalents	1%	1%	2.50%	2.50%	(0.00%)	0.01%	0.01%
Total			(4.31%)	(4.84%)	+ 0.55%	+ (0.02%)	0.53%

WSI Performance and Attribution

As of March 31, 2023

Three Year Annualized Relative Attribution Effects



Returns for 3 Years Ended 03/31/2023

Return Type	Return (%)
Gross	4.05%
Net of fees	3.87%
Target	2.59%
Net added	1.28%

Three Year Annualized Relative Attribution Effects

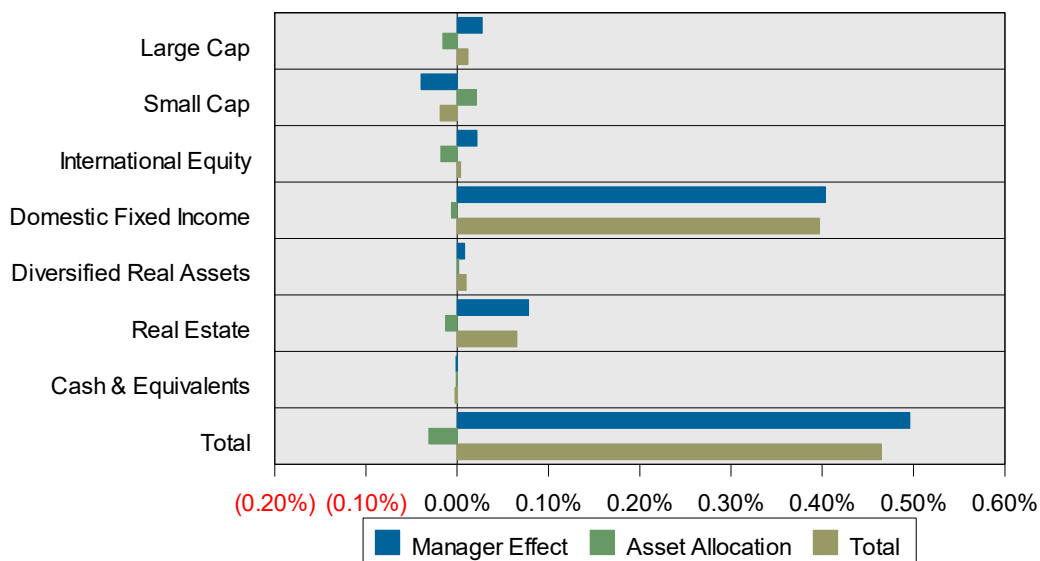
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	11%	20.67%	18.55%	0.20%	(0.04%)	0.15%
Small Cap	3%	3%	18.24%	17.51%	(0.04%)	0.02%	(0.02%)
International Equity	8%	8%	13.91%	12.32%	0.11%	(0.06%)	0.05%
Domestic Fixed Income	61%	60%	(0.70%)	(2.77%)	1.31%	(0.04%)	1.28%
Diversified Real Assets	12%	12%	2.87%	3.27%	(0.05%)	0.00%	(0.05%)
Real Estate	5%	5%	8.65%	7.15%	0.10%	(0.04%)	0.06%
Cash & Equivalents	1%	1%	0.87%	0.89%	(0.00%)	(0.00%)	(0.00%)

Total	4.05% = 2.59% + 1.63% + (0.16%)	1.47%
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WSI Performance and Attribution

As of March 31, 2023

Five Year Annualized Relative Attribution Effects



Returns for 5 Years Ended 03/31/2023

Return Type	Return (%)
Gross	3.59%
Net of fees	3.41%
Target	3.13%
Net added	0.28%

Five Year Annualized Relative Attribution Effects

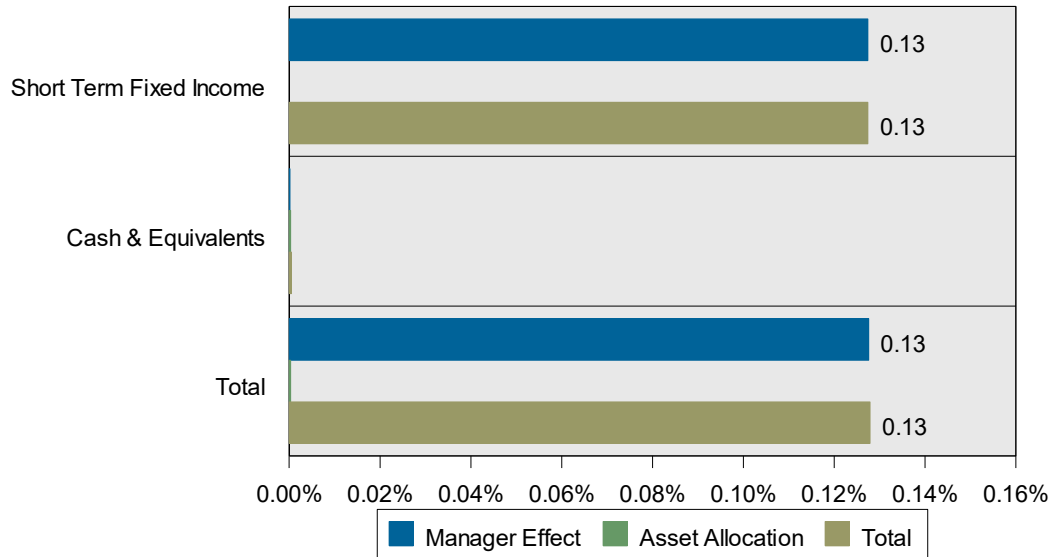
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	11.10%	10.87%	0.03%	(0.02)%	0.01%
Small Cap	3%	3%	4.55%	4.71%	(0.04)%	0.02%	(0.02)%
International Equity	8%	8%	3.31%	3.15%	0.02%	(0.02)%	0.00%
Domestic Fixed Income	60%	60%	1.62%	0.91%	0.40%	(0.01)%	0.40%
Diversified Real Assets	12%	12%	3.37%	3.29%	0.01%	0.00%	0.01%
Real Estate	5%	5%	7.80%	6.71%	0.08%	(0.01)%	0.07%
Cash & Equivalents	1%	1%	1.30%	1.41%	(0.00)%	(0.00)%	(0.00)%

Total **3.59% = 3.13% + 0.50% + (0.03%)** **0.46%**

Budget Stabilization Fund Performance and Attribution

As of March 31, 2023

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2023

Return Type	Return (%)
Gross	0.41%
Net of fees	0.31%
Target	0.28%
Net added	0.03%

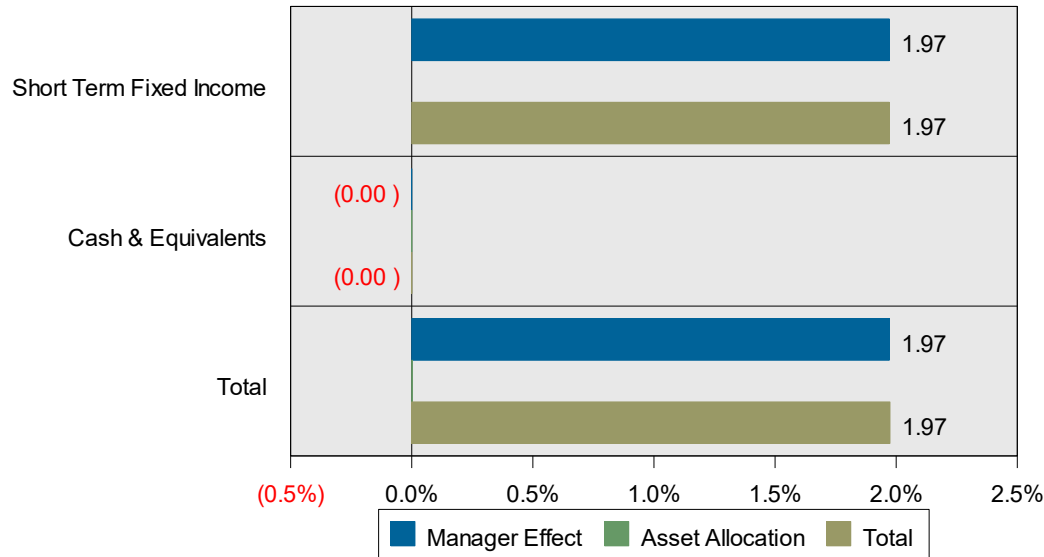
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	99%	99%	0.39%	0.26%	0.13%	0.00%	0.13%
Cash & Equivalents	1%	1%	2.54%	2.50%	0.00%	0.00%	0.00%
Total			0.41%	0.28%	+ 0.13%	+ 0.00%	0.13%

Budget Stabilization Fund Performance and Attribution

As of March 31, 2023

Three Year Annualized Relative Attribution Effects



Returns for 3 Years Ended 03/31/2023

Return Type	Return (%)
Gross	1.62%
Net of fees	1.51%
Target	-0.36%
Net added	1.87%

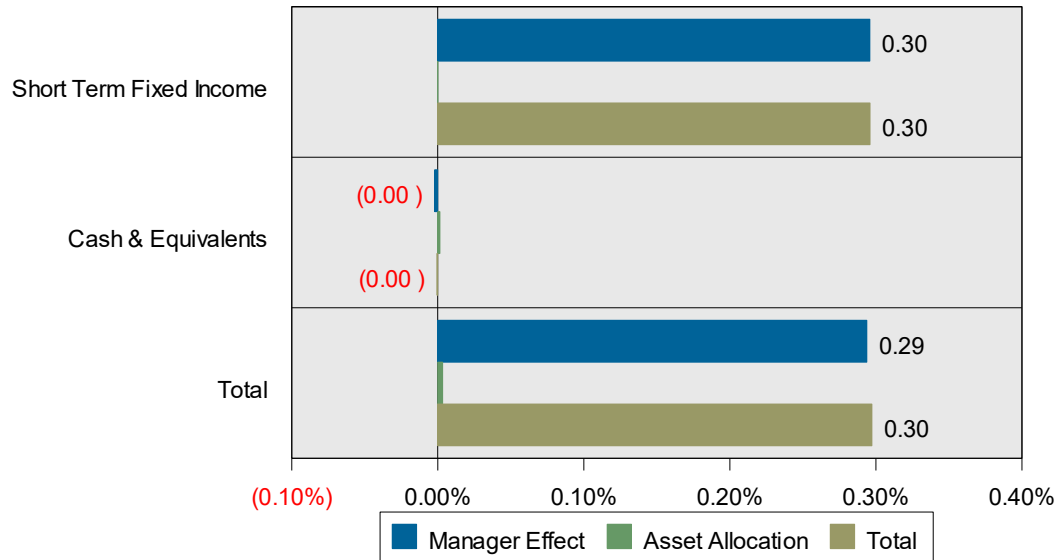
Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return		
Short Term Fixed Income	99%	99%	1.61%	(0.38%)	1.97%	0.00%	1.97%		
Cash & Equivalents	1%	1%	0.89%	0.89%	(0.00%)	0.00%	(0.00%)		
Total			1.62%	(0.36%)	+	1.97%	+	0.00%	1.97%

Budget Stabilization Fund Performance and Attribution

As of March 31, 2023

Five Year Annualized Relative Attribution Effects



Returns for 5 Years Ended 03/31/2023

Return Type	Return (%)
Gross	1.56%
Net of fees	1.45%
Target	1.26%
Net added	0.19%

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
Short Term Fixed Income	98%	98%	1.56%	1.26%	0.30%	0.00%	0.30%
Cash & Equivalents	2%	2%	1.31%	1.41%	(0.00%)	0.00%	(0.00%)
Total			1.56%	1.26%	+ 0.29%	+ 0.00%	0.30%

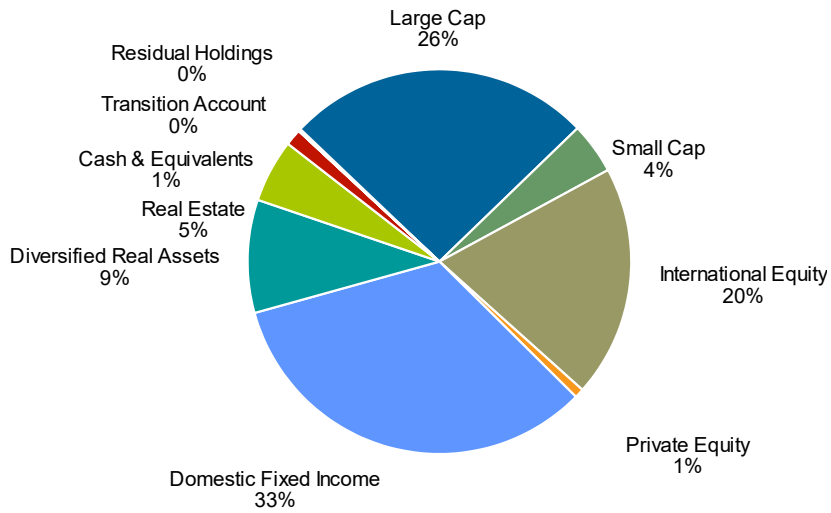
Callan

Legacy Fund Quarterly Review

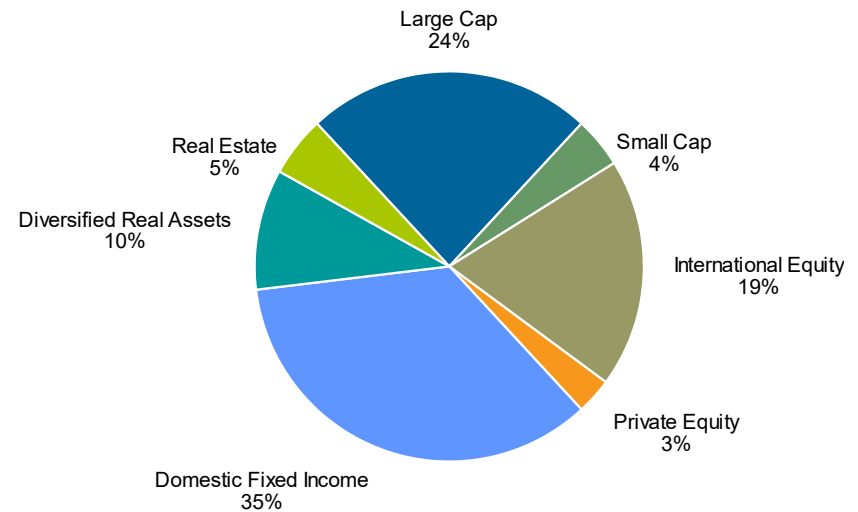
Legacy Fund Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	2,326,438	25.7%	23.8%	1.9%	172,804
Small Cap	390,660	4.3%	4.2%	0.1%	10,607
International Equity	1,768,799	19.5%	19.0%	0.5%	49,511
Private Equity	75,060	0.8%	3.0%	(2.2%)	(196,406)
Domestic Fixed Income	3,014,964	33.3%	35.0%	(1.7%)	(152,146)
Diversified Real Assets	857,781	9.5%	10.0%	(0.5%)	(47,108)
Real Estate	482,337	5.3%	5.0%	0.3%	29,892
Cash & Equivalents	130,354	1.4%	0.0%	1.4%	130,354
Transition Account	44	0.0%	0.0%	0.0%	44
Residual Holdings	2,449	0.0%	0.0%	0.0%	2,449
Total	9,048,886	100.0%	100.0%		

