

Friday, September 27, 2024, 8:30 a.m.
WSI Board Room (In-Person), 1600 E Century Ave, Bismarck, ND
[Click here to join the meeting](#)

AGENDA

I. CALL TO ORDER AND ACCEPTANCE OF AGENDA - (Board Action)

- A. Pledge of Allegiance
- B. Conflict of Interest Disclosure
- C. Introduction of new staff
- D. Executive Summary

II. ACCEPTANCE OF MINUTES (July 26, 2024) – (Board Action)

III. EDUCATION (45 minutes) – (Information)

- A. AI State Policy and Practices – Ms. Weis & Ms. Baber, NDIT
- B. AI Application in Investment – Mr. Posch, Mr. Anderson

IV. INVESTMENTS (60 minutes)

- A. Quarterly & Annual Performance Update (Board Action) – Mr. Gesell, Verus
- B. Internal Investment Initiative Update (Information) – Mr. Anderson
- C. SIB Client Update (Information) – Mr. Skor

(Break)

V. GOVERNANCE (45 minutes)

- A. Investment Committee Update (Information) – Treasurer Beadle, Mr. Anderson
 - 1. Asset Allocation Consultant (Board Action)¹ - Mr. Anderson
- B. Governance & Policy Review Committee Update (Information) – Dr. Lech, Ms. Murtha
 - 1. Audit Charters (Board Action) – Treasurer Beadle
- C. Audit Committee Update (Information) – Treasurer Beadle
- D. Securities Litigation Committee Update (Information) – Commissioner Heringer, Ms. Murtha

VI. QUARTERLY MONITORING REPORTS (30 minutes) – (Board Action)

- A. Executive Limitations/Staff Relations Report – Ms. Murtha
- B. Annual Technology Report – Ms. Michele Blumhagen, NDIT
- C. Annual Internal Audit Activities Report – Ms. Thorsen
- D. Quarterly Budget/Fiscal Conditions Report – Mr. Skor

VII. OTHER

Next Meetings:

Investment Committee – October TBD

SIB Meeting – October 25, 2024, at 8:30 a.m.

VIII. ADJOURNMENT

¹ Executive Session pursuant to N.D.C.C. 44-04-19.2 and 44-04-18.4(6)(b) to discuss exempt proposal procurement information during a competitive bidding process.

EXECUTIVE SUMMARY

SIB Regular Meeting

September 27, 2024 – 8:30 a.m. CT

- I. **Agenda: The September Board Meeting will be held at the WSI Conference room to accommodate in person attendance; however, a link will also be provided so that Board members and other attendees may join via video conference.**
 - Attendees are invited to join the Board Chair in the Pledge of Allegiance.
 - Conflict of Interest Disclosure: For best practice board members are asked to review the agenda and note any potential conflicts of interest for an item in advance of or at the start of the meeting. Conflicts can be documented using the following form: [Conflict of Interest Disclosure Form 8 17 2022 .pdf \(nd.gov\)](#)
 - Ms. Murtha will introduce new staff members to the board.
- II. **Minutes (Board Action):** The July 26, 2024, Board meeting minutes are included for review and approval.
- III. **EDUCATION**
 - A. **AI State Policy and Practices (Information):** Ms. Weiss, Chief Data and Analytics Officer at NDIT will present on the development of a policy regarding the use of artificial intelligence by state agencies as well as highlight opportunities for its application.
 - B. **AI Application in Investment (Information):** Mr. Anderson and Mr. Posch will present on opportunities for leveraging AI in support of investment activities.
- IV. **INVESTMENTS**
 - A. **Performance Update (Board Action):** A representative from Verus will present year end investment performance for board acceptance.
 - B. **Internal Investment Initiative Update (Information):** CIO Anderson will provide the Board with an update on current activities related to implementation of the internal investment initiative.
 - C. **SIB Client Update (Information):** Mr. Skor will provide the board with the status of client onboarding and offboarding activities.
- V. **GOVERNANCE**
 - A. **Investment Committee Update (Information Only):** The Committee Chair and Mr. Anderson will provide an update on recent committee activities.
 1. **Asset Allocation Consultant (Board Action):** An executive session is needed under N.D.C.C. 44-04-19.2 and 44-04-18.4(6)(b) to discuss exempt proposal procurement information during a competitive bidding process.
 - B. **GPR Committee Update (Information):** The committee Chair and Ms. Murtha will provide the Board with an update on committee activities.
 1. **Audit Committee Charters (Board Action):** The Audit and GPR committees recommend approval of proposed amendments to the audit committee charter and the internal audit program charter.

- C. Audit Committee Update (Information):** The committee Chair and Ms. Seiler will provide the Board an update on recent committee activities.
- D. Securities Litigation Committee Update (Information):** The committee Chair and Ms. Murtha will provide the Board with an update on committee activities.
- VI. Reports (Board Action):** Staff will provide monitoring reports for executive limitations/ staff relations, annual technology report, annual internal audit activities report, and quarterly budget and fiscal conditions report.

Adjournment.

**NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
JULY 26, 2024, BOARD MEETING (IN-PERSON)**

MEMBERS PRESENT:

Tammy Miller, Lt. Governor, Chair
Thomas Beadle, State Treasurer, Parliamentarian
Rep. Glenn Bosch, LBSFAB
Mike Burton, TFFR Board Alternate
Joseph Heringer, Commissioner of Univ. & School Lands
Pete Jahner, Investment Professional
Sen. Jerry Klein, LBSFAB
Cody Mickelson, TFFR Board
Adam Miller, PERS Board
Joe Morrisette, PERS Board
Dr. Prodosh Simlai, Investment Professional
Susan Sisk, Director of OMB
Art Thompson, Director of WSI

MEMBERS ABSENT:

Dr. Rob Lech, TFFR Board, Vice Chair

STAFF PRESENT:

Scott M. Anderson, CIO
Eric Chin, Deputy CIO
Derek Dukart, Senior Investment Analyst
Jennifer Ferderer, Fiscal/Investment Admin.
Rachel Kmetz, Fiscal/Investment Operations Mgr.
Missy Kopp, Exec. Assistant
George Moss, Portfolio Mgr
Sarah Mudder, Communications/Outreach Dir.
Jan Murtha, Exec. Dir.
Matt Posch, Portfolio Mgr
Emmalee Riegler, Procurement/Records Coord.
Chad Roberts, DED/CRO
Sara Seiler, Internal Audit Supvr.
Ryan Skor, CFO/COO
Dottie Thorsen, Internal Auditor
Nitin Vaidya, Chief Risk Officer
Tami Volkert, Compliance Spec.
Susan Walcker, Sr. Financial Accountant
Jason Yu, Risk Officer
Lance Zietlow, Portfolio Mgr

GUESTS:

Dean DePountis, Attorney General's Office
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, July 26, 2024. The meeting was held in the Workforce Safety and Insurance Board Room, 1600 E Century Ave., Bismarck, ND.

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

ACCEPTANCE OF AGENDA:

The Board considered the agenda for the July 26, 2024, meeting.

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

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

NAYS: NONE

ABSENT: DR. LECH

MOTION CARRIED

MINUTES:

The Board considered the minutes of the May 17, 2024, SIB meeting.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY MR. THOMPSON AND CARRIED BY A VOICE VOTE TO APPROVE THE MAY 17, 2024, MINUTES AS DISTRIBUTED.

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

NAYS: NONE

ABSENT: DR. LECH

MOTION CARRIED

ELECTION OF OFFICER & COMMITTEE APPOINTMENTS:

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY SEN. KLEIN TO NOMINATE LT. GOV. MILLER AS CHAIR OF THE SIB.

IT WAS MOVED BY MS. SISK AND SECONDED BY TREASURER BEADLE TO NOMINATE DR. LECH AS VICE CHAIR OF THE SIB.

THE NOMINATION SLATE WAS CARRIED BY A ROLL CALL VOTE.

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

NAYS: NONE

ABSENT: DR. LECH

MOTION CARRIED

Lt. Gov. Miller appointed Treasurer Beadle as the Parliamentarian.

IT WAS MOVED BY MR. MILLER AND SECONDED BY MR. THOMPSON AND CARRIED BY A ROLL CALL VOTE TO APPOINT TREASURER BEADLE, MR. MICKELSON, MR. MILLER, MR. VAN ORMAN, AND MS. CASHMAN TO THE SIB AUDIT COMMITTEE.

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

NAYS: NONE

ABSENT: DR. LECH

MOTION CARRIED

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY MS. SISK AND CARRIED BY A ROLL CALL VOTE TO APPOINT DR. LECH, TREASURER BEADLE, AND MS. SISK TO THE SIB GOVERNANCE AND POLICY REVIEW COMMITTEE.

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

NAYS: NONE

ABSENT: DR. LECH

MOTION CARRIED

Lt. Gov. Miller appointed Dr. Lech, Treasurer Beadle, and Sen. Klein to the Executive Review and Compensation Committee (ERCC).

Lt. Gov. Miller appointed Treasurer Beadle, Commissioner Heringer, Dr. Simlai, Mr. Jahner, Mr. Anderson, and Mr. Chin to the Investment Committee (IC) with Treasurer Beadle as Chair and Commissioner Heringer as Vice Chair.

Lt. Gov. Miller appointed Commissioner Heringer, Mr. Morrisette, and Mr. Thompson to the Securities Litigation Committee.

EDUCATION:

Investment Performance Metrics:

Mr. Anderson provided information regarding how performance return and risk is calculated including how to interpret performance reports to determine whether an investment program is meeting or exceeding its investment performance goals. Board discussion followed.

INVESTMENTS:

Staff Quarterly Performance Update:

Mr. Anderson reviewed market performance as of March 31, 2024, and July 16, 2024. The discussion included inflation and its effects on the markets. Mr. Anderson reviewed performance for PERS, TFFR, Legacy Fund, and WSI. Mr. Anderson discussed the consultant strategy that was approved by the Board. Staff have engaged with all the identified consultants except for an allocation consultant. A Request for Information (RFI) was issued. Working with an allocation consultant will provide the opportunity to unify asset allocations to simplify implementation. Mr. Anderson reviewed information from pension fund level studies on actuarial experience, asset/liability, and asset allocation studies and summarized the advantages of retaining an asset allocation consultant. Board discussion followed.

IT WAS MOVED BY MR. BURTON AND SECONDED BY TREASURER BEADLE AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY INVESTMENT PERFORMANCE UPDATE.

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

NAYS: NONE

ABSENT: DR. LECH

MOTION CARRIED

Internal Investment Initiative Update:

Mr. Anderson provided an update on the progress of the internal investment initiative. The hiring process for the internal team is progressing. The equity positions were filled internally, and staff is in the interview process for the Portfolio Manager of Fixed Income. The order/portfolio management system vendor negotiation is underway, and Weaver was hired as an independent compliance consultant for the investment program. Board discussion followed.

Rep. Bosch left the meeting at 10:31 a.m.

The Board recessed at 10:31 a.m. and reconvened at 10:48 a.m.

GOVERNANCE:

Investment Committee (IC) Update:

Treasurer Beadle provided an update from the June 14, 2024, and July 10, 2024, IC meetings. At the June meeting, the IC interviewed firms for the investment compliance services and had the initial conversation on the asset allocation consultant. At the July meeting, the IC received an update on the private market strategy and an update regarding the asset allocation consultant search process. A special IC meeting will be held in August for finalist interviews so that a recommendation to approve can be brought to the SIB. Board discussion followed.

Annual Governance and Policy Review (GPR) Committee Report:

Treasurer Beadle reviewed the GPR Committee Annual Report. The Committee reviewed the governance manual, and the Board approved the updated manual in May. The updated manual is available on the RIO website. The review completed by the Committee and subsequent approval by the SIB fulfills the requirement to do an annual review of the Board's governance and policies. Board discussion followed.

IT WAS MOVED BY COMMISSIONER HERINGER AND SECONDED BY TREASURER BEADLE AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE ANNUAL GPR COMMITTEE REPORT.

AYES: SEN. KLEIN, MS. SISK, COMMISSIONER HERINGER, MR. BURTON, MR. MILLER, TREASURER BEADLE, DR. SIMLAI, MR. MICKELSON, MR. JAHNER, MR. THOMPSON, MR. MORRISSETTE, AND LT. GOV. MILLER

NAYS: NONE

ABSENT: REP. BOSCH AND DR. LECH

MOTION CARRIED

Audit Committee Update:

Treasurer Beadle provided an update from the June 21, 2024, Audit Committee special meeting. The Committee had the kickoff with the new external auditor, UHY, for the July 1, 2023, through June 30, 2024, fiscal year financial statement audit and the GASB 68 audit. The engagement scope, workplan, and timeline was presented and approved. Both audits are scheduled to be completed by the end of 2024. Board discussion followed.

Annual SIB Customer Satisfaction Survey:

Ms. Mudder summarized the annual SIB customer satisfaction survey results. The survey was sent to all clients in June. Staff made phone calls to increase responses and follow-up meetings and calls have been completed or scheduled. Ms. Murtha commented that staff appreciates the feedback and uses it to help us improve our processes and customer service. Board discussion followed.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY MS. SISK AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE ANNUAL SIB CUSTOMER SATISFACTION SURVEY.

AYES: DR. SIMLAI, MS. SISK, TREASURER BEADLE, COMMISSIONER HERINGER, SEN. KLEIN, MR. THOMPSON, MR. BURTON, MR. JAHNER, MR. MORRISSETTE, MR. MICKELSON, MR. MILLER, AND LT. GOV. MILLER

NAYS: NONE

ABSENT: REP. BOSCH AND DR. LECH

MOTION CARRIED

Code of Conduct Affirmation:

Mr. Skor informed Board members that the SIB Code of Conduct & Ethic Policy was provided in the materials. Part of the policy requires all members to provide an annual acknowledgement that they have reviewed the policy. A form was provided to fulfill this requirement and to disclose any conflicts of interest.

Budget Update:

Mr. Skor provided an update on the budget submission to the Governor's Office for the upcoming biennium. Each agency was asked to submit a budget with a 3% reduction from the current biennium. RIO included some optional packages to fund ongoing initiatives, because our current budget only contains half a biennium of salaries for the new investment positions. There will also be hosting costs for the new pension administration system. Other items from the strategic plan were submitted including an addition communications staff person and additional IA staff. Board discussion followed.

QUARTERLY MONITORING REPORTS:

Quarterly Investment Ends:

Mr. Chin provided the Investment Ends Report for the quarter ending June 30, 2024. During the quarter, staff onboarded new investment managers, selected and engaged with Verus as the new performance consultant and made significant progress on Equity 2.0. The team continues due diligence activities. Two private credit managers were approved by the IC. The Private Markets Team conducted introductory, due diligence, and monitoring meetings with prospective and current managers and continues its work on the In-State program.

The Risk Team continued efforts on the procurement of the investment IT system. They are in the final stages of negotiations with the preferred vendor. Staff have continued maintaining and updating the current country risk assessment and are working on automation. Board discussion followed.

Quarterly Outreach Report:

Ms. Mudder provided the outreach report for the quarter ending June 30, 2024. A list of media responses and client board meeting attendance were provided. Metrics were provided which illustrate the engagement of stakeholder groups in RIO communications sent through GOVDelivery. Registration information for the upcoming investment seminar will be sent to Board members soon. Ms. Mudder provided an update on social media activity for the agency. Board discussion followed.

Executive Limitations/Staff Relations:

Ms. Murtha provided the Executive Limitations/Staff Relations Report. The first year of the enhanced new board member onboarding process has been completed. RIO has begun posting some of the new internal investment positions. Two positions were posting internally and offers have been accepted by current RIO staff. Interviews are underway for the new Investment Accountant and Portfolio Manager of Fixed income positions. Ms. Murtha reviewed RIO participation in statewide initiatives, ongoing project activities, and ED activities. Board discussion followed.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY SEN. KLEIN AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY INVESTMENT ENDS, QUARTERLY OUTREACH, AND EXECUTIVE LIMITATIONS/STAFF RELATIONS REPORTS.

AYES: MR. THOMPSON, MS. SISK, MR. MORRISSETTE, MR. MILLER, MR. JAHNER, MR. MICKELSON, DR. SIMLAI, COMMISSIONER HERINGER, MR. BURTON, SEN. KLEIN, TREASURER BEADLE, AND LT. GOV. MILLER

NAYS: NONE

ABSENT: REP. BOSCH AND DR. LECH

MOTION CARRIED

ADJOURNMENT:

With no further business to come before the SIB, Lt. Gov. Miller adjourned the meeting at 11:24 a.m.

Prepared by: Missy Kopp, Assistant to the Board



AI STATE POLICY & PRACTICES
SEPTEMBER 26/27, 2024

NORTH
Dakota
Be Legendary.

Information Technology

Agenda

- NDIT introduction(s)
- Introduction to State AI policy
- General AI Guidance
- Team ND tools & education for generative AI
- AI efforts at the State
- Q&A



AI Policy Updates

- AI policy published January 31, 2024
 - Minor revisions (revised 2/8) made to AI policy based on feedback from Agency and Technology Business Partner (TBP) feedback
- ***Policy and guideline are living, breathing documents, with regular review and updating of the policy/guideline annually, or as immediate changes are required***

State of North Dakota Artificial Intelligence Policy

INTRODUCTION

1.0 PURPOSE

The purpose of the Artificial Intelligence (AI) Policy is to embrace the innovative benefits AI can provide to increase productivity and citizen experience, while reducing risks and concerns in using this emerging technology. This policy protects the safety, privacy, and intellectual property rights of the State of North Dakota by ensuring all forms of AI are handled in a transparent, consistent, responsible, ethical and secure manner.

2.0 BACKGROUND

Artificial Intelligence develops data processing systems that perform functions normally associated with human intelligence, such as reasoning, learning, and self-improvement. Generative AI is a prevalent example of AI and includes examples such as chatbots, virtual assistants, and other systems based on it, including:

- Standalone systems (i.e. OpenAI – ChatGPT, DALL-E, Microsoft Copilot),
- Integrated as features within search engines (i.e. Microsoft Bing chat, Google Bard), or
- Embedded in other software tools.

Generative AI tools can enhance productivity by assisting with tasks, like drafting documents, editing text, generating ideas, creating images, and software coding. However, these technologies also come with potential risks that include inaccuracies, bias, and unauthorized use of intellectual property in generated content. Content created by AI, and the public availability of information submitted to AI, could pose security and privacy concerns.

The State of North Dakota consulted the following sources:

- National Institute of Standards and Technology (NIST) Special Publication (SP) 1270 [Towards a Standard for Identifying and Managing Bias in Artificial Intelligence](#),
- NIST AI 100-1 [Artificial Intelligence Risk Management Framework](#), and

AI Policy & Guidelines

1. AI Policy

NDIT has partnered with the Governor's Office and Cabinet Agency leadership to develop the first formal AI Policy which centers around supporting healthy exploration of new AI tools in a responsible and secure manner. Also, related: [Data Classification Policy](#)

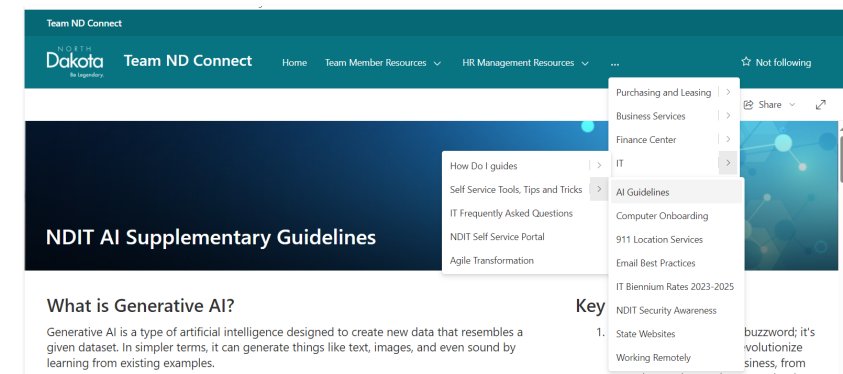
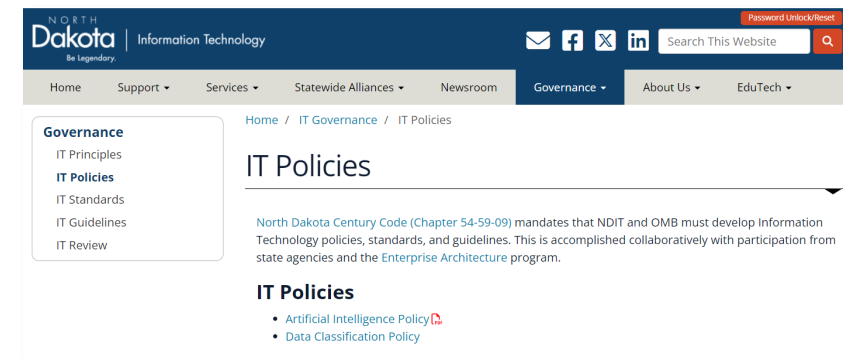
2. AI Guideline

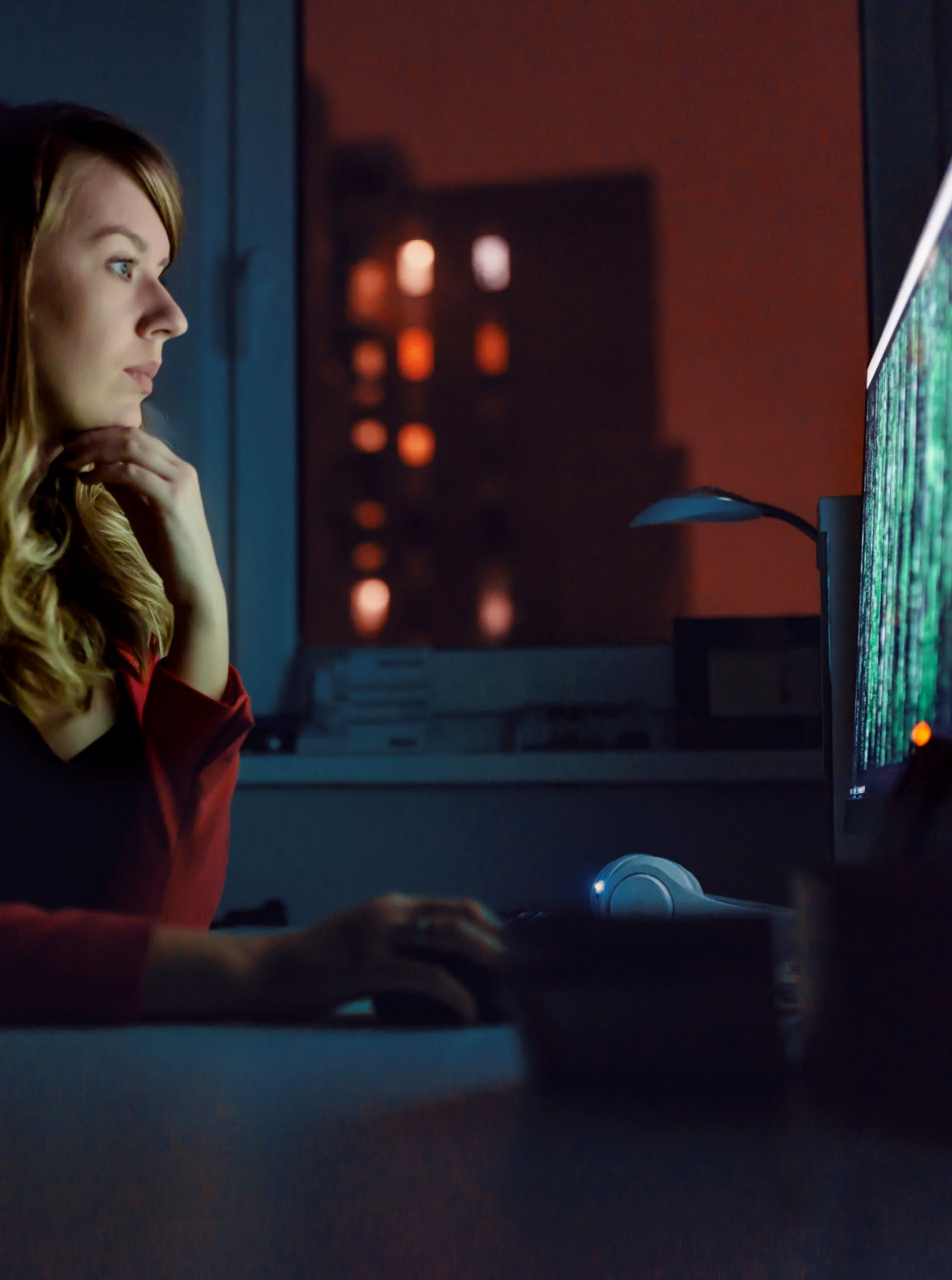
The formal guideline document outlines best practices around responsible, ethical and secure use of AI tools. Since the topic is vast, this document focuses on the highest impact areas.