Legacy Fund Attribution – Strategic and Corridor Target

As of March 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 Return
Large Cap	24%	24%	(6.97%)	(8.39%)	0.32%	(0.12%)	0.20%
Small Cap	5%	5%	(2.79%)	(11.61%)	0.49%	0.07%	0.56%
International Equity	19%	19%	(5.84%)	(5.74%)	(0.03%)	0.05%	0.03%
Private Equity	1%	2%	(0.16%)	(0.16%)	0.00%	0.11%	0.11%
Domestic Fixed Income	34%	35%	(3.82%)	(4.78%)	0.32%	(0.05%)	0.27%
Diversified Real Assets	10%	10%	1.89%	(2.25%)	0.37%	0.02%	0.39%
Real Estate	6%	5%	6.20%	(1.63%)	0.42%	(0.15%)	0.27%
Cash Equivalents	1%	0%	2.48%	2.48%	0.00%	0.11%	0.11%
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			(3.74%)	(5.68%)	+ 1.91%	+ 0.03%	1.94%

Corridor 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	24%	24%	(6.97%)	(8.39%)	0.32%	(0.28%)	0.04%
Small Cap	5%	5%	(2.79%)	(11.61%)	0.49%	0.09%	0.58%
International Equity	19%	19%	(5.84%)	(5.74%)	(0.03%)	0.06%	0.03%
Private Equity	1%	1%	(0.16%)	(0.16%)	0.00%	0.00%	0.00%
Domestic Fixed Income	34%	35%	(3.82%)	(4.78%)	0.32%	(0.10%)	0.23%
Diversified Real Assets	10%	10%	1.89%	(2.25%)	0.37%	0.00%	0.37%
Real Estate	6%	6%	6.20%	(1.63%)	0.42%	0.00%	0.42%
Cash Equivalents	1%	0%	2.48%	2.48%	0.00%	0.10%	0.10%
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			(3.74%)	(5.52%)	+ 1.91%	+ (0.13%)	1.78%

Legacy Fund Attribution – Strategic and Corridor Target

As of March 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	23%	22%	20.50%	18.56%	0.39%	(0.08%)	0.31%
Small Cap	7%	7%	18.28%	17.51%	(0.07%)	(0.01%)	(0.08%)
International Equity	20%	20%	13.33%	12.32%	0.20%	0.00%	0.20%
Private Equity	0%	1%	-	-	0.00%	0.04%	0.04%
Domestic Fixed Income	35%	35%	0.03%	(2.77%)	1.06%	(0.07%)	0.99%
Diversified Real Assets	10%	10%	6.16%	4.04%	0.20%	(0.01%)	0.19%
Real Estate	5%	5%	8.86%	7.15%	0.12%	(0.05%)	0.07%
Cash & Equivalents	1%	0%	0.86%	0.86%	0.00%	(0.05%)	(0.05%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			9.43%	= 7.75%	+ 1.90%	+ (0.22%)	1.68%

Corridor Three 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	23%	23%	20.50%	18.56%	0.39%	(0.16%)	0.23%
Small Cap	7%	7%	18.28%	17.51%	(0.08%)	0.01%	(0.07%)
International Equity	20%	20%	13.33%	12.32%	0.20%	0.00%	0.20%
Private Equity	0%	0%	-	-	0.00%	0.00%	0.00%
Domestic Fixed Income	35%	35%	0.03%	(2.77%)	1.06%	(0.06%)	1.00%
Diversified Real Assets	10%	10%	6.16%	4.04%	0.20%	0.00%	0.20%
Real Estate	5%	5%	8.86%	7.15%	0.12%	0.00%	0.12%
Cash & Equivalents	1%	0%	0.86%	0.86%	0.00%	(0.05%)	(0.05%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			9.43%	= 7.79%	+ 1.90%	+ (0.25%)	1.64%

Legacy Fund Attribution – Strategic and Corridor Target

As of March 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	22%	22%	10.96%	10.87%	0.03%	(0.05%)	(0.02%)
Small Cap	7%	7%	4.71%	4.71%	(0.07%)	0.00%	(0.07%)
International Equity	20%	20%	3.12%	3.15%	0.02%	0.03%	0.05%
Private Equity	0%	0%	-	-	0.00%	0.02%	0.02%
Domestic Fixed Income	35%	35%	2.12%	0.91%	0.38%	(0.01%)	0.37%
Diversified Real Assets	10%	10%	4.97%	3.57%	0.13%	0.00%	0.13%
Real Estate	5%	5%	7.87%	6.71%	0.08%	(0.04%)	0.04%
Cash & Equivalents	1%	0%	1.29%	1.29%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			5.26%	= 4.78%	+ 0.55%	+ (0.07%)	0.48%

Corridor Five 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	22%	23%	10.96%	10.87%	0.03%	(0.09%)	(0.06%)
Small Cap	7%	8%	4.71%	4.71%	(0.08%)	0.02%	(0.06%)
International Equity	20%	20%	3.12%	3.15%	0.02%	0.03%	0.05%
Private Equity	0%	0%	-	-	0.00%	0.00%	0.00%
Domestic Fixed Income	35%	35%	2.12%	0.91%	0.38%	(0.01%)	0.37%
Diversified Real Assets	10%	10%	4.97%	3.57%	0.13%	0.00%	0.13%
Real Estate	5%	5%	7.87%	6.71%	0.08%	0.00%	0.08%
Cash & Equivalents	1%	0%	1.29%	1.29%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			5.26%	= 4.80%	+ 0.55%	+ (0.08%)	0.46%

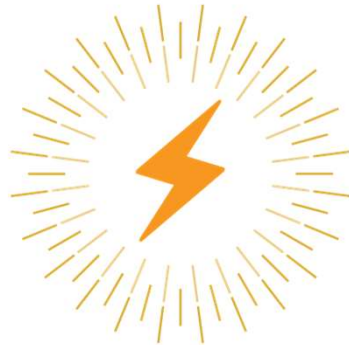
Callan Update

Published Research Highlights from 1Q23

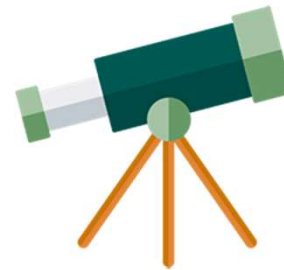
2023 DC Trends Survey and Webinar



Energy Transition Is Having a Moment, but Does It Have Staying Power?



2023-2032 Capital Markets Assumptions and Webinar



Research Café: ESG Interview Series Session



Recent Blog Posts

The PRT Decision: What Plan Sponsors Need to Know

Bill Emmett and Christopher Park

Can Institutional Investors Target 'Food Deserts' for Investment?

Aaron Quach

Risky Business Update: After a Year of Historic Losses, What Changed?

Julia Moriarty

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 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.

– August 23-24, 2023 – Virtual Session via Zoom

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.

- May 23–25, 2023 – Virtual Session via Zoom
- September 26–28, 2023 – Virtual Session via Zoom

Please visit our website at callan.com/events-education as we add dates to our 2023 calendar!

Mark Your Calendar

2023 Regional Workshops

June 27, 2023 – Denver
June 29, 2023 – San Francisco

October 24, 2023 – New York
October 26, 2023 – Chicago

2024 National Conference

April 8 –10, 2024 – San Francisco

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: DC – Managed Accounts

May 11, 2023 – 9:30am (PT)



RISK ALLOCATION AND MANAGEMENT

Enhancing Investment Outcomes

INVESTMENT STAFF
MAY 2023

NORTH
Dakota
Be Legendary.

Retirement & Investment

- I. **Investments and Team Overview**
 - II. **Understanding Risk**
 - III. **Model for Evaluating Outcomes**
 - IV. **Beliefs, Objective and Strategy**
 - V. **Enhancing Investment Outcomes, Transparency**
 - VI. **Sources of Value Added**
 - VII. **Conclusion: Integration and Roadmap**
- Appendices**

Investments Overview

RIO AT A GLANCE

As of December 31, 2022

\$19.2 Billion

AUM across all Client Funds

28 Client Funds

Sovereign wealth, pension
and insurance

43 Managers

Equity, Fixed Income, Private
Equity, and Real Asset

INVESTMENT FOCUS

Global multi-asset public and
private market fund of funds
organization

OBJECTIVE

To maximize after cost return
for risk at a prudent level of
risk for the funds in our care

Global, Multi-asset



Advanced Funds
Management

OUR COMMITMENT

Client Focused

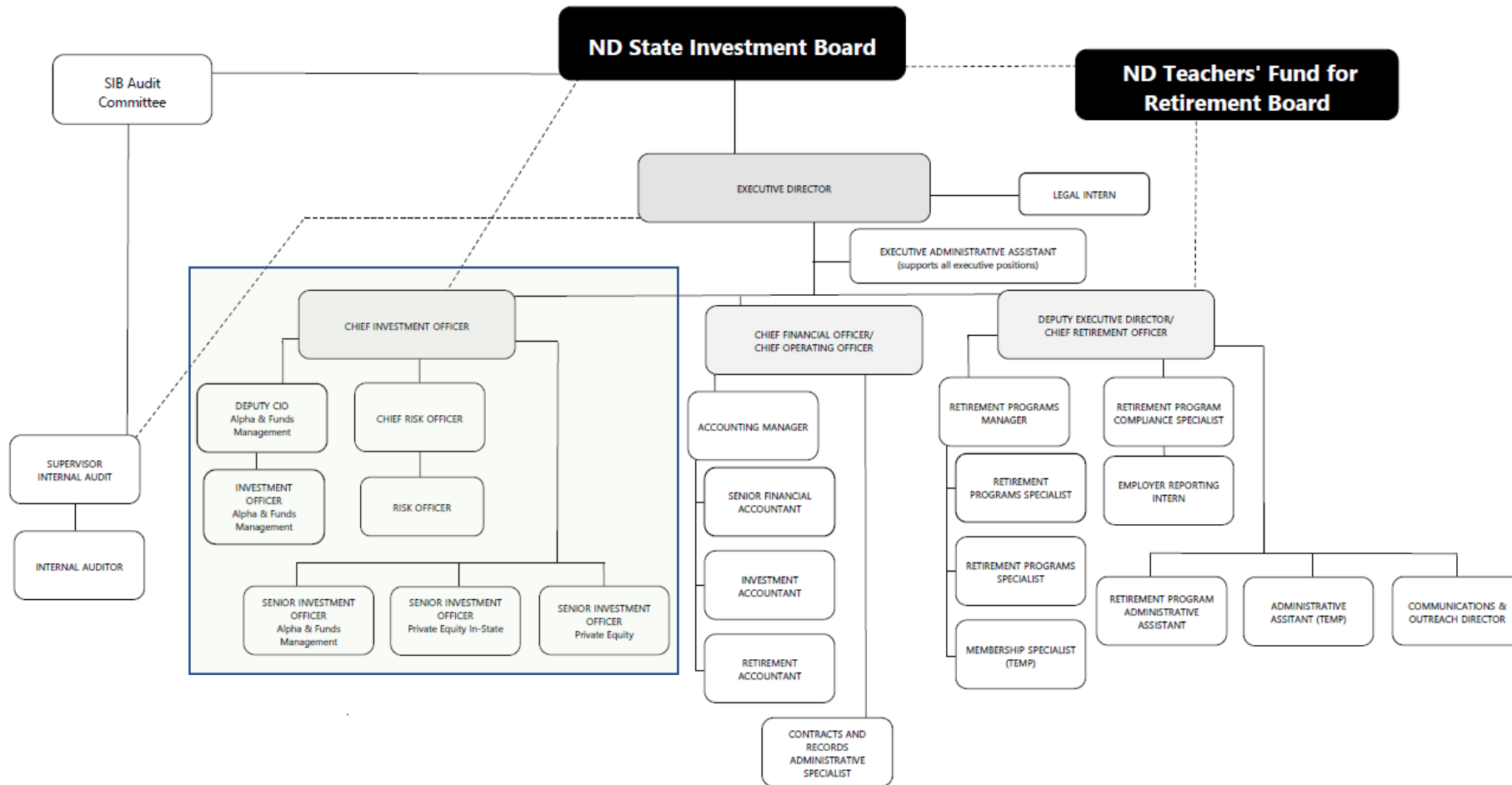
Value Added Results

Efficient Delivery

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Retirement and Investment Office Overview

RETIREMENT AND INVESTMENT OFFICE



INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Team Overview

Scott M Anderson
CFA, CQF, FRM, CIPM
Chief Investment Officer (CIO)



Nitin Vaidya
CFA
Chief Risk Officer



Jason Yu
FRM
Risk Officer



RISK ALLOCATION AND MANAGEMENT

**EXPERIENCE: >20 YEARS
AVERAGE INVESTMENT RISK
EXPERIENCE**

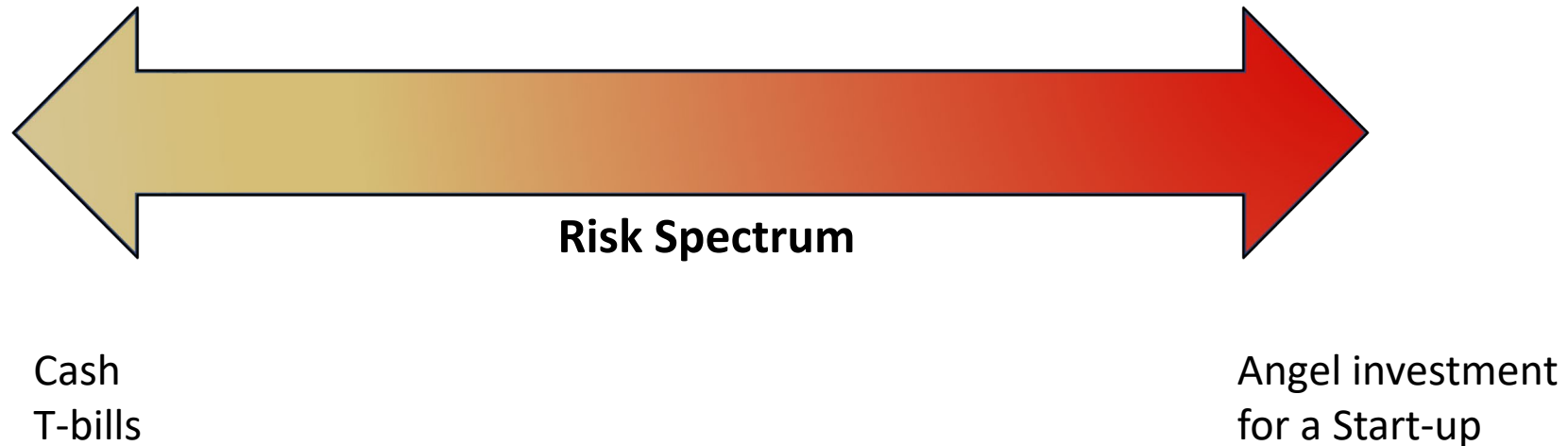
- ASSET AND RISK ALLOCATION
- DIRECT PUBLIC AND PRIVATE INVESTMENT
- FUND AND PORTFOLIO MANAGEMENT
- MANAGER SELECTION
- INVESTMENT OVERSIGHT
- FUND OF FUNDS MANAGEMENT
- QUANTITATIVE ANALYSIS
- RISK MANAGEMENT
- LIQUIDITY MANAGEMENT
- PORTFOLIO CONSTRUCTION
- PENSION, ENDOWMENT AND INSURANCE
- PERFORMANCE MANAGEMENT
- OVERLAYS AND EXPOSURE MANAGEMENT
- MULTI-ASSET PORTFOLIO MANAGEMENT
- PORTFOLIO ANALYTICS

- I. Investments and Team Overview**
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“Investment Management is about managing risk not avoiding it”

Benjamin Graham

What is our desired level of risk?