3. AI Supplementary Guidance

Because there is a large amount of content on this subject, it can be hard to know where to focus and what applies to us within the State. We've also curated some supplementary guidance where we can expand on concepts introduced in the formal guideline. The content found here is closer to the depth of content used in our presentations.

Questions: aquestions@nd.gov



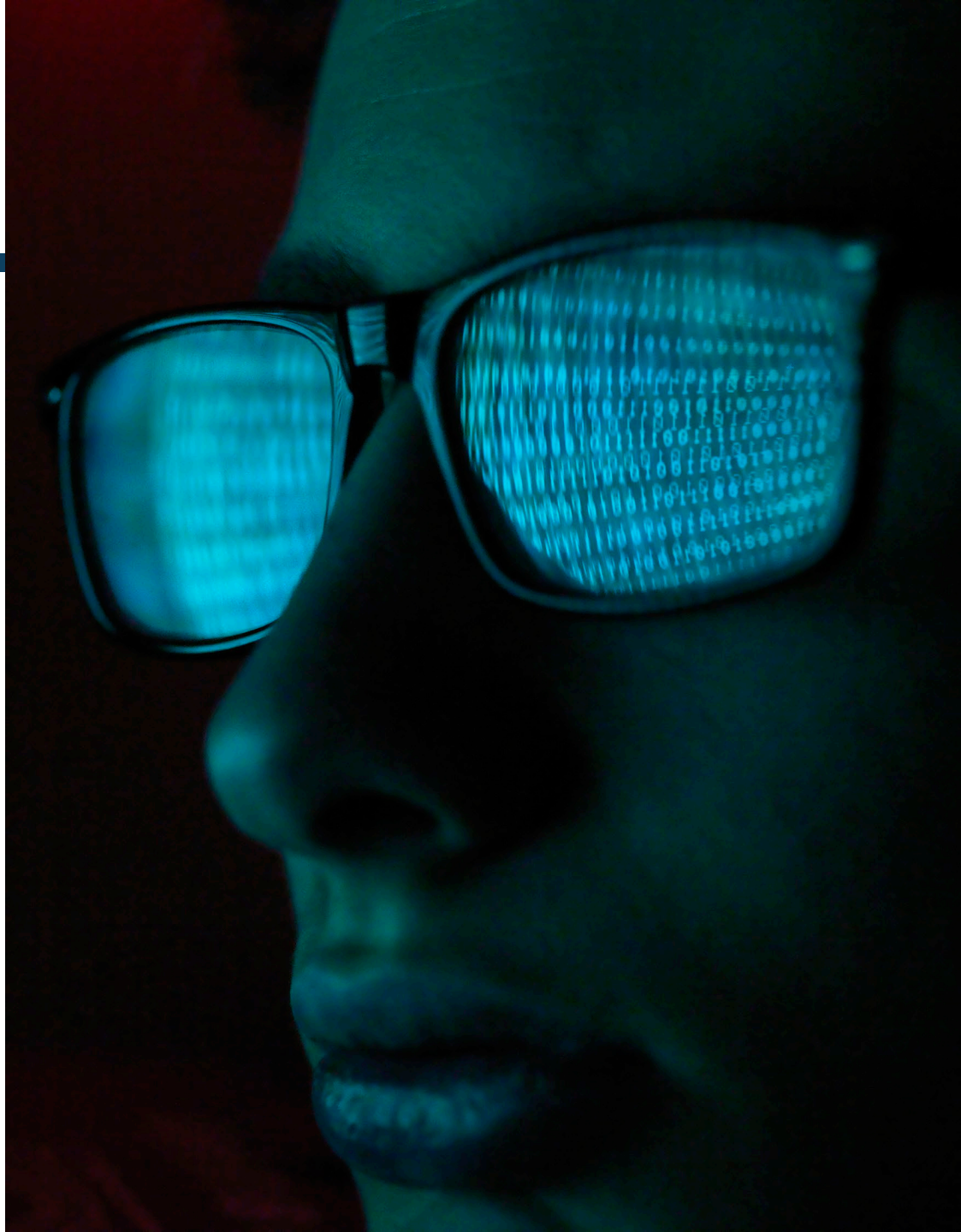


AI Policy High Level

- Validity and reliability
 - AI technology must be verified as consistently accurate and valid.
 - AI technology should be monitored over time.
- Transparency
 - Agencies should disclose when citizens are interacting directly with AI or outputs generated by AI.
 - Agencies should have records regarding where and how they are using AI.
- Accountability
 - Agencies are responsible for their responsible use of AI.
 - Follow standard/AI security rules.
 - Having AI and Data Governance policies in place strongly supports AI use.

AI Policy High Level

- Security and Risk Management
 - Third-party use of AI
 - System risk assessment
 - ServiceNow Request
Service Catalog / Submit a Service Request / Find or Improve a Tech Solution / IT Review Request
- Training
- Privacy
- Records retention



AI Policy High Level

- Ethics, fairness, and bias
 - All data are biased—agencies should understand their data
 - In addition to legal and copyright concerns, we must also ensure AI does not infringe on human rights, civil liberties, or dignity→→Foundation of Governance.



ND Data Classification

Data Classifications		
Low Risk	Moderate Risk	High Risk
<ol style="list-style-type: none">1. The data is intended for public disclosure.2. Unauthorized disclosure, alteration, or destruction of the data would result in little or no risk to the state and its citizens.	<ol style="list-style-type: none">1. The data is not generally available to the public.2. Unauthorized disclosure, alteration, or destruction of the data could result in a moderate level of risk to the state or its citizens.	<ol style="list-style-type: none">1. The data requires protection by law/regulation.2. Unauthorized disclosure, alteration, or destruction of the data could cause a significant level of risk to the state or its citizens.

How to Use Generative AI

Common Generative AI use cases:

- Content Creation
- Customer Service
- Image Generation
- Writing assistance
- Summarization
- Product Design
- Coding assistance
- Music generation
- Language Translation
- Document generation
- Assisting in Data Analytics

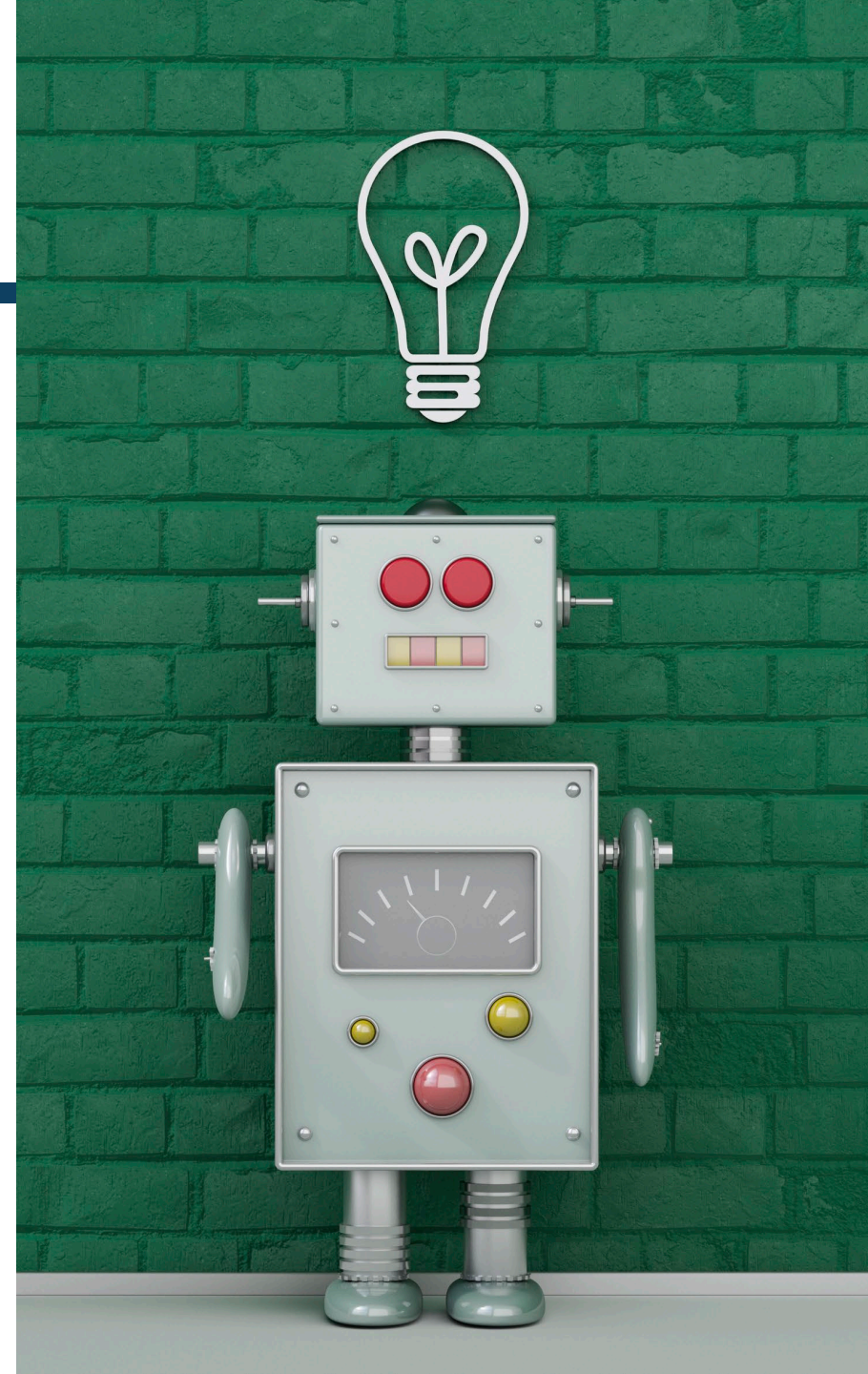
AI Dos and Don'ts

Do

- Be specific in your prompt creation.
- Ask for things about which you have some understanding (ex. understand the code you are creating or the Data you are summarizing).
- Review results for accuracy and verify the information is correct

Do Not

- Assume the generated material is accurate or truthful.
- Assume the generated material is copyright free.
- Include sensitive or confidential information in the prompt.



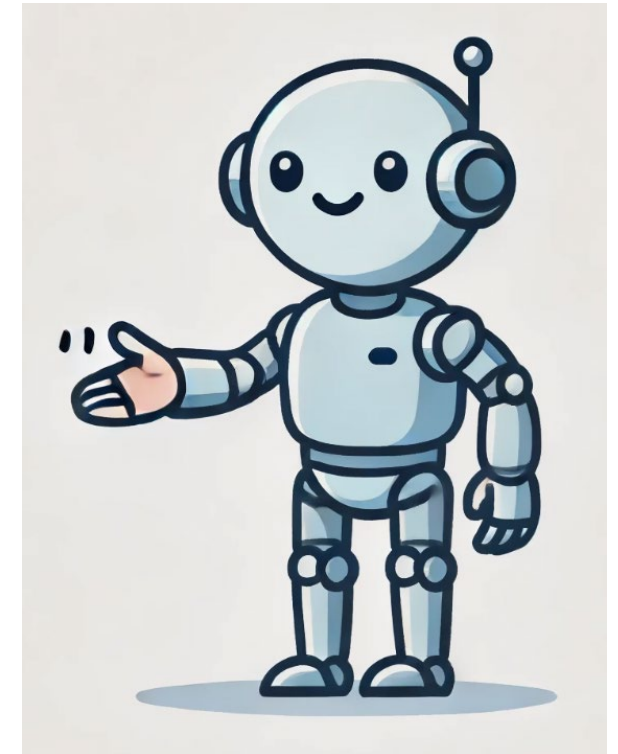
AI Considerations

- **Bias**: Be vigilant to eliminate bias in data and algorithms to ensure fairness.
- **Validity**: Ensure data quality and model accuracy for reliable AI outcomes.
- **Ethics**: Prioritize ethical AI practices to avoid harm and promote accountability.
- **Big Data**: AI works best with absolutely massive data sets.
- **Security**: AI can introduce significant security and privacy risks.



Team ND Resources

- Resources and educational materials found on [Team ND Connect](#)
- NDIT is producing guidance and short instructional videos for AI topics:
 - Tools:
 - ChatGPT
 - Microsoft Copilot (general web LLM)
 - Responsible AI
 - Overview
 - Generative AI Do's and Don'ts



Project: North Dakota Chatbot

Working with Department of Commerce and other agencies to pilot a chatbot for ND.gov.



- Focus is on Commerce website to start, but also testing statewide versions
- Began as a POC originating from the Governor's AI Cohort, has moved to pilot phase
- Allows us to test different chatbot tools and functionality
 - Currently working with 140+ volunteers to test two versions
- Project highlights need for clean source data (web content)

Hi there! I'm Dakota, your friendly chatbot here to help you navigate our state websites. I use Generative AI to provide answers, so please double-check my references as I might not get everything right or have access to every answer. I'm learning and growing, so your feedback is valuable. Let's find the information you need together!

6 minutes ago

Type your message



Additional AI Efforts in State Government

- Implementation of statewide data strategy and modern data platform to help agencies better use data for insights and impact
 - Data is critical! Data must be “AI-ready”; quality data is foundational to realizing the full potential/value of AI
- AI Cohort in ND Government
 - AI use case exploration and development
- AI governance activities
 - AI Executive working group launched in June 2024
 - Collaboration between NDIT, NDUS/Higher Ed, K12 and other State Agencies
 - Organized to conduct exploratory study to result in a formal budget request or series of requests to enable affordable, accessible, transparent, consistent, responsible, and secure AI integration and use within State government
- Evaluation of potential generative AI productivity tools to support efficiencies across Team ND
 - Generative AI solutions (e.g., Microsoft Copilot, OpenAI ChatGPT)
 - NDIT is working to procure and test AI-based development tools which would allow for faster and cheaper development and cross-training (e.g., github Copilot)
- Inventory of AI solutions, including process to identify solutions that have AI capabilities at intake of project

Questions?

Contact Info

- aiquestions@nd.gov
- NDIT
 - Kim Weis, Chief Data Officer
 - kimweis@nd.gov
 - Jill Baber, Product Owner, Data Science & Analytics Scrum Team
 - jkbaber@nd.gov

INVESTMENT OPPORTUNITIES WITH AI

- From experiments it appears that use of AI requires domain expertise, a creative analytical capability and experience:
- Ask good questions
 - Interpret output
 - Refine the solutions presented
 - Find an efficient solution in production
 - Some knowledge of what techniques are best to apply

Use Case	Code Generation/ Machine Learning	Data Generation/ Solution Generation	Summarize a Document's Data	Answer Questions Regarding Content
Application	<ul style="list-style-type: none"> ▪ Economic Dashboard ▪ Manager Dashboard ▪ Valuation Models ▪ Credit Models ▪ Hierarchical Clustering/Correlation ▪ Non-Linear Factor Models 	<ul style="list-style-type: none"> ▪ Economic Scenario Generator ▪ Capital Market Assumptions ▪ Active Risk Budget 	<ul style="list-style-type: none"> ▪ Earnings Call/Financial Reports Summary ▪ Manager Doc Summary ▪ White Paper Summary ▪ Risk Hot Spots ▪ Summarize Press Releases 	<ul style="list-style-type: none"> ▪ Web Site Search ▪ Database Search ▪ Policy Search
AI Techniques	<ul style="list-style-type: none"> ▪ Ensemble Learning ▪ Vector Support Machine ▪ Reinforcement Learning ▪ Panel Vector Autoregression Models 	<ul style="list-style-type: none"> ▪ Generative Adversarial Networks ▪ Monte Carlo Search ▪ Random Forests ▪ Encoder/Decoder Networks 	<ul style="list-style-type: none"> ▪ Image Recognition/Convolutional Neural Networks ▪ Sequence Prediction/Recurrent Neural Networks 	<ul style="list-style-type: none"> ▪ Natural Language Processing ▪ Large Language Models



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: JUNE 30, 2024

Investment Performance Summary for

North Dakota State Investment Board

2nd quarter summary

THE ECONOMY

- U.S. inflation (CPI) fell to 3.0% YoY in June, following two consecutive months of flat prices (0.0% in May and -0.1% in June). The report reflected a slowing in shelter costs, which have been a primary hurdle for inflation reaching the 2% Federal Reserve target. If the slowing of shelter prices persists, inflation could fall rather quickly. Core inflation (ex-Food & Energy) was 3.3% year-over-year in June.
- The U.S. labor market remains strong, but recently some cracks of weakness have appeared. Unemployment jumped unexpectedly to 4.1% in June—a level not seen since 2021. Jobless claims have also been rising. This negative data could prove to be a continuation of the trend towards a more balanced labor market, though it will be important to monitor conditions closely.

EQUITY

- Emerging market equities outperformed during Q2, up +5.0%, despite significant ongoing underperformance of China. U.S. equities were close behind (S&P 500 +4.3%), setting a new all-time-high price level. In contrast, international developed equities were flat.
- Small cap and value style investing underperformed. Small cap lagged large cap by -6.9% while value underperformed growth by -10.5%. The style premia performance gap was even wider over the past year, as small cap underperformed large cap by -13.8% and value underperformed growth by -20.4%.

FIXED INCOME

- The 10-year U.S. Treasury yield increased slightly from 4.20% to 4.36% during Q2, resulting in near-zero or negative performance for high quality fixed income of a longer duration profile.
- Default activity in loans and credit reached a one-year low at the end of Q2. However, the gap between bank loan and high yield default activity has increased to a 10-year high, with total volume of distressed or defaults comprised of loans (80%) to bonds (20%) on pace for a record high.

ASSET ALLOCATION ISSUES

- Many goods and services prices have been falling in areas such as autos, energy, and transportation. This trend has occurred alongside signs of weakness in the job market and consumer spending, and has reignited hopes for lower inflation, which would ease pressures on household budgets and allow for interest rate cuts. It is possible that an economic *soft landing* may be occurring, which would suggest lower rates and further gains for risk assets.
- Market-priced volatility (Cboe VIX Index) remained very low, ending at 12.4% in June. This has raised eyebrows, given a variety of risks that domestic equities face, but low volatility is typical of strongly up trending equity environments. Markets continue to present a unique environment of low equity volatility but high fixed income volatility. This gap has closed somewhat, as bond market implied volatility has receded.

Risk assets delivered moderate returns in Q2, while fixed income was flat to mildly positive, depending on duration profile.

A soft landing appears possible for the U.S. economy.

What drove the market in Q2?

"The US Economy is showing clear signs of a slowdown"

Employment change, Non-farm payrolls

January	February	March	April	May	June
256k	236k	240k	108k	218k	206k

Article Source: Bloomberg, July 8th, 2024

"Earnings bolster US stocks, but crucial inflation report looms"

S&P 500 EPS Growth, Year-over-year

Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
+4.3%	-1.5%	-2.0%	-5.0%	+4.1%	+6.9%

Article Source: Reuters, May 14th, 2024

"Slowing U.S. inflation fuels expectations of interest rate cuts"

Consumer Price Index, Year-over-year change

Jan 23	Feb 24	March 24	April 24	May 24	June 24
3.1%	3.2%	3.5%	3.4%	3.3%	3.0%

Article Source: Wall Street Journal, June 28th, 2024

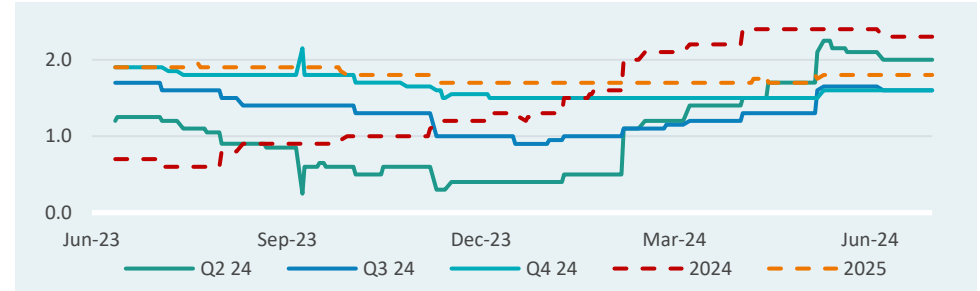
"European Central Bank cuts interest rates for first time in 5 years"

ECB Overnight Rate, Actual and Implied

March 24	June 24	Sep 24 (E)	Dec 24 (E)	March 25 (E)	June 25 (E)
4.0%	3.75%	3.45%	3.20%	2.98%	2.75%

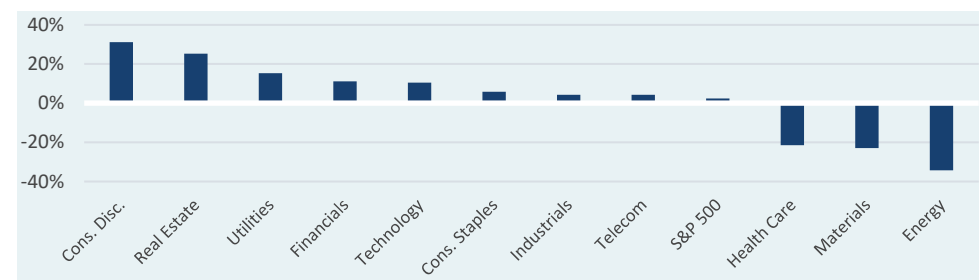
Article Source: Financial Times, June 6th, 2024

US GDP GROWTH PROJECTIONS (%)