What is investment risk?

Permanent loss of capital

- Stock – bankruptcy
- Bonds – inability to repay debt; example AT1 bonds

Temporary loss of capital, i.e., performance volatility

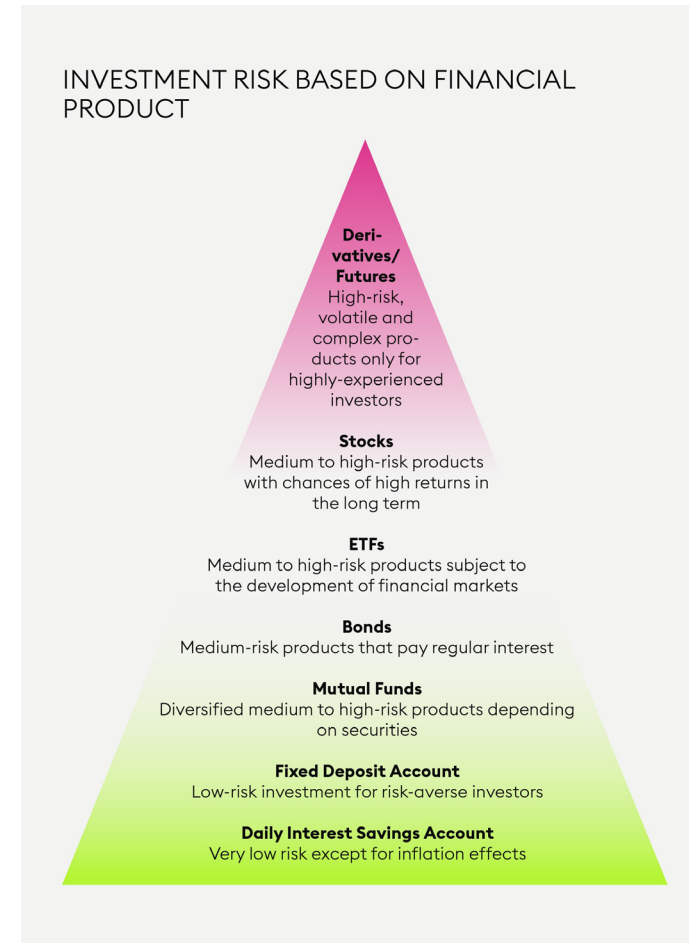
- Portfolio, security level
- Temporary can turn into a period of many years

Underperformance relative to benchmark

- Portfolio level
- Temporary but can turn into a period of many years

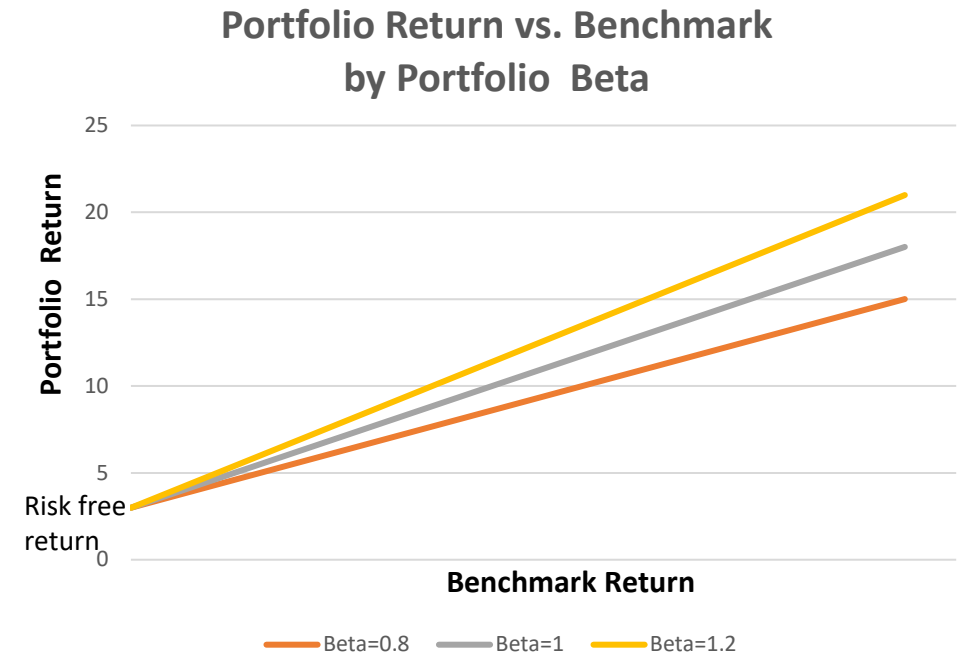
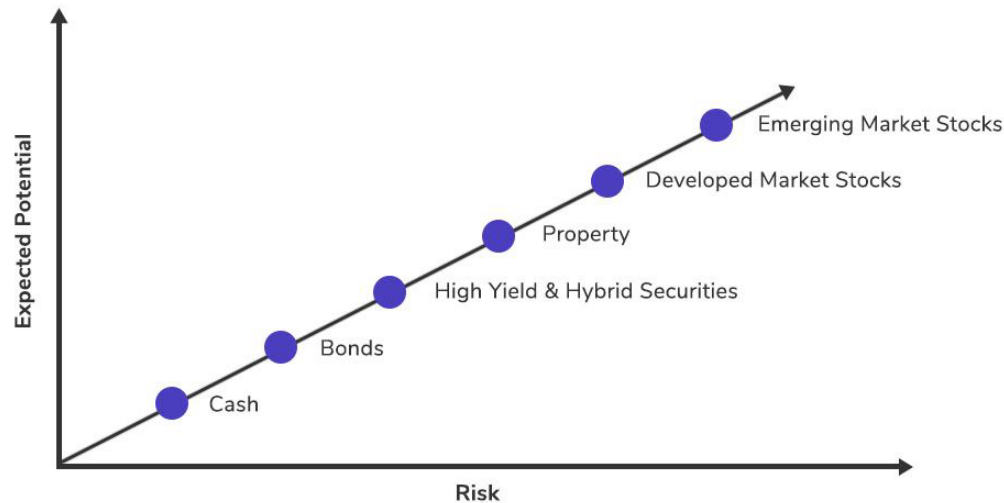
Risk can be layered

- Security Level
- Portfolio Level
- Market level



Higher Compensated Portfolio Risk Corresponds to Higher Long Term Return

There is a tradeoff between increased return and increased risk. Further, a portfolio Beta, i.e. its sensitivity to market, of greater than 1 also suggests a risk greater than that of the market and vice-versa.



Understanding Risk

- **There are multiple measures of risk and return**
- **One size does not fit all; each metric presents a partial view**
- **A more holistic picture emerges from consideration of these separate views**

Measures of Portfolio Return

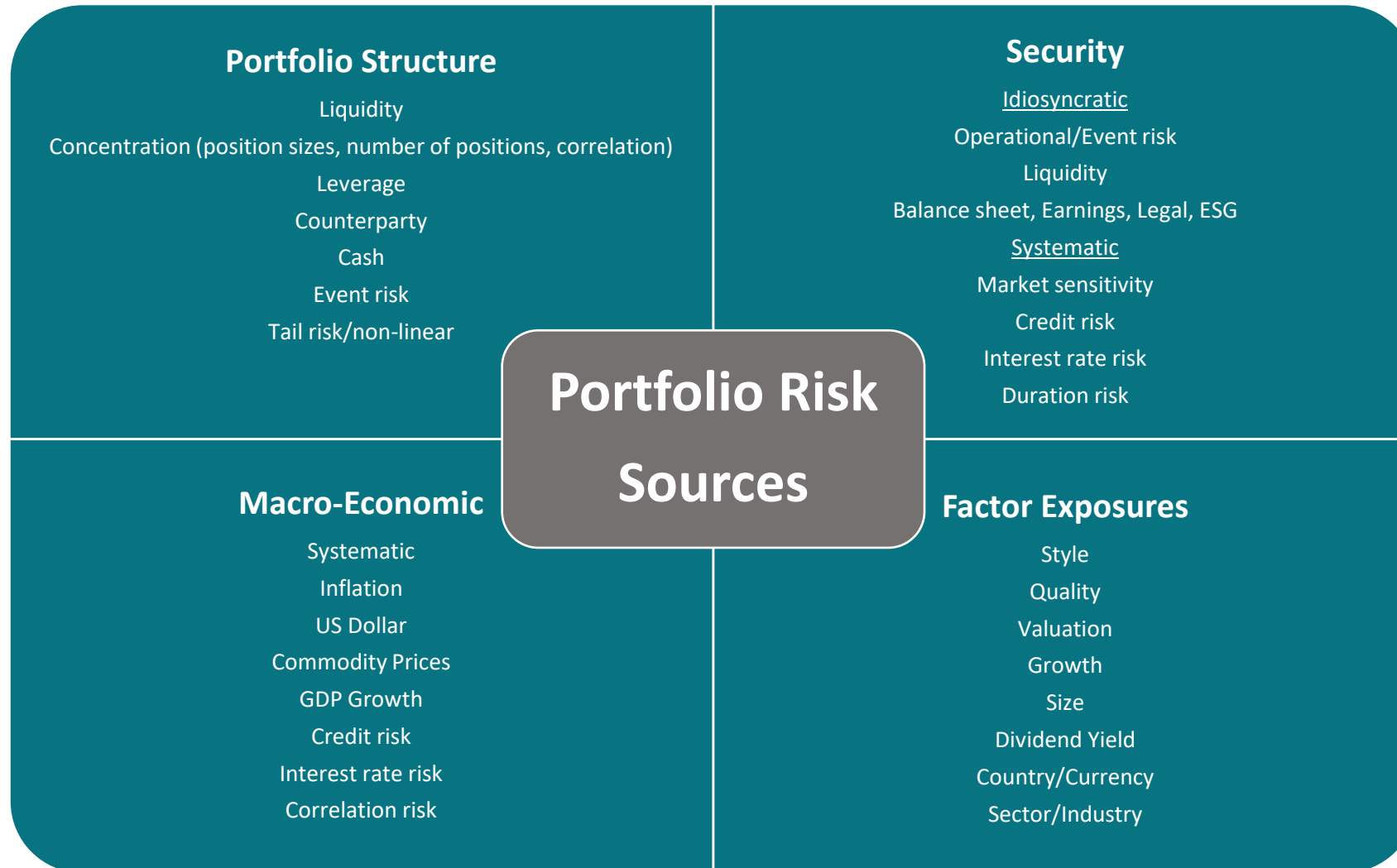
- Return
- Alpha
- Upside/Downside Capture
- Batting Average
- R-squared

Measures of Portfolio Risk

- Volatility
- Downside volatility
- Maximum Drawdown
- Value at Risk
- Tracking Error
- Beta

Measures of Risk Adjusted Return

- Risk Adjusted Return (Sharpe Ratio)
- Information Ratio
- Sortino Ratio
- Omega Ratio



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INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

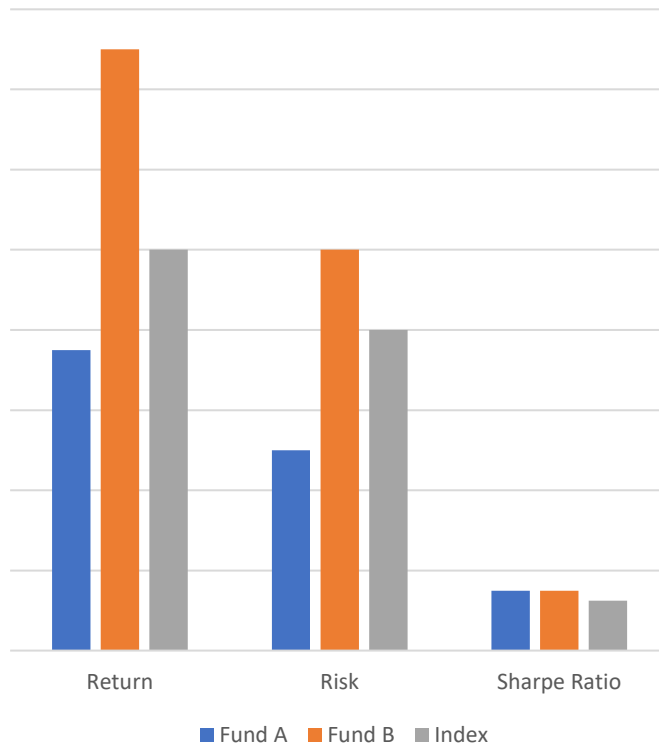
Model for Evaluating Outcomes

Level of risk can result in outperformance, but is that a good result for right reasons or wrong reasons?

Assessment requires understanding the root drivers of the investment edge and market environment, identifying favorable and unfavorable cycles and attributing full-cycle results to skill, structural or market factors.



A comparison of Two Funds with their Index



Which fund has performed better?

- Fund B has outperformed while fund A has underperformed their index
- Fund B also took twice the risk of fund A
- However, both funds have identical Sharpe Ratio, i.e. risk adjusted performance, which is higher than that of the index. How to decide?
- Has fund B outperformed for the right reasons?
- The answer depends on the following:
 - Was the level of risk intended or unintended?
 - Did the clients understand the sources of risk?
 - Was the level of risk acceptable to the clients?



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- Our mission is to deliver a high return per unit of risk; at a prudent level of risk for our client fund mandates; at an efficient cost
- Risks can be from many sources including currency, liquidity, cash, interest rate, credit, growth, diversification, correlation
- Risk to portfolio performance must be identified, understood, compensated for and managed to acceptable risk appetite
- Risk management includes measurement, monitoring, mitigation, management and reporting of risks that could impact investment outcomes.
- Risk management mitigates the odds of unexpected portfolio failure
- Risk allocation and management improves return per unit of risk in turn leading to better investment outcomes
- Risk allocation and management is a key component of prudent investment management

OBJECTIVE:

- To maximize after cost return for risk at a prudent level of risk for the funds in our care

STRATEGY:

- Develop a world class investment risk allocation and management framework that enhances investment outcomes
- Define portfolio risk appetite
- Structure portfolio to this target risk appetite
- Measure, monitor, mitigate risks and provide transparency on those risks
- Utilize value-added processes to deliver on better risk-adjusted portfolio performance.

WHY?

- Leveraging a comprehensive set of platforms and tools, RIO will be differentiated with dynamic regime-specific risk allocation and management integrated into its investment decisions and implementation

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VII. Conclusion: Integration and Roadmap

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- Develops quantitative analysis and mitigates uncompensated risks to ensure an optimal return for risk at a prudent level of risk in all investment strategies
- Integrated in all investment decisions including allocation of risk capital, portfolio construction and investment manager selection and oversight. Validate investment adherence to optimal risk adjusted return objective.
- Use and develop best in class data sources, analytics and tools to identify risks, measure return per risk and manage risks.
- Provides risk communication and portfolio transparency to policy makers and investment teams.