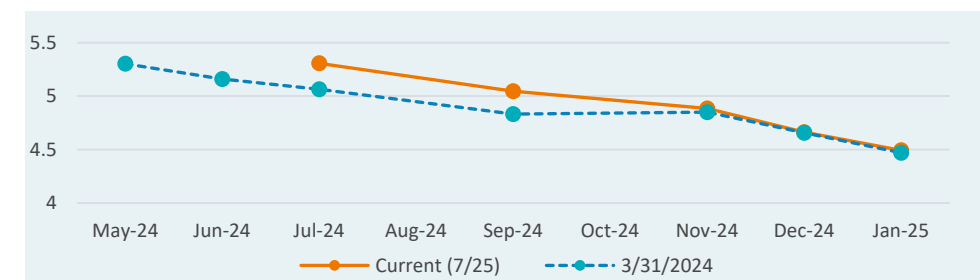
Source: Bloomberg, as of 6/30/24

S&P 500 TRAILING 12M EARNINGS GROWTH, YOY



Source: Bloomberg, as of 6/30/24

U.S. MARKET IMPLIED FUTURE INTEREST RATES (%)



Source: Bloomberg, as of 7/25/24

U.S. economics summary

- Real GDP growth was substantially higher than expected in Q2, rising 2.8% quarter-over-quarter (3.1% year-over-year), beating economist forecasts of a 2.0% increase on the quarter. The GDP release reflected an increase in consumer spending, as well as increased investment in inventories and capital goods. Residential fixed investment detracted from GDP growth, as did the trade deficit.
- U.S. inflation (CPI) fell to 3.0% YoY in June, following two consecutive months of flat prices (0.0% in May and -0.1% in June). The report reflected a slowing in shelter costs, which have been a primary hurdle for inflation reaching the 2% Federal Reserve target. If a slowing of shelter prices persists, inflation could fall rather quickly. Core inflation (e.g., Food & Energy) was 3.3% year-over-year in June.
- Inflation adjusted personal spending growth was 2.6% year-over-year in June, remaining in a 2-3% range for the past two years and suggesting more

moderate economic expansion in line with pre-pandemic conditions. Purchases of goods have been weaker than services, perhaps partly a reflection of higher interest rates, which impact the affordability of big-ticket items such as autos and homes.

- The U.S. labor market remains strong, but in recent months some cracks of weakness have appeared. Unemployment jumped unexpectedly to 4.1% in June—a level not seen since 2021. Jobless claims have also been rising. This negative data could prove to be a continuation of the trend towards a more balanced labor market.
- Consumer sentiment deteriorated in Q2, moving back towards the lows of 2022. The University of Michigan Consumer Sentiment survey dropped from 79.4 to 66.4 on concerns over high goods and services prices and the impacts of inflation on personal income. Household expectations for lower interest rates in the future helped to buoy the index somewhat.

	Most Recent	12 Months Prior
Real GDP (YoY)	3.1% 6/30/24	2.4% 6/30/23
Inflation (CPI YoY, Core)	3.3% 6/30/24	3.1% 6/30/23
Expected Inflation (5yr-5yr forward)	2.3% 6/30/24	2.3% 6/30/23
Fed Funds Target Range	5.25–5.50% 6/30/24	5.00–5.25% 6/30/23
10-Year Rate	4.20% 6/30/24	3.80% 6/30/23
U-3 Unemployment	4.1% 6/30/24	3.6% 6/30/23
U-6 Unemployment	7.4% 6/30/24	6.9% 6/30/23

Labor market

The U.S. labor market remains strong relative to history, but in recent months some cracks of weakness have appeared. The rate of unemployment jumped unexpectedly to 4.1% in June—a level not seen since 2021. Jobless claims have also been rising throughout the year. This negative data could prove to be a continuation of the trend towards a more balanced labor market, though it will be important to monitor conditions closely.

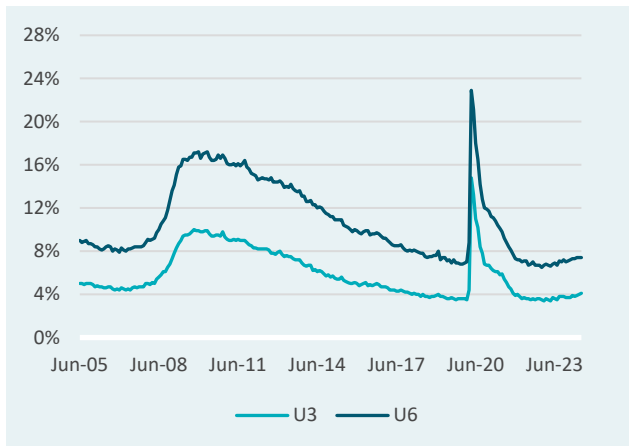
Average hourly earnings growth was 3.9% year-over-year in June, slightly outpacing the rate of inflation. As inflation has fallen, wage growth has also slowed, likely a reflection of a

more normal balance between jobs available and workers available, as well as less urgency for cost-of-living adjustments.

In many past instances of increasing unemployment, job losses were quick and accelerating, which often preceded recession. In contrast, more recently the rate of unemployment has more gradually moved up. Recessions have rarely occurred without a sharper downtrend in employment, which given current conditions might suggest we are seeing a moderation of economic growth rather than a move towards something worse.

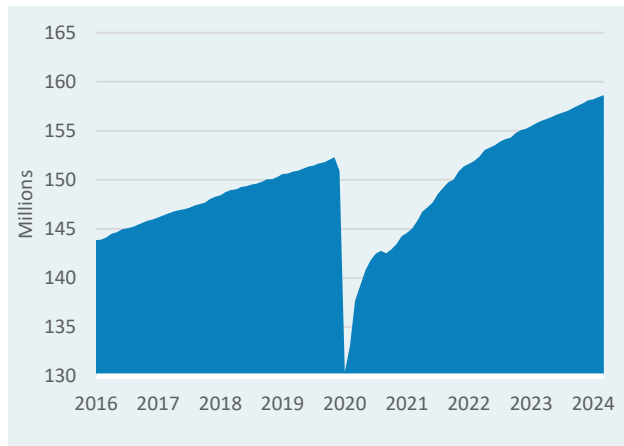
The labor market remains strong by historical standards, though conditions have moved in a weaker direction.

U.S. UNEMPLOYMENT



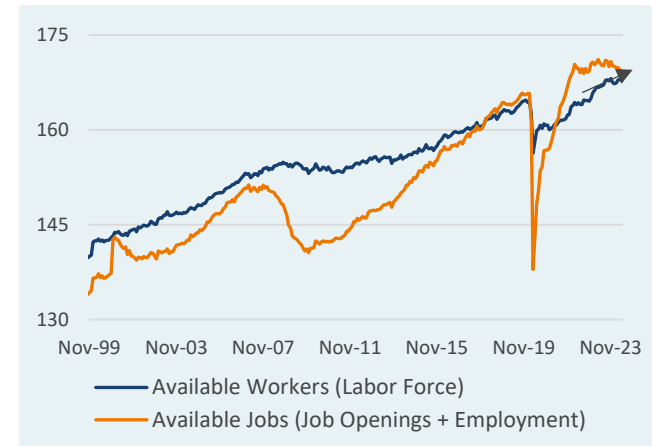
Source: FRED, as of 6/30/24

TOTAL U.S. EMPLOYMENT



Source: FRED, as of 6/30/24

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, Verus, as of 5/31/24

The consumer

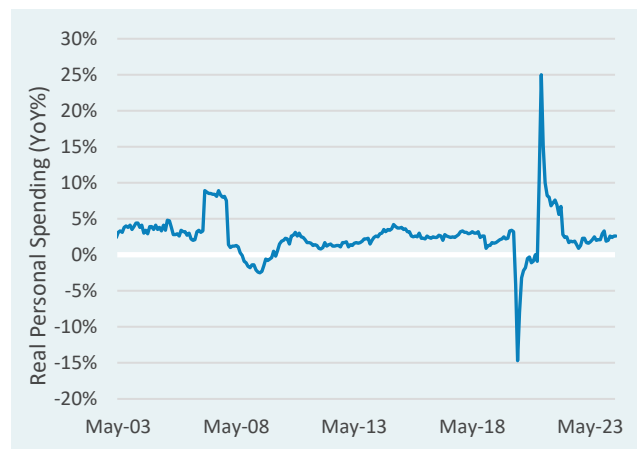
Inflation adjusted personal spending growth was 2.6% year-over-year in June, and has remained in a 2-3% range for the past two years. This rate indicates moderate economic expansion in line with pre-pandemic rates of growth. Purchases of goods have been much weaker than purchases of services, perhaps partly a reflection of higher interest rates which have impacted the affordability of big ticket items such as automobiles and homes.

Many Americans continue to spend rather freely despite higher costs of goods and services taking up a greater portion of take-home income,

and extreme discontent around inflation. However, certain non-essential spending such as for vacations has been robust. Total traveler volumes at U.S. airports in late June reached a record level.

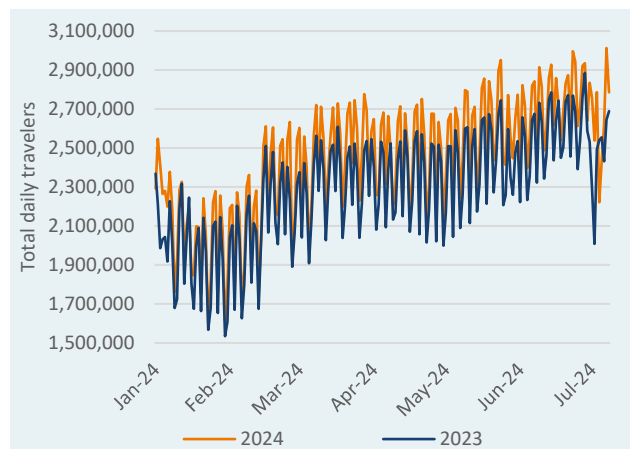
Personal savings rates improved slightly over the quarter, from 3.5% to 3.9%. It seems reasonable to assume that savings rates should improve if wage gains continue to outpace the rate of inflation, all else equal.

REAL PERSONAL SPENDING



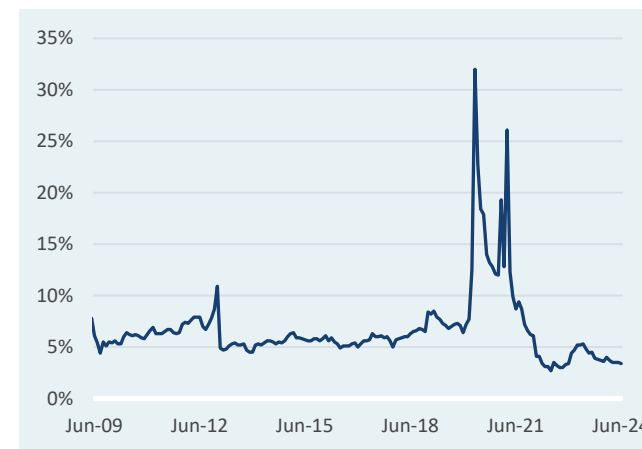
Source: FRED, as of 6/30/24

U.S. TSA AIRPORT ACTIVITY



Source: FRED, as of 7/8/24

PERSONAL SAVINGS RATE



Source: FRED, as of 6/30/24

Housing

Imbalances in the U.S. housing market appear to be here to stay, at least for a while, as sharply lower home prices and/or lower mortgage rates (the conditions needed for reasonable affordability) seem unlikely. Affordability is extremely difficult for new homebuyers, currently near record lows, and has worsened as the average home price was up +5.8% year-over-year in May. The other saving grace for potential homebuyers would be lower mortgage rates, but Federal Reserve rate cuts are expected to be moderate and may not have a large impact on the longer end of the yield curve. A driver of ultra-low mortgage rates during the pandemic was government quantitative easing, much of which was focused on mortgage debt and therefore pushed mortgage interest rate spreads to unusually low levels. In short, mortgage rates may fall in the next few years but perhaps only mildly.

Fortunately, rent price growth has slowed considerably, up only 0.8% year-over-year in May, according to Redfin. As the cost of renting versus owning has dramatically shifted, a strong surge in activity towards renting and away from homeownership would not be surprising in the near future.

Depressed home sales activity reflects extreme unaffordability. Monthly home sales are at levels similar to that which followed the 2008-2009 housing bubble. Prior to that crisis, the mid-1990s were the most recent time that compares to this level of sales activity. On the other hand, *new home sales* activity has been fairly robust, which may provide some incremental easing to home prices through increased supply.

30-YEAR MORTGAGE RATE (%)



Source: Freddie Mac, as of 6/30/24

EXISTING HOME SALES



Source: FRED, as of 6/30/24

HOUSING AFFORDABILITY



Source: FRED, as of 3/31/24 – Housing affordability is calculated as the cost of a median priced single-family home at the current mortgage rate, as a percentage of the median family income

International economics summary

- Global economic data continues to paint a picture of slower but positive growth—a move back to pre-pandemic rates of expansion in the United States and across emerging markets, but with concerning weakness in Europe and Japan. Moderating conditions have allowed for rate cut signaling from central banks, which will likely provide an incremental boost to activity in the near-term.
- Inflation has fallen to a 2-3% range for most developed countries. Big inflation trends have tended historically to rhyme across the developed world, as crises often impact prices of global goods and services in similar ways. Recently, pandemic effects such as global supply chain issues, government stimulus, and higher energy prices had resulted in a similar ebb and flow to prices across marketplaces.
- India's economy continues to face uncertainty for this upcoming quarter.

In the last five out of six years, India's real GDP growth rate has fallen short of the Economic Survey projections, but they have seen growth in private investments and infrastructure spending. Annual retail inflation rose to 5.1% in June compared to 4.8% from the previous month, primarily due to food prices. The Reserve Bank of India paused rate hikes, with the goal of not obstructing growth, and bringing inflation to its target rate of 4%.

- China year-over-year inflation was just 0.2% in June, as the country struggles with deflationary pressures, given a real estate slump, a weak job market, and generally poor economic conditions. According to some reports, excess manufacturing capacity and government incentives for overinvestment have created a situation where supply is outstripping demand. A declining population significantly adds to uncertainty around these issues.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	3.1% 6/30/24	3.0% 6/30/24	4.1% 6/30/24
Eurozone	0.4% 3/31/24	2.5% 6/30/24	6.4% 5/31/24
Japan	(0.7%) 3/31/24	2.3% 6/30/24	2.8% 5/31/24
BRICS Nations	5.3% 3/31/24	1.9% 6/30/24	4.8% 12/31/22
Brazil	2.5% 3/31/24	4.2% 6/30/24	7.1% 5/31/24
Russia	5.4% 3/31/24	8.6% 6/30/24	2.6% 5/31/24
India	7.8% 3/31/24	5.1% 6/30/24	9.2% 6/30/24
China	4.7% 6/30/24	0.2% 6/30/24	5.0% 6/30/24

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.

Fixed income environment

- The 10-year U.S. Treasury yield initially increased in Q2, rising from 4.20% to a peak of 4.70% before gradually falling to 4.36%, resulting in an overall increase in yields with a downward trend going into Q3. These movements resulted in near-zero performance for short to intermediate duration high quality fixed income and negative performance for longer duration.
- By comparison, most credit indices saw positive returns. High yield gained +1.1% (Bbg U.S. Corporate High Yield), while bank loans rose +1.9% (S&P/LSTA Leveraged Loan). Longer duration investment grade corporate bonds declined by -1.6% (Bloomberg U.S. Long Corporate Credit) as sensitivity to rising yields in April overwhelmed gradual returns in the latter half of the quarter. This reflects a continued concern in the market over inflation and higher-for-longer Fed policy.
- The U.S. yield curve, indicated by the 10-year minus the 2-year Treasury

yield, continues to remain inverted, marking over two years of continuous yield curve inversion (June 6th, 2022). The curve ended the quarter inverted by -35bps. While an inverted yield curve has been a common metric for predicting recessions, the recent continued economic resilience has increased public optimism of a potential soft-landing.

- Default activity in loans and credit reached a one-year low at the end of Q2. However, the gap between bank loan and high yield default activity has increased to a 10-year high, with total volume of distressed or defaults comprised of loans (80%) to bonds (20%) is on pace to be a record high proportion. During the period, a total of \$15.2 billion of bank loan and high yield bonds were impacted by default or distressed exchanges, down from \$20.6 billion in the prior quarter. Notably, default/distressed exchange volume averaged \$17.9 billion quarterly since 2020 and \$14 billion quarterly over the last 17.5 years.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	0.1%	2.6%
Core Plus Fixed Income (Bloomberg U.S. Universal)	0.2%	3.5%
U.S. Treasuries (Bloomberg U.S. Treasury)	0.1%	1.5%
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	(2.2%)	(7.2%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	1.1%	10.4%
Bank Loans (S&P/LSTA Leveraged Loan)	1.9%	11.1%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	-1.6%	0.7%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	0.3%	9.2%
Mortgage-Backed Securities (Bloomberg MBS)	0.1%	2.1%

Source: Bloomberg, as of 6/30/24

Credit environment

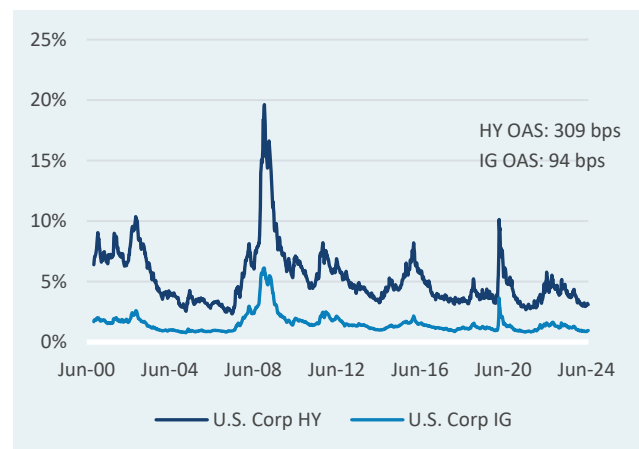
During the second quarter, credit markets delivered mostly positive returns with lower-quality credit such as high yield bonds and bank loans leading. Bank loans rose +1.9% (CS Leveraged Loans), while high yield bonds increased by +1.1% (Bbg U.S. Corporate High Yield). Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) fell by -1.6% as concerns over rising interest rates and higher expected inflation acted as a headwind to performance.

Returns across credit ratings were broadly positive during Q2. Higher-quality BB-rated bonds returned +1.4% compared to +1.1% for B-rated, while non-distressed CCC's led with +2.0% returns. CCC-rated bonds including distressed lagged other credits with +0.2% returns. Higher-quality bank loans outperformed lower quality, with BB- and B- rated

loans returning +1.88% and +2.13%, while CCC-rated loans only returned +0.14%.

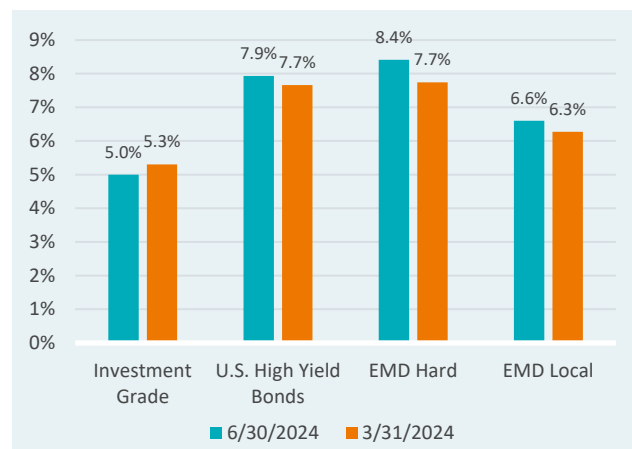
High quality credit spreads declined during the quarter while high yield spreads were mixed as recession concerns contended with further resilience in the corporate sector. Lower-quality high yield bond spreads rose by roughly 0.1% to 3.2%, while investment grade spreads continued to tighten by 0.3% to 0.9%. These trends continue to show spreads below long-term historical averages, suggesting that investors remain confident in the ability of most businesses to service debt. However, widening spreads and lower returns in CCC and distressed suggest that the highest risk credit sectors are beginning to show strain under the continued pressure of higher lending rates.

SPREADS



Source: Barclays, Bloomberg, as of 6/30/24

YIELD TO MATURITY



Source: Bloomberg, J.P. Morgan as of 6/30/24

CREDIT SPREAD (OAS)

Market	6/30/24	6/30/23
Long U.S. Corp	1.2%	1.5%
U.S. Inv Grade Corp	0.9%	1.2%
U.S. High Yield	3.1%	3.9%
U.S. Bank Loans*	3.9%	3.8%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/24

*Discount margin (4-year life)

Equity environment

- Emerging market equities outperformed during Q2, up +5.0% (MSCI Emerging Markets), despite ongoing poor returns from China. U.S. equities were close behind (S&P 500 +4.3%), setting a new all-time-high price level. In contrast, international developed equities were relatively rangebound (MSCI EAFE -0.4%).
- Blended S&P 500 year-over-year Q2 earnings growth was +9.3% as of July 12th. If total reported earnings growth ends at this +9.3% rate, it would mark the largest year-over-year earnings growth rate since Q1 of 2022.
- The U.S. dollar rose moderately in value during Q2, resulting in losses for U.S. investors with unhedged foreign currency exposure. Given that the Federal Reserve is expected to engage in similar rate cuts as other developed economies, it is unclear the extent to which the global rate cutting path will impact relative currency valuations. Unexpected central bank actions will likely have the greatest directional impact in the future.
- Small cap and value style investing drastically underperformed during Q1. Small cap lagged large cap by -6.9% (Russell 2000 -3.3% vs. Russell 1000 +3.6%), while value underperformed growth by -10.5% (Russell 1000 Value -2.2% vs. Russell 1000 Growth +8.3%). The style premia performance gap was even wider over the last year, as small cap underperformed large cap by -13.8% and value underperformed growth by -20.4%.
- Markets continue to present a unique environment of low equity volatility but high fixed income volatility. This gap has closed somewhat, as bond market implied volatility has moved a bit back towards normal levels since reaching a nearly all-time high 2023.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	4.3%		24.6%	
U.S. Small Cap (Russell 2000)	(3.3%)		10.1%	
U.S. Equity (Russell 3000)	3.2%		23.1%	
U.S. Large Value (Russell 1000 Value)	(2.2%)		13.1%	
US Large Growth (Russell 1000 Growth)	8.3%		33.5%	
Global Equity (MSCI ACWI)	2.9%	3.5%	19.4%	21.6%
International Large (MSCI EAFE)	(0.4%)	1.7%	11.5%	18.5%
Eurozone (EURO STOXX 50)	(2.8%)	(1.7%)	12.0%	16.3%
U.K. (FTSE 100)	3.8%	3.8%	12.1%	13.2%
Japan (TOPIX)	(4.3%)	3.0%	12.7%	32.5%
Emerging Markets (MSCI Emerging Markets)	5.0%	6.3%	12.5%	15.8%

Source: Russell Investments, MSCI, STOXX, FTSE, JPX, as of 6/30/24

Domestic equity size & style

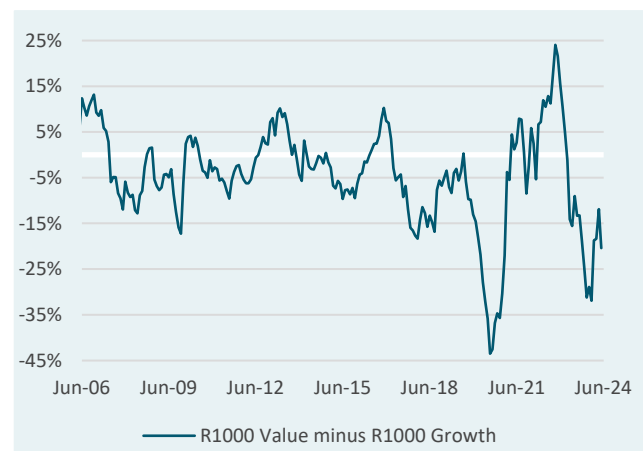
Small cap and value style investing drastically underperformed during Q1. Small cap lagged large cap by -6.9% (Russell 2000 -3.3% vs. Russell 1000 +3.6%), while value underperformed growth by -10.5% (Russell 1000 Value -2.2% vs. Russell 1000 Growth +8.3%). The style premia performance gap was even wider over the last year, as small cap underperformed large cap by -13.8% and value underperformed growth by -20.4%.