Portfolio Structural Risk Mitigation

Portfolio Structural Risk Mitigation

- **Define risk appetite**
- **Target, Measure, Monitor, Mitigate and Report**
 - Leverage risk
 - Diversification/concentration risk
 - Liquidity risk
 - Counterparty risk
 - Country risk
 - Cash risk
 - Event risk
 - Non-linear (tail) risk
 - Asset class specific risks (valuation, liquidity)
- **Judicious use of risk targets and limits**
- **Compliance with client guidelines and targets**
- **Escalation process as appropriate**

Portfolio Construction & Asset Allocation

Portfolio Construction & Asset Allocation

- Integrate with Public, Private and Internal investment teams using a lens different from those of such teams
- Diversify the portfolio. Leverage uncorrelated risk weighted portfolio construction where feasible, including at the asset allocation level
- Identify, measure and manage sources of risk at manager, client and pool levels
 - Target and manage risk factor exposures at manager, client and pool levels
 - Manage exposures to macro-economic and fundamental risk factors
 - Actively manage sector/country risks in manager selection
- Dynamic regime/state specific allocation taking into consideration macro-economic environment
- Hedge away unintended risks thru derivative strategies
- Equitize cash to mitigate cash risk
- Leverage dashboard for daily transparency on portfolio exposures and construction

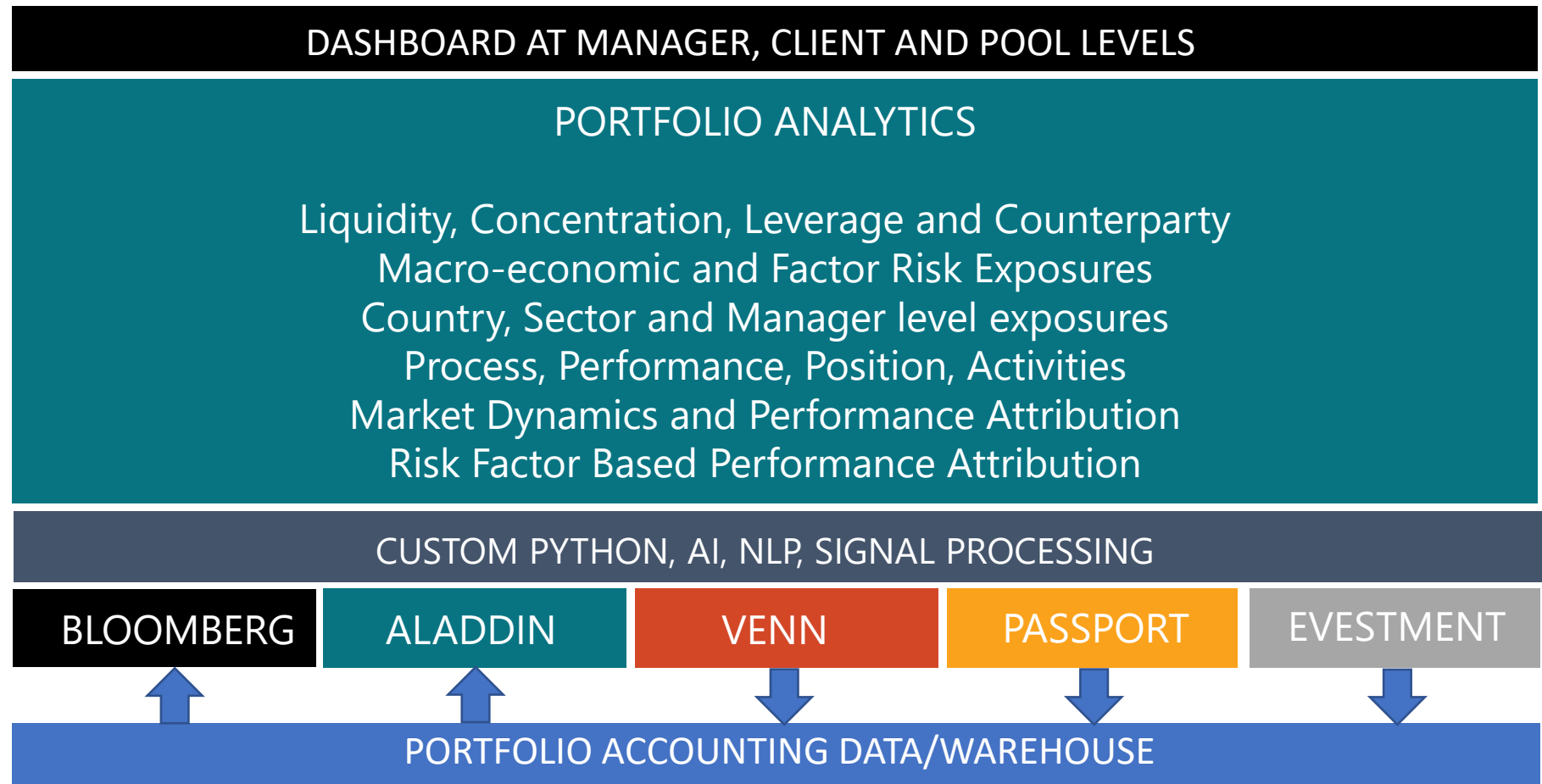
Investment Manager Assessment and Oversight

Investment Manager Assessment and Oversight

- **Leverage sophisticated risk platforms and tools to produce comprehensive manager analysis**
 - Process
 - Performance
 - Risk Exposures
 - Activity
- **Evaluation in context of market dynamics and process. Focus on investment process rather than performance**
 - Was the performance and risk in line with expectations given market dynamics and process?
 - Were the sources of risk and return clearly understood?
 - Was the level of risk and return acceptable?

Risk
Platforms and
Tools

Risk Platforms and Tools



Transparency to Board, Investment Committee, Clients

- Seek buy-in on a clear pool and client level risk appetite
- Set pool, client fund risk and performance expectations
- Portfolio Construction Dashboard (Pooled, Client, Fund levels)
- Market Risks Dashboard for context on market behavior
- Comprehensive portfolio analysis at pool, client and fund levels
- Risk Matrix on key risks across managers, clients and pools.
- Foster trust in RIO systems, processes and people

Example of Structural Risk Dashboard

Liquidity



Concentration



Leverage



Cash



Credit



Interest Rate



Duration



Counterparty



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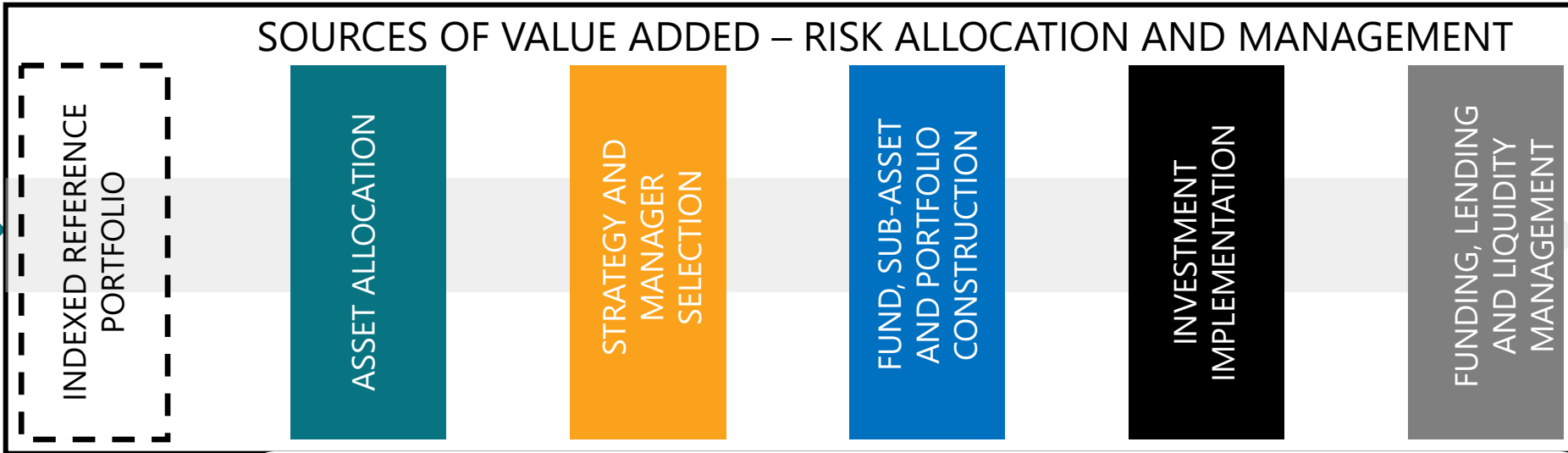
Appendices

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Sources of Value Added

Illustration

SOURCES OF VALUE ADDED – RISK ALLOCATION AND MANAGEMENT



Forecast funds flows for liquidity risk, cash, rebalancing and liquidity management	A minimum efficient allocation of 60% World Index and 40% Domestic Fixed Income	Risk aware dynamic regime/state specific uncorrelated sub-asset allocation for optimal risk-return profile	Use comprehensive portfolio analytics focusing on process in manager selection; assess return and risk in context of market dynamics	Uncorrelated risk weighted dynamic portfolio construction to target optimal return per unit risk at specified risk appetite	Choose make versus buy and optimize cost of management, fees, incentives, implementation, operations and exposures	Find best return and costs for security lending, cash management, transaction finance and liquidity risk management	Reduce liability defeasance risk by understanding features of the liability and economic scenarios (local and global)
	VALUE ADDED:	> 100 BP	> 40 BP	> 10 BP	> 10 BP	> 5 BP	

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Appendices

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Integrated with Investment Focus

PRIVATE MARKETS FUND OF FUNDS

PUBLIC MARKETS FUND OF FUNDS

RISK ALLOCATION AND MANAGEMENT

PUBLIC MARKETS DIRECT

- Asset class strategies transacted in private markets
- Diversified industry, geography and asset classes such as private debt/loans, real estate, infrastructure, equity, and commodities
- Use of best in class data sources and tools to identify opportunities, construct portfolios and manage risks such as valuation, diversification, currency, liquidity and cash flow
- Manages investments over a life cycle, by pacing investments appropriately based on stage of economic cycle

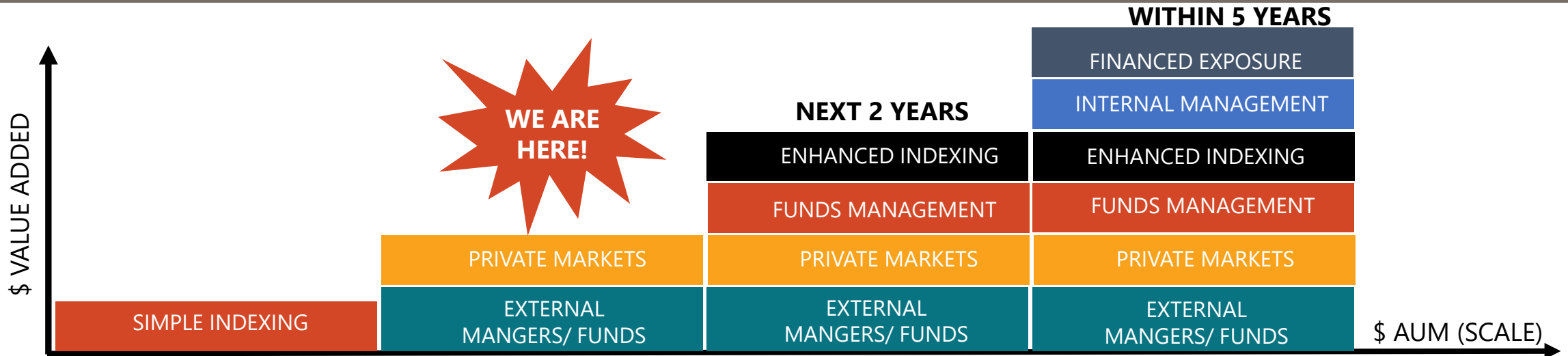
- Asset class strategies transacted in public markets over the counter or on exchanges
- Diversified strategies, geography and asset classes such as global equities, investment grade fixed, high yield, multi-asset class, and commodities
- Use of best in class data sources and tools to identify opportunities, construct portfolios and manage risks such as idiosyncratic, market, credit, currency, liquidity, interest rate, and derivative
- Manages investments with manager selection, advanced portfolio construction, exposure management, dynamic allocation and rebalance

- Develops quantitative analysis and mitigates uncompensated risks to ensure an optimal return for risk at a prudent level of risk in all investment strategies
- Integrated in all investment decisions including allocation of risk capital, portfolio construction and investment manager selection and oversight. Validate investment adherence to optimal risk adjusted return objective.
- Use and develop best in class data sources, analytics and tools to identify risks, measure return per risk and manage risks.
- Provides risk communication and portfolio transparency to policy makers and investment teams.

- Asset class strategies directly transacted in the public markets over the counter or on exchanges
- Diversified low risk strategies that enhance portfolio return but at a lower cost and risk for the same return as available with external managers
- Facilitate portfolio operations like proxy voting, overlays, security lending, exposure management, alpha beta separation, cash and liquidity management
- Use and development of best in class data sources, analytics and tools to identify opportunities, construct portfolios, transact and manage portfolio risks

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Roadmap for Success

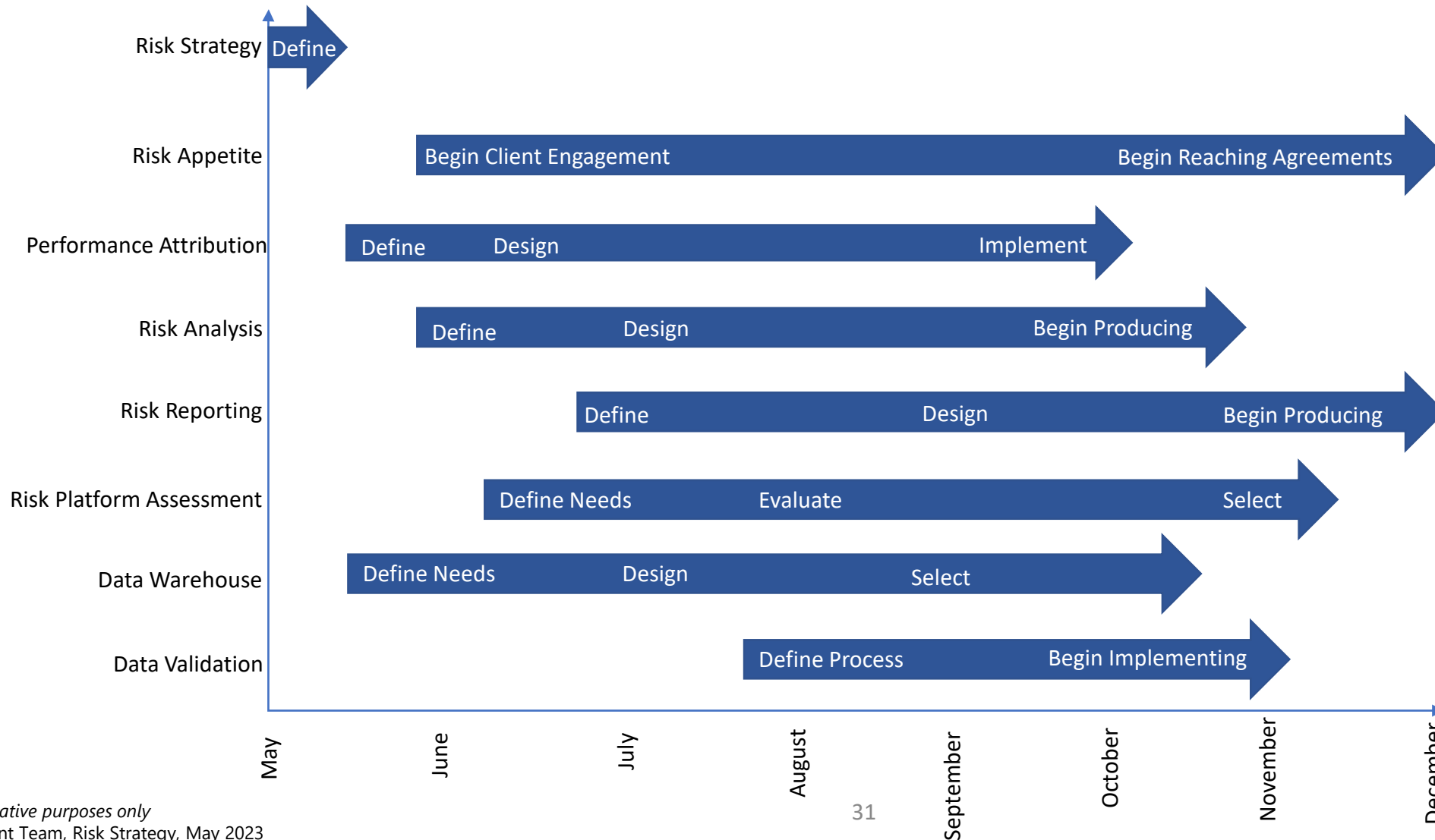


CAPABILITIES FOR SUCCESS

- RISK APPETITE
- FUND DYNAMICS EXPECTATIONS
- PERFORMANCE ATTRIBUTION
- DASHBOARDS
- RISK PLATFORMS
- BOARD RISK REPORTING
- RISK PROBABILITY-IMPACT MATRIX
- COMPREHENSIVE PORTFOLIO MANAGEMENT ANALYTICS
- FUND AND LIQUIDITY MANAGEMENT
- DERIVATIVES OVERLAYS
- VALUATION AND EXPOSURE MANAGEMENT
- KNOWLEDGE MANAGEMENT SYSTEM & INVESTMENT DATA WAREHOUSE
- CLIENT GUIDELINES COMPLIANCE