Much of the difference in style performance is driven by sector differences. Growth has a much greater exposure to mega cap technology companies, which continued to overshadow all other sectors in the second quarter. Nvidia extended its historic run, while Apple and Tesla bounced back from a poor first quarter. Technology and Communication companies led earnings

growth and this is expected to persist going forward. Per Factset, Communication Services and Technology companies within the S&P 500 are expected to provide earnings growth of 21% and 18.7%, respectively, leading all other sectors. This has translated into volatility between sectors, where Technology (+13.8%) and Communications (+9.4%) led the S&P 500 in Q2, while six out of eleven sectors declined in value over the quarter.

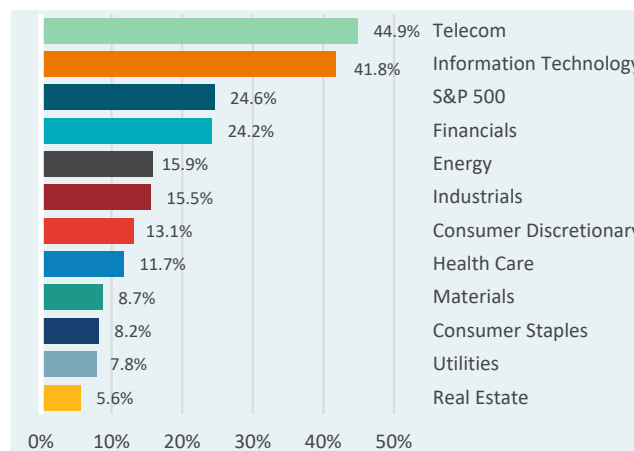
Unusually large disparities in style performance has been apparent, driven by sector trends and mega cap stock dominance. Market behavior continues to support our stance that short-term factor timing decisions should in most circumstances be pursued only in the rare occasion of obvious market mispricing and with a clear catalyst for price correction.

VALUE VS. GROWTH 1-YR ROLLING



Source: FTSE, Bloomberg, as of 6/30/24

S&P 500 SECTOR RETURNS (1 YEAR ROLLING)



Source: FTSE, Bloomberg, as of 6/30/24

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	13.1%	23.9%	33.5%
Mid Cap	12.0%	12.9%	15.1%
Small Cap	10.9%	10.1%	9.1%

Source: FTSE, Bloomberg, as of 6/30/24

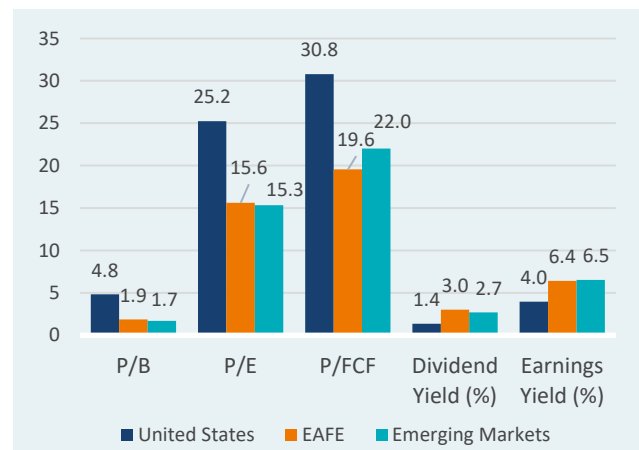
Equity valuations

Valuations moved higher in Q2 across each market. The S&P 500 traded at a Forward P/E of 21.4 at the end of June and a Trailing P/E of 25.2. High valuations have pushed the U.S. dividend yield to a nearly all-time historic low of 1.4%.

Lofty prices, along with a much more attractive environment for fixed income, suggest to us that the next decade may look much different than the past decade of unusually strong U.S. equity performance. The past decade was made possible by a very low equity valuation starting point, the impressive rise of mega cap tech / social media / online

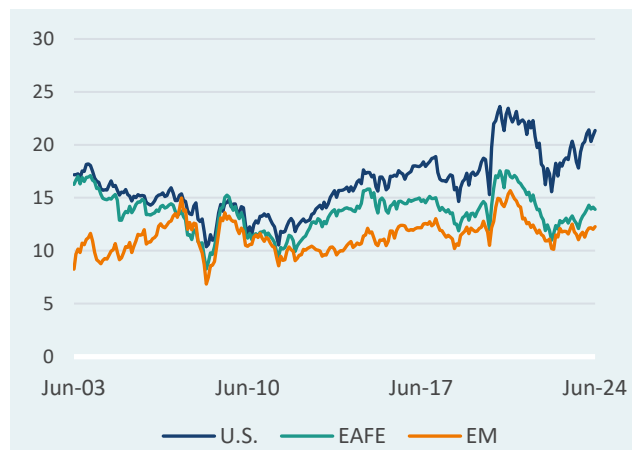
retailing businesses, extreme government stimulus pumped into the system, corporate tax cuts, and financial engineering following ultra low interest rates which contributed to a very large gain in corporate profit margins. Now, looking at the next 10 years, we are starting with high valuations, already high corporate profit margins, large debt burdens across many segments of the economy, and arguably a lower chance of future debt-driven stimulus. Fixed income may be very competitive with equity in terms of yields and prospective return over the next ten years. We believe this change in regime is noteworthy and may reasonably act as a theme for institutional asset allocation.

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 6/30/24 – Trailing P/E

FORWARD PRICE/EARNINGS RATIO



Source: MSCI, Bloomberg, as of 6/30/24

S&P 500 HISTORICAL DIVIDEND YIELD



Source: S&P, Bloomberg, as of 6/30/24

Periodic table of returns

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD	5-Year	10-Year
Large Cap Growth	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	42.7	20.7	19.3	16.3
Large Cap Equity	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	26.5	14.2	14.6	12.5
Emerging Markets Equity	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	18.7	7.5	9.0	8.2
Large Cap Value	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	18.2	6.6	7.2	7.4
International Equity	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	16.9	5.3	7.1	7.0
60/40 Global Portfolio	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	15.4	5.3	6.9	6.4
Commodities	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	14.6	5.1	6.5	6.2
Hedge Funds of Funds	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	11.5	4.6	6.2	5.0
Small Cap Growth	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	9.8	4.4	5.7	4.3
Cash	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	6.3	2.6	4.8	3.5
Small Cap Equity	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	5.5	1.7	3.8	2.8
US Bonds	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	5.0	-0.7	3.1	1.5
Small Cap Value	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	-7.9	-0.8	2.1	1.3
Real Estate	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-7.9	-1.0	-0.2	-1.3

Large Cap Equity

Large Cap Value

Large Cap Growth

Small Cap Equity

Small Cap Value

Small Cap Growth

International Equity

Emerging Markets Equity

US Bonds

Cash

Commodities

Real Estate

Hedge Funds of Funds

60% MSCI ACWI/40% Bloomberg Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 12/31/23.

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.6	4.3	15.3	24.6	10.0	15.0	12.9
S&P 500 Equal Weighted	(0.5)	(2.6)	5.1	11.8	4.8	10.9	10.0
DJ Industrial Average	1.2	(1.3)	4.8	16.0	6.4	10.3	11.3
Russell Top 200	4.5	5.7	17.2	27.4	10.9	16.4	13.8
Russell 1000	3.3	3.6	14.2	23.9	8.7	14.6	12.5
Russell 2000	(0.9)	(3.3)	1.7	10.1	(2.6)	6.9	7.0
Russell 3000	3.1	3.2	13.6	23.1	8.1	14.1	12.1
Russell Mid Cap	(0.7)	(3.3)	5.0	12.9	2.4	9.5	9.0
Style Index							
Russell 1000 Growth	6.7	8.3	20.7	33.5	11.3	19.3	16.3
Russell 1000 Value	(0.9)	(2.2)	6.6	13.1	5.5	9.0	8.2
Russell 2000 Growth	(0.2)	(2.9)	4.4	9.1	(4.9)	6.2	7.4
Russell 2000 Value	(1.7)	(3.6)	(3.6)	10.9	(0.5)	7.1	6.2

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	2.2	2.9	11.3	19.4	5.4	10.8	8.4
MSCI ACWI ex US	(0.1)	1.0	5.7	11.6	0.5	5.5	3.8
MSCI EAFE	(1.6)	(0.4)	5.3	11.5	2.9	6.5	4.3
MSCI EM	3.9	5.0	7.5	12.5	(5.1)	3.1	2.8
MSCI EAFE Small Cap	(3.0)	(1.8)	0.5	7.8	(3.4)	4.2	4.3
Style Index							
MSCI EAFE Growth	(0.4)	(0.8)	6.2	9.4	0.1	6.5	5.4
MSCI EAFE Value	(2.8)	0.0	4.5	13.7	5.5	6.1	3.0
Regional Index							
MSCI UK	(1.8)	3.7	6.9	12.5	6.9	5.7	2.7
MSCI Japan	(0.7)	(4.3)	6.3	13.1	2.3	6.6	5.5
MSCI Euro	(3.3)	(2.8)	5.4	10.1	3.6	7.2	4.1
MSCI EM Asia	5.0	7.4	11.0	15.1	(5.5)	4.6	4.5
MSCI EM Latin American	(6.1)	(12.2)	(15.7)	(5.6)	0.9	0.1	(0.3)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	0.8	0.8	0.7	2.7	(1.3)	2.1	1.9
Bloomberg US Treasury Bills	0.4	1.3	2.6	5.5	3.0	2.2	1.5
Bloomberg US Agg Bond	0.9	0.1	(0.7)	2.6	(3.0)	(0.2)	1.3
Bloomberg US Universal	0.9	0.2	(0.3)	3.5	(2.7)	0.1	1.6
Duration							
Bloomberg US Treasury 1-3 Yr	0.6	0.9	1.2	4.5	0.3	1.0	1.1
Bloomberg US Treasury Long	1.7	(1.8)	(5.0)	(5.6)	(10.5)	(4.3)	0.6
Bloomberg US Treasury	1.0	0.1	(0.9)	1.5	(3.3)	(0.7)	0.9
Issuer							
Bloomberg US MBS	1.2	0.1	(1.0)	2.1	(2.9)	(0.8)	0.9
Bloomberg US Corp. High Yield	0.9	1.1	2.6	10.4	1.6	3.9	4.3
Bloomberg US Agency Interm	0.7	0.8	1.0	4.5	(0.5)	0.6	1.2
Bloomberg US Credit	0.7	(0.0)	(0.5)	4.4	(2.9)	0.5	2.2