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Near Term Timeline of Activities



INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

How to Determine Success – Thru December 2023

PROJECTS PROGRESS	FIVE YEAR PLAN RETURNS BY POOL	EXPECTED RETURNS
	FIVE YEAR RETURN/RISK	0.35 SHARPE RATIO
	FIVE YEAR ACTIVE RETURN	0.30%
	FIVE YEAR ACTIVE RETURN/ACTIVE RISK	0.40
	DEFINITION OF RISK APPETITES	COMPLETED
	RISK AND ANALYTICS PLATFORM ASSESSMENT	COMPLETED
	PRODUCE MANAGER LEVEL ATTRIBUTION	COMPLETED
	FIRST PHASE PRODUCTION OF RISK ANALYSIS	COMPLETED



RISK ALLOCATION AND MANAGEMENT

Enhancing Investment Outcomes

INVESTMENT STAFF
MAY 2023

NORTH
Dakota
Be Legendary.

Retirement & Investment

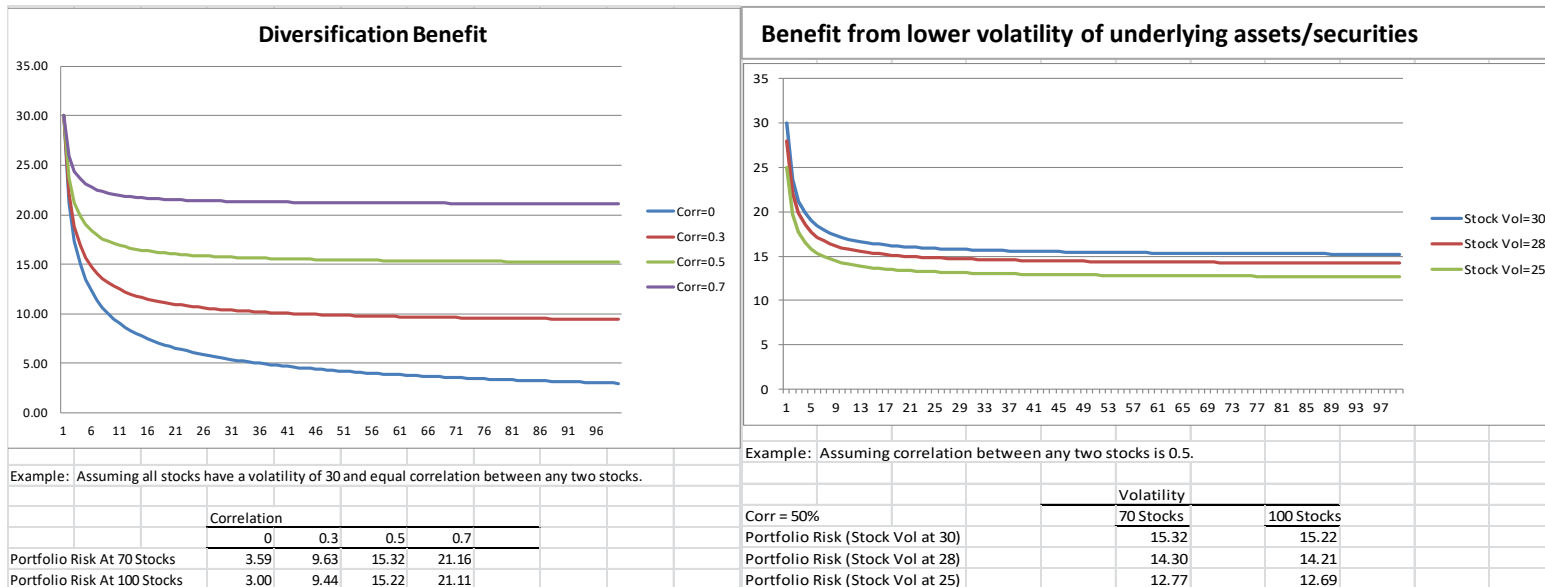
APPENDICES

Examples of Risk Value Proposition

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

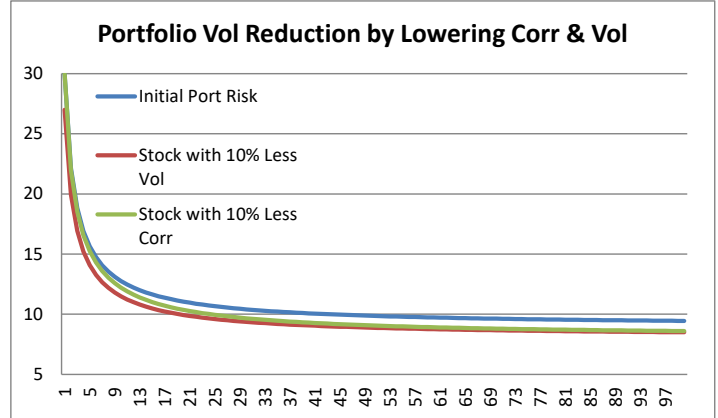
Enhancing Investment Outcomes

Example of Portfolio Construction: Achieving Lower Volatility



Portfolio Construction & Asset Allocation

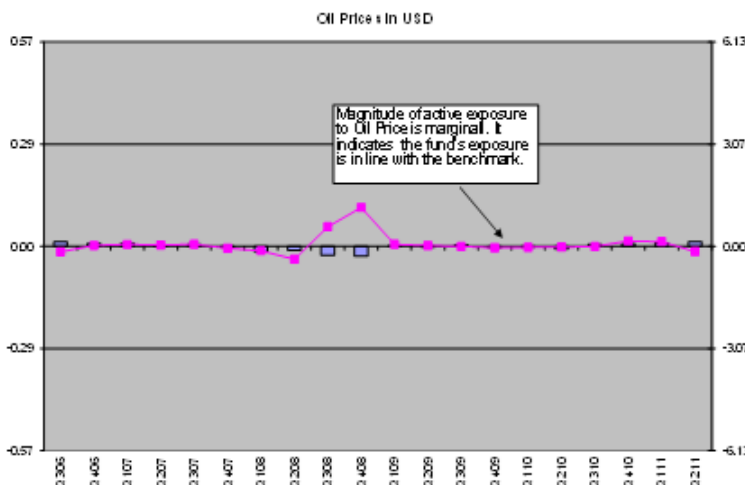
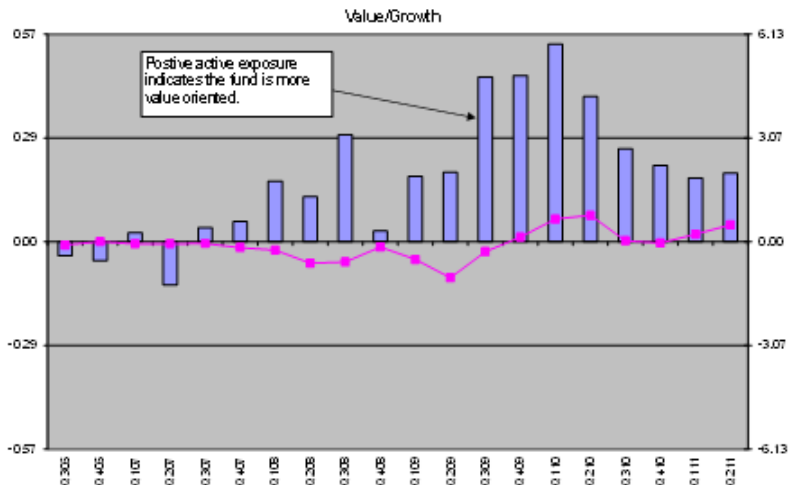
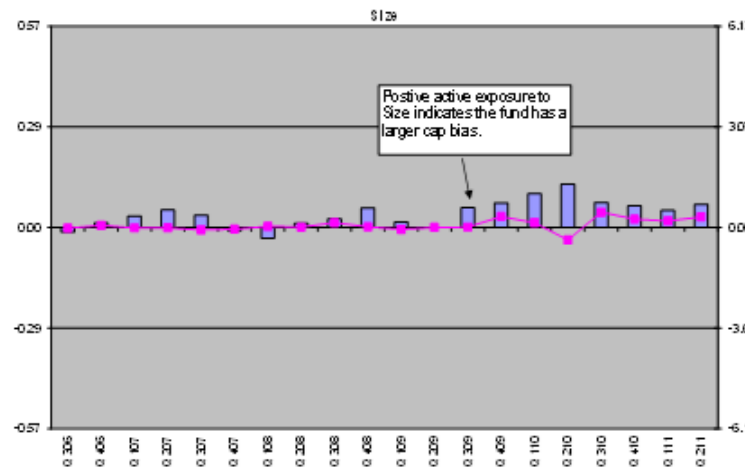
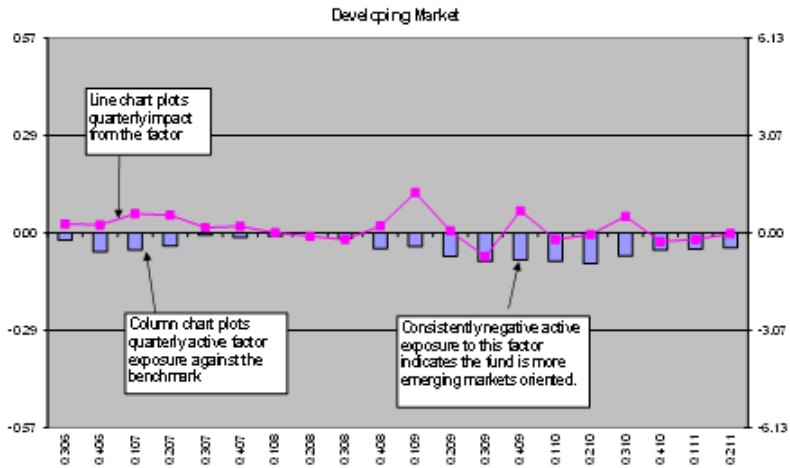
- Large number of managers/assets only reduces portfolio volatility marginally
- Low volatility of assets only marginally reduces portfolio volatility but matters more for concentrated portfolios
- Lower correlation has a bigger impact on reducing volatility



INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Enhancing Investment Outcomes

Example of Portfolio Construction and Manager Oversight: Factor Exposures and Impact Time Series



Portfolio Construction & Asset Allocation

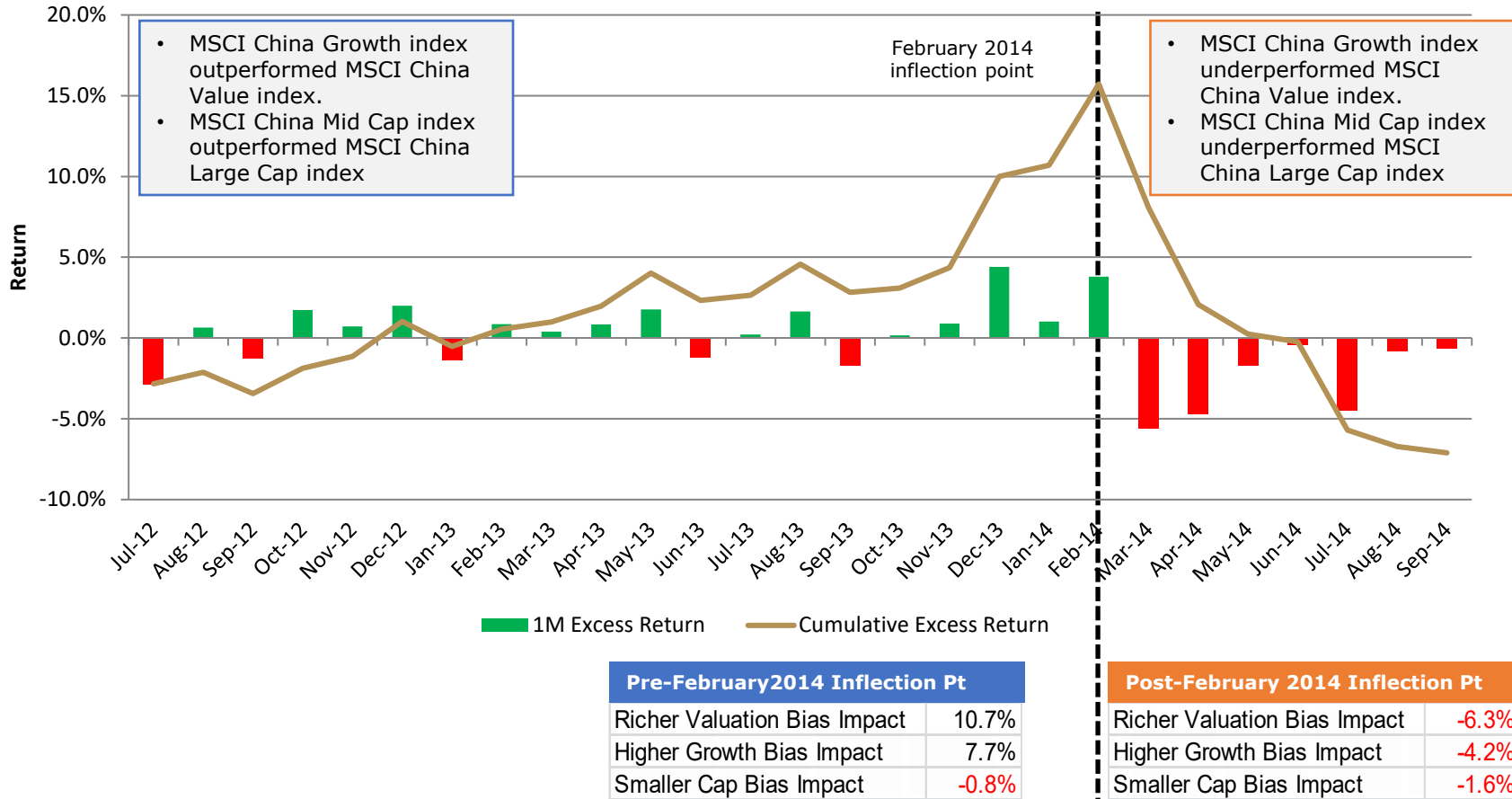
Investment Manager Assessment and Oversight

- What are the largest factor exposures?
- How have the exposures changed with time?
- Are these exposures expected for the portfolio? If not, should these exposures be changed?
- How have these exposures impacted performance?

INVESTMENTS: RISK ALLOCATION AND MANAGEMENT

Enhancing Investment Outcomes

Example of Manager Assessment and Oversight: Performance Analysis and Context of Market Dynamics

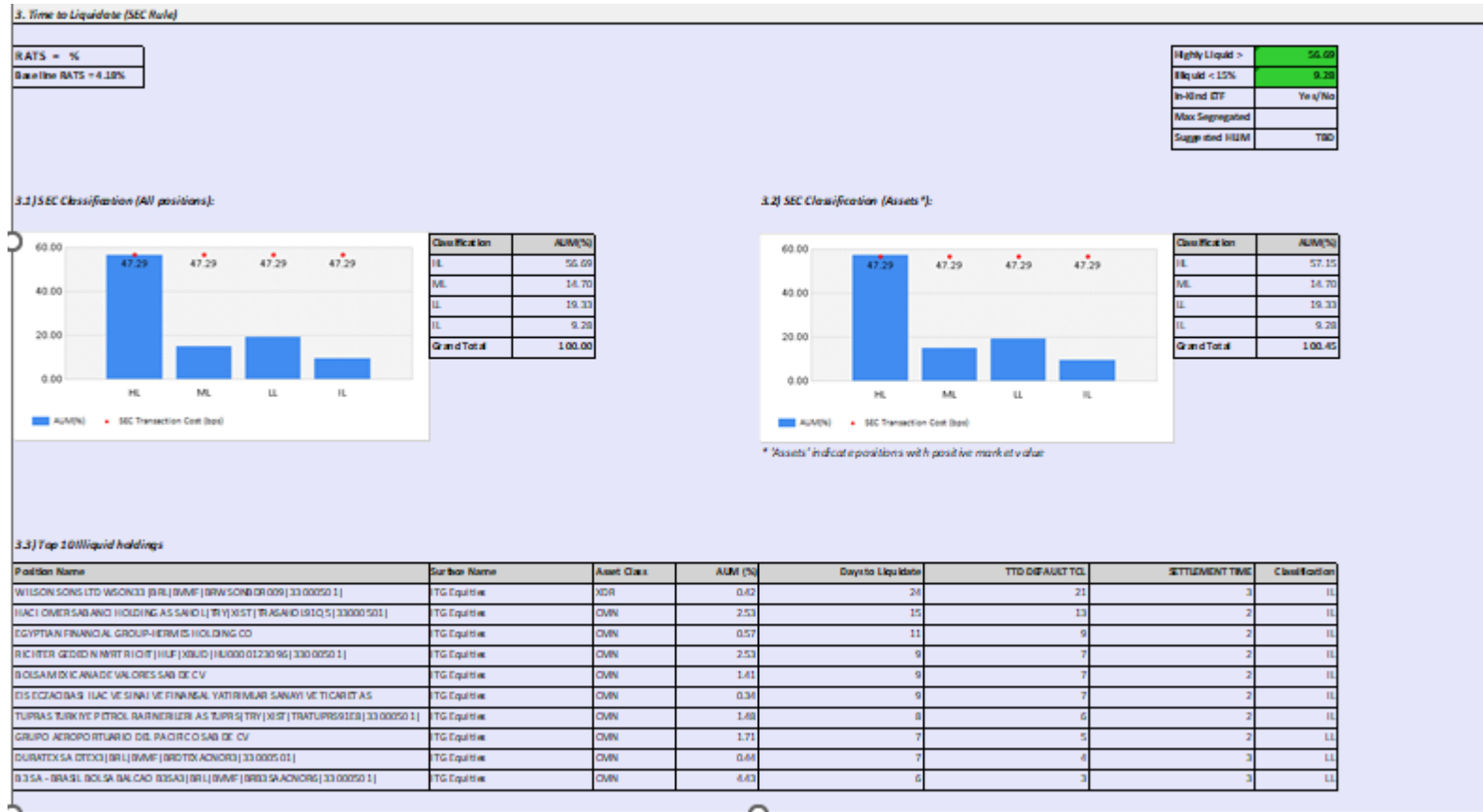


Note: These attribute impacts do not add up linearly and do not explain the entire underperformance.

Investment Manager Assessment and Oversight

- Was the performance in line with expectations given market dynamics?
- Did the clients understand the sources of return ?
- Was the level of relative return acceptable to the clients?

Example of Portfolio Structural Risk Monitoring: Liquidity Risk



Portfolio Structural Risk Monitoring

- Does the portfolio have the ability to withstand unexpected redemptions?
- Are any positions difficult to sell?
- Is any action needed to improve liquidity?



COUNTRY RISK MANAGEMENT

INVESTMENT STAFF
MAY 18, 2023

NORTH
Dakota
Be Legendary.

Retirement & Investment

UPDATE

1. Staff has implemented operational infrastructure and analytical resources to better manage country risk
 - a) Opening markets to facilitate separate accounts for international managers—separate accounts enables Staff to adjust country exposure quickly
 - b) Adding new research capabilities to assess geopolitical risk including BCA Research and Bloomberg's Country Risk Assessment Model
2. With U.S.-China geopolitical tensions rising, Staff recommended an interim portfolio solution to manage China exposure

MEMORANDUM

TO: State Investment Board

FROM: Sara Seiler, Supervisor of Internal Audit

DATE: May 12, 2023

SUBJECT: Quarterly Audit Activities Report

The SIB Audit Committee met on May 11, 2023. The SIB Audit Committee reviewed and approved the third quarter audit activities and an update on current audit activities.

The following were presented and approved:

1. June 30, 2023 Fiscal Year Financial Statement Audit Kickoff
 - a. Engagement Scope
 - RIO's Financial Statements as of June 30, 2023
 - TFFR's GASB 68 Schedules as of June 30, 2023
 - b. Workplan
 - Risked-Based Approach
 - Investments, Contributions, Benefit Payments, Actuarial Data
 - c. Timeline
 - Planning & Testing: May – September 2023
 - Final Audit Reports: October – November 2023
2. 2023-2024 Internal Audit Workplan
 - a. Allocate time to audits, consulting, and quality assurance
 - b. Fluid Workplan
 - Will be updated as needed
3. Internal Audit Business Process Review
 - a. Weaver & Tidwell, LLP presented final report:
 - Evaluated the maturity of the Internal Audit function
 1. Evaluated against the Institute of Internal Auditors Standards and International Professional Practices Framework
 - Developed future state roadmap
 - Discussed staffing and resource needs to increase Internal Audits maturity

The following link has the committee materials that were presented for your reference:

<https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Audit/Board/Materials/sibauditmat20230511.pdf>



North Dakota Retirement and Investment Office

*Internal Audit Maturity Assessment
April 2023*

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Appendix

ND RIO IA Future State Recommendations and Actions

Engagement Approach

Weaver evaluated the maturity of Internal Audit function for North Dakota Retirement and Investment Office (ND RIO) modeled after the International Professional Practices Framework (IPPF) developed by the Institute of Internal Auditors (IIA).

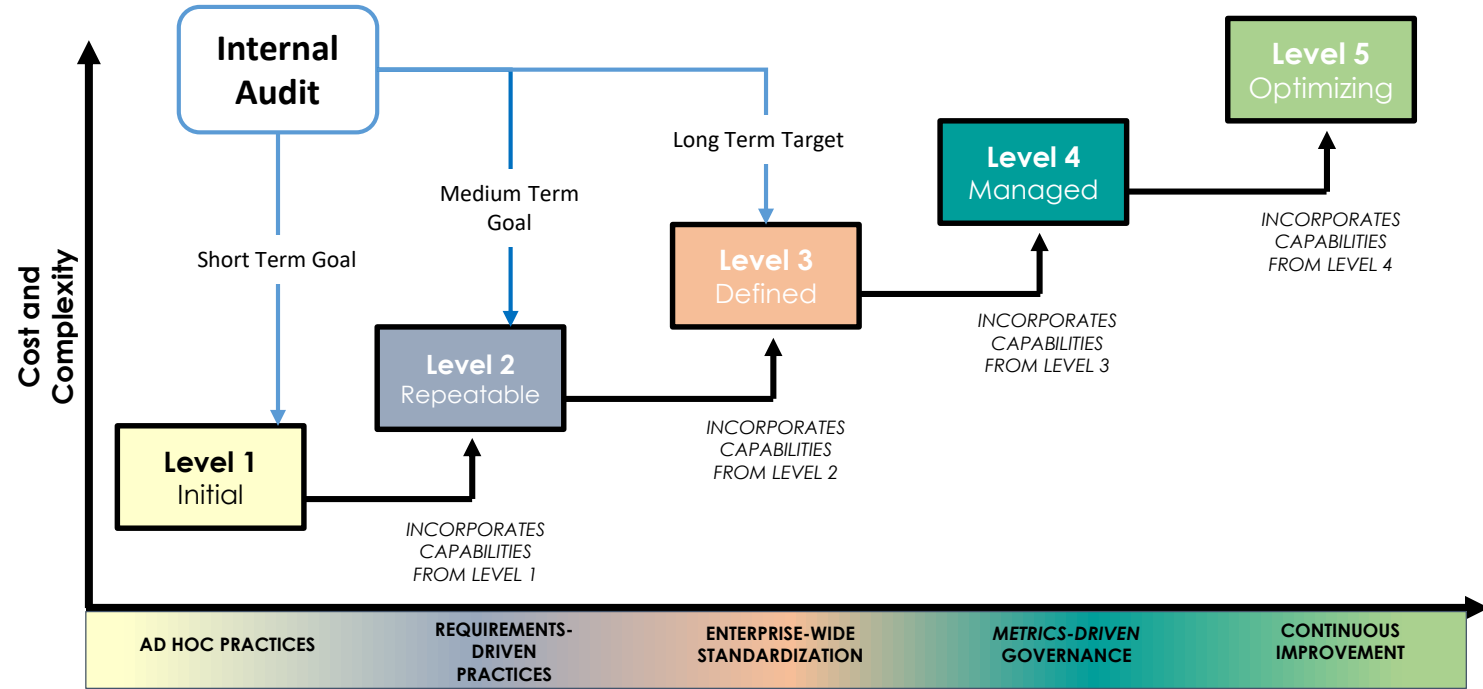
The primary purpose of the review was to show the current level of maturity of Internal Audit to inform a roadmap towards the future state on both a short and long term basis.

Our approach included:

- Evaluation of the Internal Audit program against IIA Standards and IPPF
 - 5 key components
 - 19 principles
 - 105 evaluation criteria
 - Standard requirements for an effective Internal Audit Program
- Set Goal and Target Maturity expectation with Management
- Interviews with key executives and Trustees
- Development of a future state roadmap of actions, benefits, challenges, and key implementation steps for Internal Audit to achieve their desired maturity levels on a short and long-term basis.

Internal Audit Maturity Goals and Target

Short Term Goal 6/30/23
 Medium Term Goal 6/30/24
 Long Term Target 6/30/25



Organizations should expect that moving from each level of maturity includes additional components of:

- Cost
- Complexity
- Advanced Business Practices

Summary of Results

Weaver's maturity assessment indicated that Internal Audit is operating within Initial with some progress into the Repeatable level, one of the early stages of maturity development. This is consistent with the expectations shared by ND RIO and Internal Audit leadership at the outset of the review. To successfully achieve the increased maturity levels for Internal Audit (IA), certain themes became evident as ND RIO seeks to mature the department

1. Understanding and Achieving Conformance with the IIA Standards and IPPF

IA has indicated within its Charter that it follows the Standards, but achieving this should be viewed as the long term goal by increasing the maturity of the department through implementing the recommended actions. IA would benefit from education and support to help achieve conformance.

2. Standardizing Internal Audit Processes

There is not a consistent approach to how audits are planned, executed, documented and reported. A hallmark of a mature Internal Audit function is consistency of approach and process when conducting Internal Audits to help ensure that the engagement approach is consistent and is appropriately structured to assess the design and effectiveness of controls, evidence review steps, and documented support for conclusions, regardless of the process being reviewed.

3. Internal Audit Independence

In prior years, portions of the IA department's work could be considered management or compliance work and not fully independent or objective from management due to resourcing and focus of the organization. The current leadership understands the importance of Audit Independence, and continued evolution of the department will be reliant on maintaining that distinction in the work IA conducts.

4. Staffing and Resources

As the functions evolve, so must their resources. This includes people, process, and technology. IA would benefit from additional training and obtaining IA specific certifications. IA would also benefit from the availability of co-sourcing or additional staffing to provide adequate audit coverage for ND RIO. As IA moves further into its future state, access to data, systems, and analytics will be needed to support the continued maturity growth. To accelerate their goals and target maturity levels, additional support resources should be considered to assist in developing procedures and enhancing competencies.

Weaver's assessment also identified specific **actionable opportunities** to accelerate Internal Audit's pace towards achieving their maturity goals and targets. Smaller IA functions typically face challenges that are not the same or occur more frequently than those in larger departments. Weaver's recommended actions have taken that into consideration.

1. Update the Internal Audit Charter to include a Code of Ethics and all other mandatory elements required by the Standards
2. Discontinue any management or compliance activities performed by IA and evaluate where previous work may have resulted in a conflict that impacts the independence of IA
3. Implement a structured, consistent, and recurring process-level risk assessment that covers the ND RIO organization to be used by IA for plan development
4. Implement a more robust risk-based audit planning process that focuses on the areas of highest risk and ensures risks identified during plan development are tied to achievement of the organization's strategic goals and objectives
5. Establish IA Continued Professional Education plan and training on Standards and encourage staff to seek Internal Audit specific certifications
6. Develop an IA Procedures manual and standard templates and checklists for audit engagements
7. Document the approach and reporting requirements for Consulting engagements
8. Implement a standard, consistent review process for Internal Audit fieldwork
9. Standardize IA reports and distribution lists
10. Update structure and supporting processes for issue tracking, reporting, and escalation of unacceptable risks
11. Utilize results of Internal Audit work to contribute to the improvement of ND RIO's risk management processes
12. Obtain resources to support competency requirements and the department maturity development and staffing needs outlined within the future state roadmap

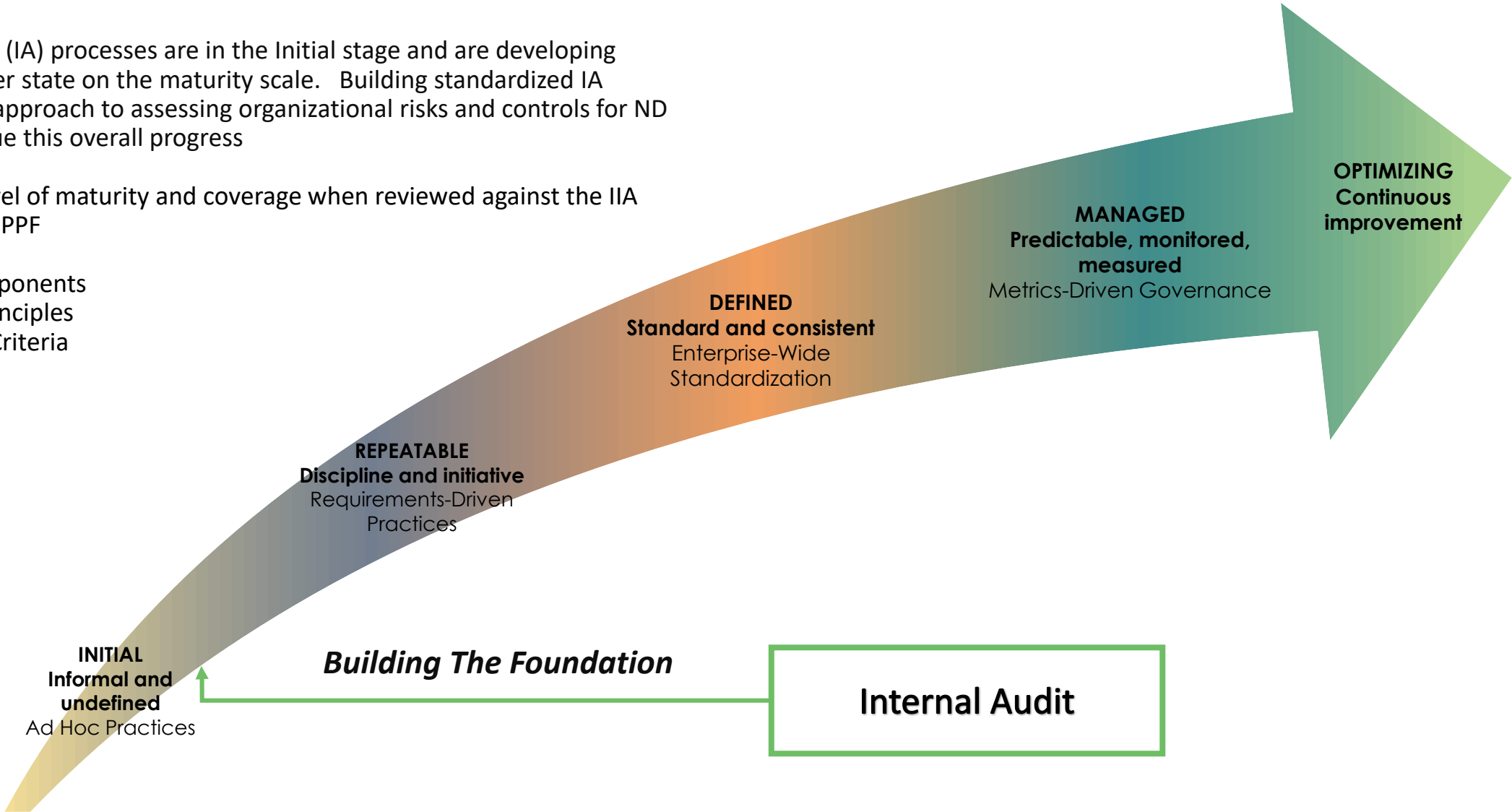
These actionable opportunities form the basis for a potential roadmap that includes specific actions, benefits, challenges and key implementation steps recommended to move Internal Audit towards increased program maturity. Detailed evaluations and recommended actions to progress towards the desired future state maturity levels for each principle in the framework were provided to ND RIO.

Current State Maturity Assessment

Internal Audit's (IA) processes are in the Initial stage and are developing towards a higher state on the maturity scale. Building standardized IA processes and approach to assessing organizational risks and controls for ND RIO will continue this overall progress

IA has some level of maturity and coverage when reviewed against the IIA Standards and IPPF

- 5 of 5 Components
- 19 of 19 Principles
- 99 of 105 Criteria



Internal Audit Maturity Model

Elements and Principles

The Maturity Assessment was based on the Institute of Internal Audit’s International Professional Practices Framework (IPPF), which are principle-focused and provide a framework for performing and promoting internal auditing.

ELEMENTS				
International Professional Practices Framework				
Standards 1000,1100,3000*	Standards 1200,1300	Standards 2000,2100	Standards 2200,2300	Standards 2400,2500,2600
Authority, Independence and Objectivity	Proficiency and Quality	Management and Nature of Work	Engagement Planning and Execution	Reporting and Communications
PRINCIPLES				
Structure of Internal Audit Charter	Competency	Management, Policies and Procedures	Internal Audit Engagement Planning	Reporting Results of Internal Audit Engagements
Conformance with Code of Ethics	Due Professional Care Assurance and Technology Proficiency	Governance and Evaluation of Risk	Engagement Scope and Objectives	Reporting Errors and Non-Conformance
Independence and Reporting Lines	Quality Assurance Program	Annual Risk Assessments	Engagement Execution and Supervision	Reporting Final Results and Audit Opinions
Objectivity and Conflicts of Interest	Communication of QAP and non-conformance	Internal Audit Plan		Tracking, Reporting and Disposition of Issues

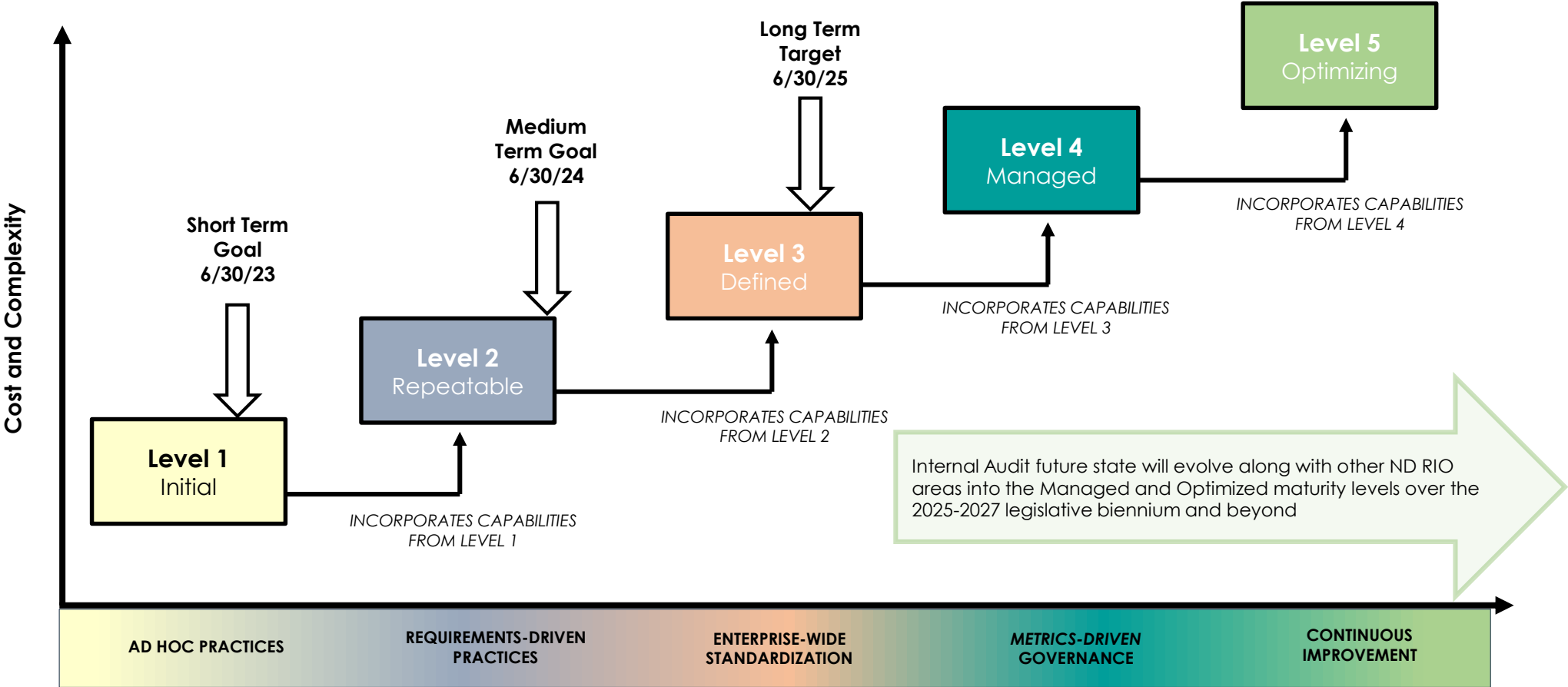
* 3000 – IIA Code of Ethics

COMPONENTS 5	PRINCIPLES 19	CRITERIA 105
------------------------	-------------------------	------------------------

ND RIO - Internal Audit

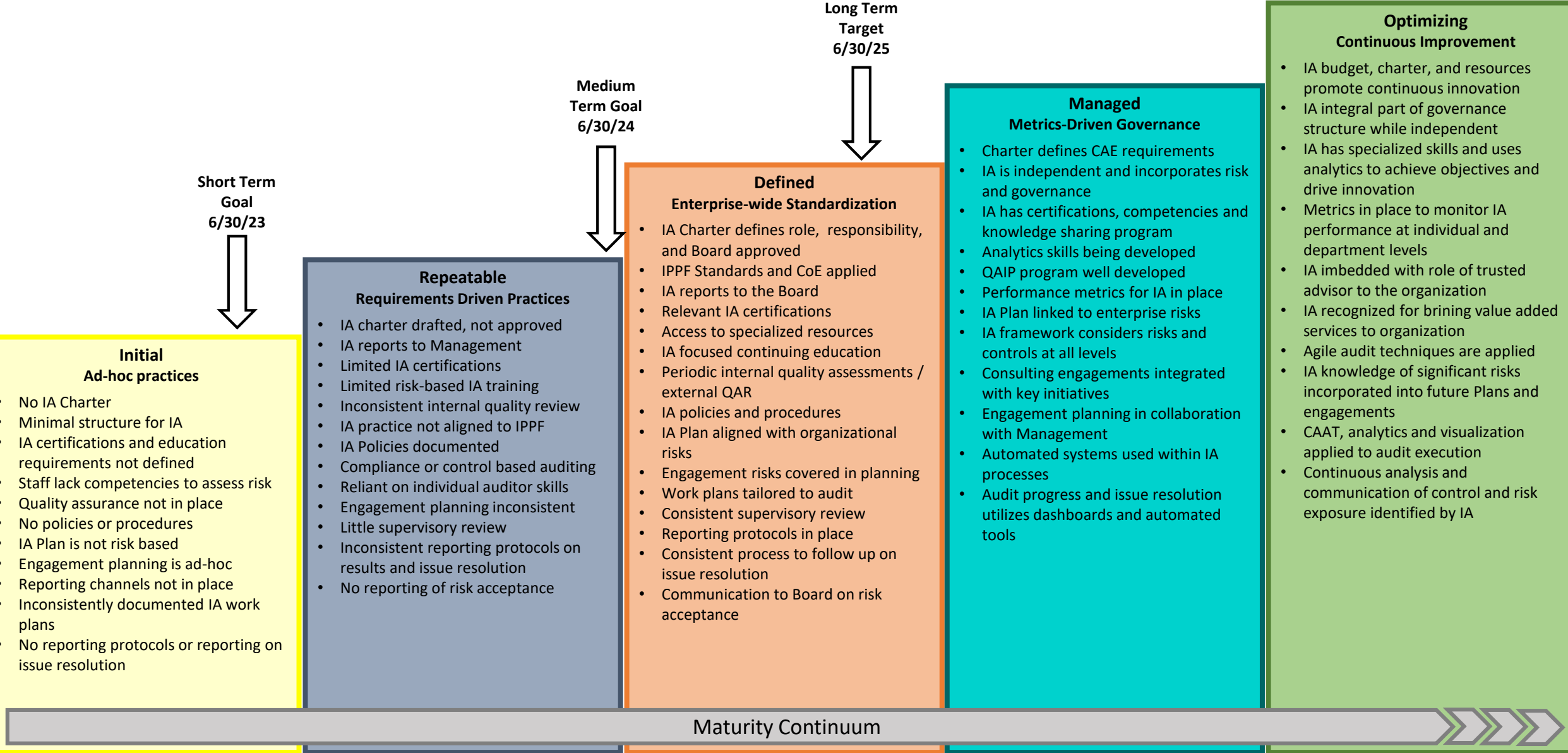
Maturity Goals and Target Future State

Internal Audit (IA) has set the following short, medium and long term maturity goals and target for the department to inform the future state roadmap based on Weaver’s recommendations. The recommendations will be leveraged to help IA build a structured plan for their future state development.



ND RIO - Internal Audit Maturity Scales

The below scale provides the definitions used in the Internal Audit Assessment for ND RIO. It is modeled using the CMM assessment and IIA Standards framework.



Initial
Ad-hoc practices

- No IA Charter
- Minimal structure for IA
- IA certifications and education requirements not defined
- Staff lack competencies to assess risk
- Quality assurance not in place
- No policies or procedures
- IA Plan is not risk based
- Engagement planning is ad-hoc
- Reporting channels not in place
- Inconsistently documented IA work plans
- No reporting protocols or reporting on issue resolution

Repeatabe
Requirements Driven Practices

- IA charter drafted, not approved
- IA reports to Management
- Limited IA certifications
- Limited risk-based IA training
- Inconsistent internal quality review
- IA practice not aligned to IPPF
- IA Policies documented
- Compliance or control based auditing
- Reliant on individual auditor skills
- Engagement planning inconsistent
- Little supervisory review
- Inconsistent reporting protocols on results and issue resolution
- No reporting of risk acceptance

Defined
Enterprise-wide Standardization

- IA Charter defines role, responsibility, and Board approved
- IPPF Standards and CoE applied
- IA reports to the Board
- Relevant IA certifications
- Access to specialized resources
- IA focused continuing education
- Periodic internal quality assessments / external QAR
- IA policies and procedures
- IA Plan aligned with organizational risks
- Engagement risks covered in planning
- Work plans tailored to audit
- Consistent supervisory review
- Reporting protocols in place
- Consistent process to follow up on issue resolution
- Communication to Board on risk acceptance

Managed
Metrics-Driven Governance

- Charter defines CAE requirements
- IA is independent and incorporates risk and governance
- IA has certifications, competencies and knowledge sharing program
- Analytics skills being developed
- QAIP program well developed
- Performance metrics for IA in place
- IA Plan linked to enterprise risks
- IA framework considers risks and controls at all levels
- Consulting engagements integrated with key initiatives
- Engagement planning in collaboration with Management
- Automated systems used within IA processes
- Audit progress and issue resolution utilizes dashboards and automated tools

Optimizing
Continuous Improvement

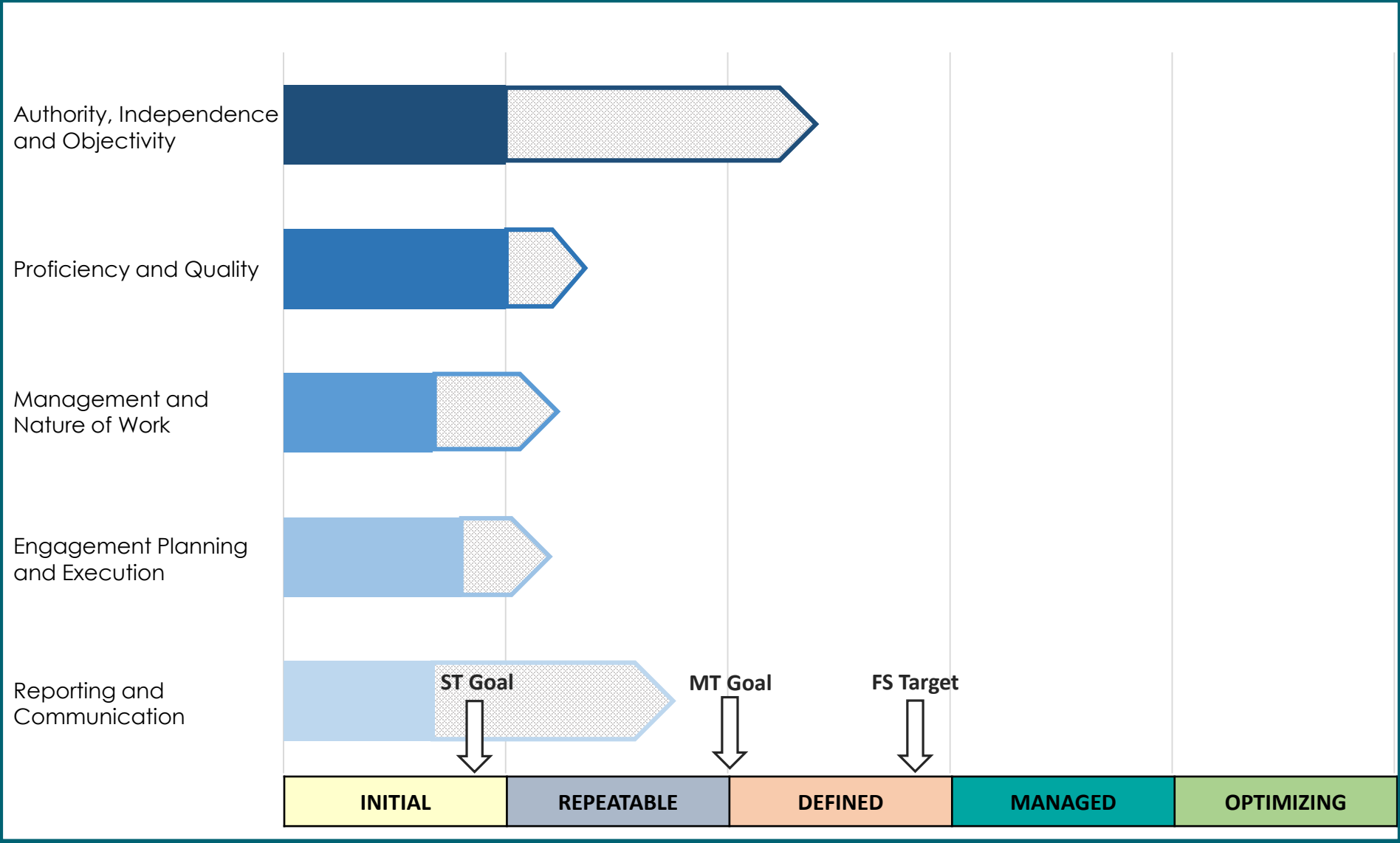
- IA budget, charter, and resources promote continuous innovation
- IA integral part of governance structure while independent
- IA has specialized skills and uses analytics to achieve objectives and drive innovation
- Metrics in place to monitor IA performance at individual and department levels
- IA imbedded with role of trusted advisor to the organization
- IA recognized for brining value added services to organization
- Agile audit techniques are applied
- IA knowledge of significant risks incorporated into future Plans and engagements
- CAAT, analytics and visualization applied to audit execution
- Continuous analysis and communication of control and risk exposure identified by IA

ND RIO Internal Audit

Overall Maturity Achievement

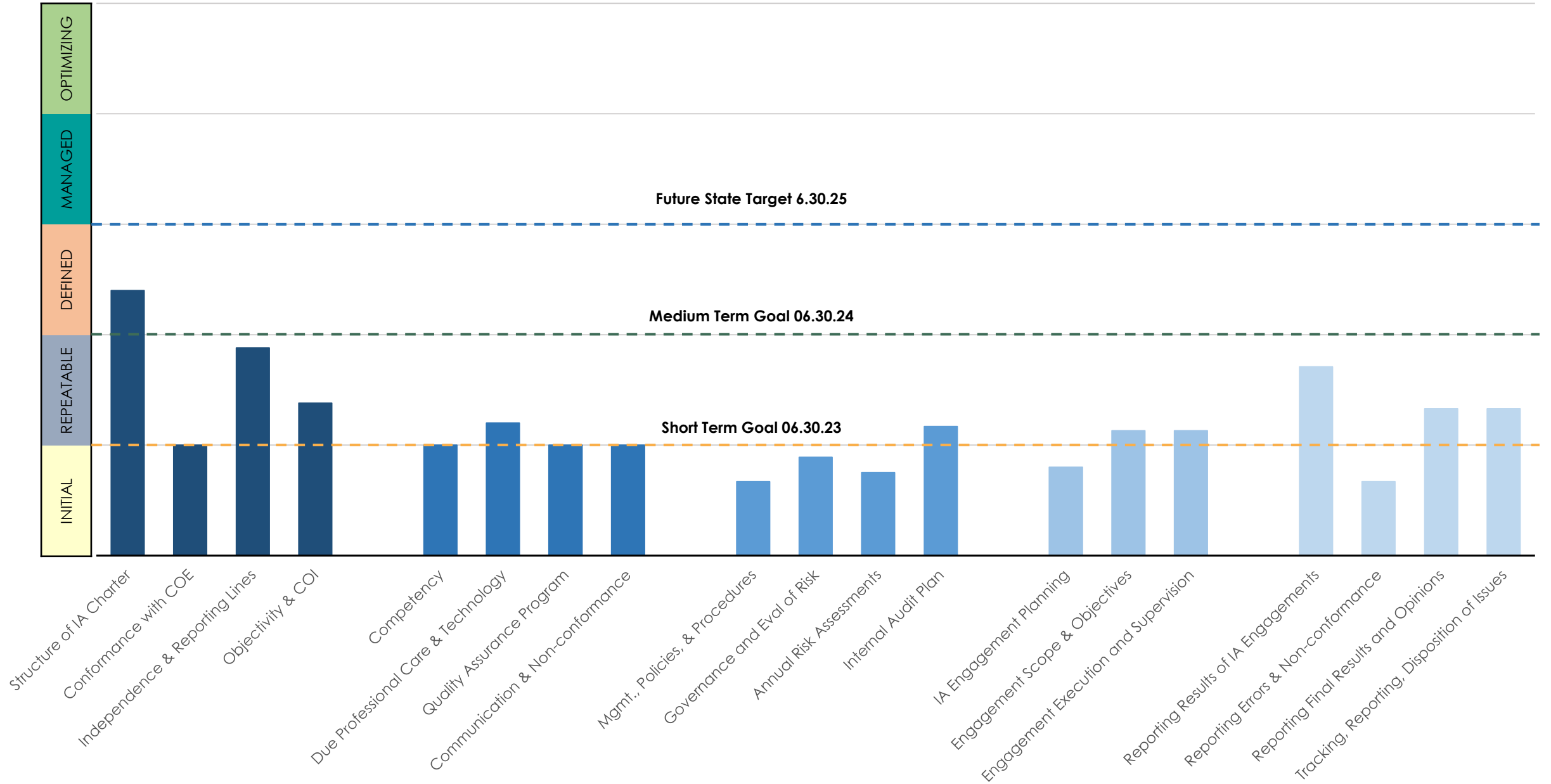
The graphic at right highlights the current overall status of the Internal Audit program, together with the maturity goals and target for the program.

Furthermore, the image depicts the level of progress toward achieving the **next highest maturity level** for each component.



ND RIO – Internal Audit Assessment Results

The chart represents Internal Audit’s maturity across the required Elements of the IIA Standards



Staffing and Resources

Weaver accelerated the review of staffing resources needed for Internal Audit, and the following recommendations were presented to the State Investment Board Audit Committee in February 2023.

1. Using Weaver's standard model for co-sourcing of Internal Audit for government agencies, ND RIO is showing a shortfall in anticipated audit hours. The 6,000 hour benchmark was established based on historical engagements with similar agencies and provides an organization approximately 6-8 internal audits each year.
2. The Internal Audit team as currently structured does not appear to have the capacity to meet the typical Internal Audit Plan, when accounting for the functional responsibilities of the Audit Supervisor as the Head of Audit.
3. Government agencies typically address these shortfalls through a combination of:
 - Additional Headcount
 - External Resources (Co-source, Loan Staff)

Additional Resource Considerations

- ▶ The proposed plan to internalize the investment process will add additional complexity to the Internal Audit risk assessment, audit planning, and the audits being conducted.
- ▶ Weaver anticipates a number of additional activities recommended for Internal Audit as part of their future state development to continue their path towards becoming an efficient, mature function for ND RIO.
- ▶ Internal Audit needs additional resources in order to meet current audit plan requirements and be positioned to conduct future audit work, especially related to investment internalization
 - Additional training in investments products, audit procedures and required controls.
 - External assistance to provide advice and guidance as well as build and begin executing an audit plan focused on investments.
 - Additional junior level auditor(s) to conduct routine audit work that would allow the Audit Supervisor to focus on management responsibilities.
 - An external resource such as a firm with professional practices experience to assist Internal Audit in enhancing its operating practices and processes while allowing it to continue progress against the current audit plan and other responsibilities.

ND RIO Staffing Model Assessment

One Full Time Equivalent (FTE) Auditor	Hours
Total Annual Hours Available	2,080
Less Hours For:	
Vacation and Sick Leave	(160)
State Holidays (11)	(88)
Continuing Professional Education	(40)
Administrative Duties	(192)
Total Annual Hours Per Auditor	1,600

Total Annual Hours Available by Role

Associate	100%	1,600
Senior Auditor(a)	90%	1,440
Head of Audit(b)	50%	800
ND RIO Internal Audit Expected Hours		2,240

(a) Dorothy Thorsen

(b) Sara Seiler

Weaver's Co-Sourcing Resource Model

Expected Audit Hours Annually	6,000
ND RIO Available Hours	2,240
Hours Shortfall	3,760
FTE Shortfall (Associate level)	2.4

ND RIO Annual Plan

ND Internal Audit Plan	4,160
ND RIO Available Hours	2,240
Audit Hours Shortfall	1,920
FTE Shortfall (Associate level)	1.2

Engagement Team



Alyssa Martin, CPA
Engagement Partner



Bruce Mills, CIA, CFE
Engagement Lead



Nancy Tomassone
Senior Advisor



Holly Hart, CPA, CIA
Manager

MEMORANDUM

TO: SIB
FROM: Jan Murtha, Executive Director
DATE: May 12, 2023
RE: Executive Limitations/Staff Relations

Ms. Murtha will provide a verbal update at the meeting on staff relations and strategic planning. Including updates on the following topics:

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

All RIO positions, including internships, have been filled. An update on new FTE's awarded as a result of the 2023 legislative session will be provided at the July SIB meeting.

II. Current Project Activities/Initiatives:

- **TFFR Pioneer Project** – The TFFR Pioneer Project continues with implementation consistent with the project plan. Currently the project is in an elaboration phase involving review of system components. The amount of time spent on the project by various staff members currently varies from 5 to 25 hours or more per week.
- **TFFR Actuary RFP** – The TFFR Board awarded its actuary services contract to GRS.
- **Legacy Fund Asset Allocation Study** – RVK continues its work on the Legacy Fund Asset Allocation Study. It is anticipated that RVK will present to the Advisory Board in June 2023 to review recommendations for updates to the Legacy Fund asset allocation and discuss a pacing schedule.
- **Northern Trust Initiative** – In an effort to enhance the infrastructure for the investment program the Investment and Fiscal teams continues to coordinate with Northern Trust for additional functionality/capabilities.
- **Audit Consultant Report:** Weaver Consulting presented its final report and recommendations to the SIB Audit Committee in May. The report included identification of Internal Audit's current business state, desired future business state, and intermediate steps to achieve the desired future state. The IA division will be working on a project plan to present to the Audit committee in August to implement these recommendations.

III. Board & Committee Presentations April 28, 2023 through May 18, 2023

Staff provided or is scheduled to provide the following presentations to Boards and Committees during the above referenced time period:

- **TFFR GPR Committee – 5/9/23**
- **SIB Audit Committee – 5/11/23**
- **SIB Investment Committee – 5/12/23**
- **SIB Executive Review and Compensation Committee – 5/16/23**
- **SIB GPR Committee – 5/18/23**
- **SIB meeting – 5/18/23**

IV. New Board Members and Board Member Onboarding

As a result of H.B. 1088 and an amendment to the S.B. 2015 (OMB Budget bill) relating to the PERS Board during the legislative session the composition of the State Investment Board membership will significantly change. Once the individuals that will be serving on the SIB have been identified RIO staff will reach out to these new members to schedule onboarding meetings with them. The SIB GPR committee is working with staff to update and enhance the new board member onboarding process and curriculum. An update on these activities will be provided at the July SIB meeting. Resolutions for exiting board members not previously recognized will also be presented at the July SIB meeting.

BOARD ACTION REQUESTED: Board Acceptance.

ND State Investment Board Resolution
In Appreciation of
Claire Ness

WHEREAS, Deputy Attorney General Claire Ness has served as a PERS Trustee representative of the State Investment Board since 2022; and

WHEREAS, Ms. Ness has diligently carried out her duties and responsibilities as a member of the SIB and fiduciary of the SIB Program; and

WHEREAS, Ms. Ness has been a valued and dedicated member of the SIB in helping maintain the integrity and stability of the SIB Program.

NOW THEREFORE, BE IT RESOLVED that Ms. Ness be duly recognized by the SIB for her unselfish dedication to the State of North Dakota through her service on the State Investment Board.

DATED this 18th day of May 2023

On Behalf of the SIB

Lt. Governor Tammy Miller, Chair

Votes

Date

ND State Investment Board Resolution
In Appreciation of
Yvonne Smith

WHEREAS, Yvonne Smith has served as a PERS Trustee representative of the State Investment Board since 2014; and

WHEREAS, Ms. Smith has diligently carried out her duties and responsibilities as a member of the SIB and fiduciary of the SIB Program; and

WHEREAS, Ms. Smith has been a valued and dedicated member of the SIB in helping maintain the integrity and stability of the SIB Program.

NOW THEREFORE, BE IT RESOLVED that Ms. Smith be duly recognized by the SIB for her years of unselfish dedication to the State of North Dakota through her service on the State Investment Board.

DATED this 18th day of May 2023

On Behalf of the SIB

Lt. Governor Tammy Miller, Chair

Votes

Date

ND State Investment Board Resolution
In Appreciation of
Mel Olson

WHEREAS, Mel Olson has served as a TFFR Trustee representative of the State Investment Board since 2015; and

WHEREAS, Mr. Olson has diligently carried out his duties and responsibilities as a member of the SIB and fiduciary of the SIB Program; and

WHEREAS, Mr. Olson has been a valued and dedicated member of the SIB in helping maintain the integrity and stability of the SIB Program.

NOW THEREFORE, BE IT RESOLVED that Mr. Olson be duly recognized by the SIB for his years of unselfish dedication to the State of North Dakota through his service on the State Investment Board.

DATED this 18th day of May 2023

On Behalf of the SIB

Lt. Governor Tammy Miller, Chair

Votes

Date