OTHER

Index							
Bloomberg Commodity	(1.5)	2.9	5.1	5.0	5.7	7.2	(1.3)
Wilshire US REIT	3.0	(0.2)	(0.3)	8.6	0.3	4.0	5.9
CS Leveraged Loans	0.3	1.9	4.4	11.0	6.0	5.4	4.6
S&P Global Infrastructure	(2.9)	2.7	4.0	7.0	5.6	4.3	4.6
Alerian MLP	4.7	3.8	19.2	34.2	22.3	11.1	1.9
Regional Index							
JPM EMBI Global Div	0.6	0.3	2.3	9.2	(3.5)	0.6	3.2
JPM GBI-EM Global Div	(1.1)	(1.6)	0.7	0.7	(3.3)	(1.3)	(0.9)
Hedge Funds							
HFRI Composite	(0.2)	0.4	4.8	9.6	2.8	6.6	4.8
HFRI FOF Composite	0.1	0.4	4.6	8.4	2.0	4.8	3.5
Currency (Spot)							
Euro	(1.3)	(1.8)	(3.0)	(1.8)	(3.3)	(1.2)	(2.4)
Pound Sterling	(0.7)	0.3	(0.8)	(0.6)	(2.9)	(0.1)	(3.0)
Yen	(2.3)	(10.1)	(12.4)	(10.2)	(11.6)	(7.7)	(4.5)

Source: Morningstar, HFRI, as of 6/30/24

Public Employees Retirement System

Investment Performance Review

Period Ending: June 30, 2024



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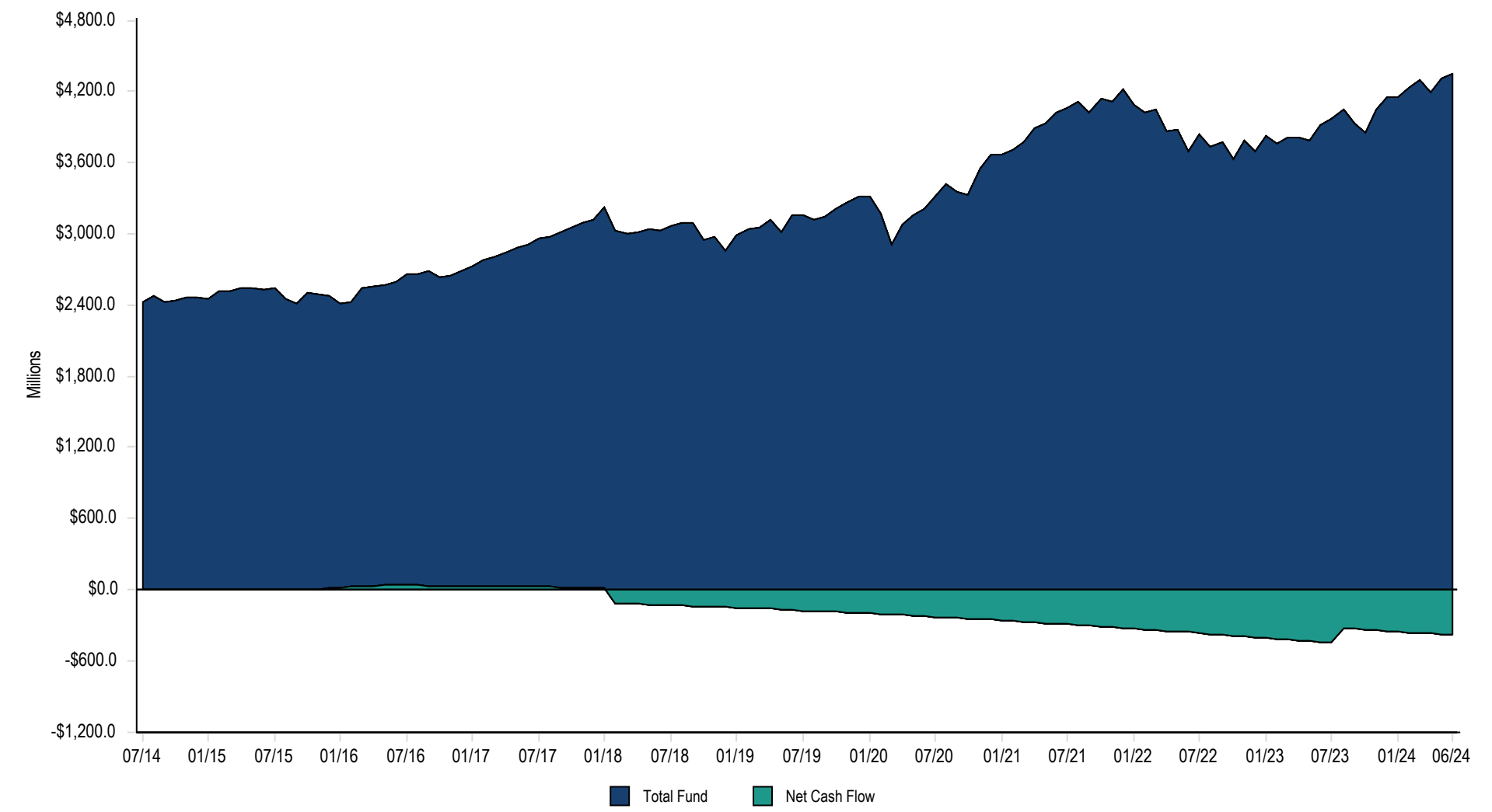
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CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

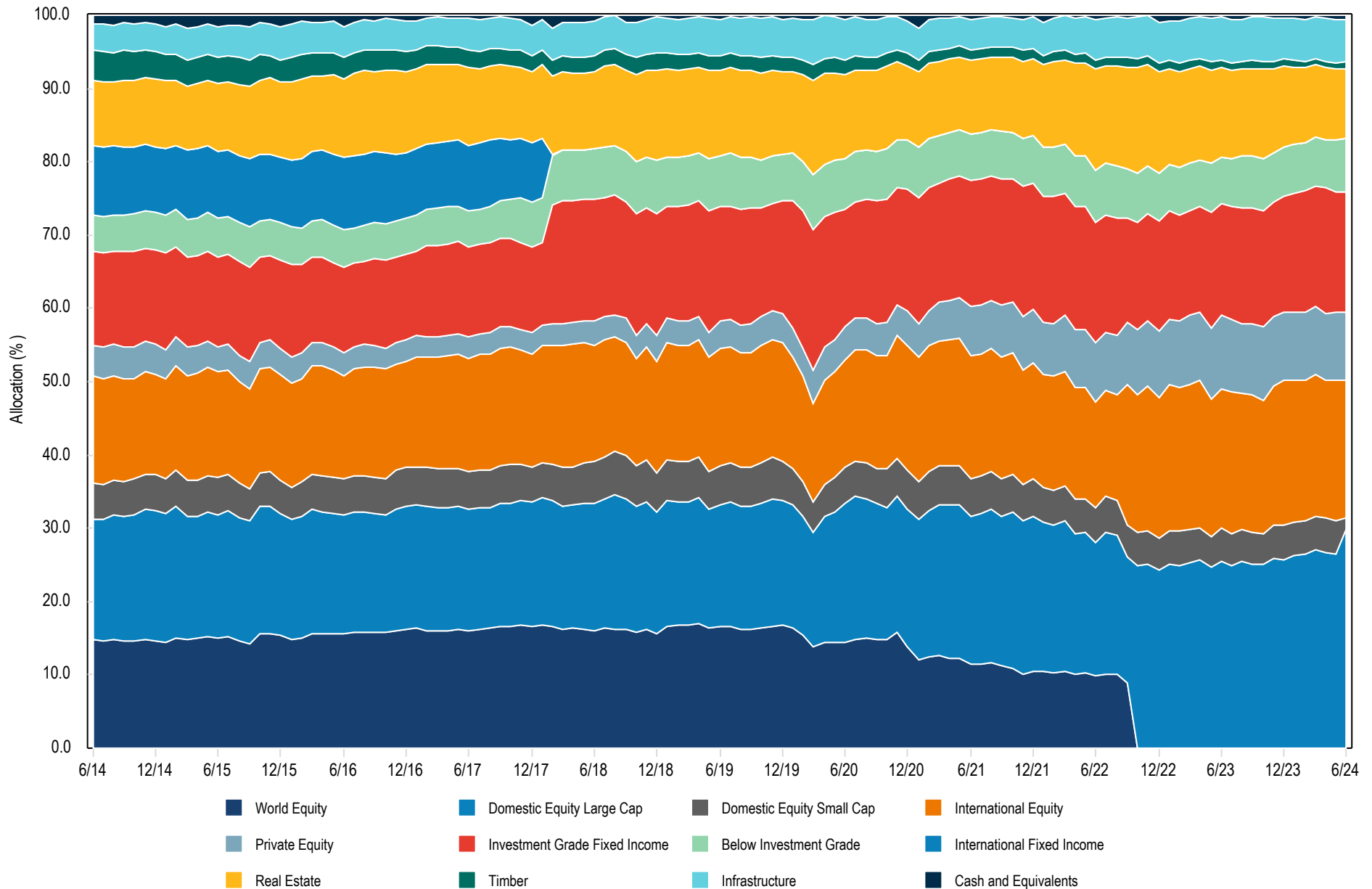
SAN FRANCISCO 415.362.3484



Net Cash Flow is Cumulative.

Total Fund Asset Allocation History

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024



Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	4,343,351,972	100.0	1.2	5.1	9.0	9.0	3.2	7.6	7.5	6.9
Policy Index			1.5	5.3	9.7	9.7	3.5	7.5	7.4	6.6
Corridor Target Index			1.5	5.3	9.4	9.4	3.0	7.2	7.2	6.4
Total Equity	2,586,698,595	59.6	1.8	9.5	15.6	15.6	5.1	11.0	10.2	8.8
Public Equity	2,184,014,360	50.3	1.5	10.3	18.2	18.2	5.0	10.7	-	-
MSCI AC World IMI Index (Net)			2.4	10.3	18.4	18.4	4.7	10.4	-	-
Domestic Equity	1,366,412,097	31.5	1.8	12.4	21.3	21.3	7.9	14.2	13.7	12.2
Russell 3000 Index			3.2	13.6	23.1	23.1	8.1	14.1	13.5	12.1
Large Cap	1,296,521,117	29.9	3.4	15.4	24.9	24.9	9.5	16.2	15.3	13.6
Russell 1000 Index			3.6	14.2	23.9	23.9	8.7	14.6	13.9	12.5
Small Cap	69,890,980	1.6	-6.4	-3.1	3.0	3.0	-0.5	5.8	7.0	6.6
Russell 2000 Index			-3.3	1.7	10.1	10.1	-2.6	6.9	6.8	7.0
International Equity	817,574,179	18.8	0.9	7.2	13.4	13.4	0.2	7.0	6.3	5.3
MSCI AC World ex USA IMI (Net)			0.9	5.3	11.6	11.6	0.2	5.6	5.1	3.9
International All Cap	352,889,468	8.1	0.9	9.8	16.3	16.3	-	-	-	-
MSCI AC World ex USA IMI (Net)			0.9	5.3	11.6	11.6	-	-	-	-
Total Developed International Equity	329,707,626	7.6	-0.6	5.0	9.2	9.2	1.2	7.2	6.4	5.2
MSCI World ex U.S. (Net)			-0.6	5.0	11.2	11.2	2.8	6.6	5.9	4.3
Emerging Markets	134,977,086	3.1	5.1	7.4	13.5	13.5	-7.2	3.5	3.9	3.6
MSCI Emerging Markets Index			5.1	7.7	13.0	13.0	-4.7	3.5	3.9	3.2
Private Equity	402,684,236	9.3	3.5	5.0	3.0	3.0	7.9	14.0	11.9	8.0
Private Equity			3.5	5.0	3.0	3.0	7.9	14.0	11.9	8.0
Total Income	1,028,961,529	23.7	1.2	1.3	5.8	5.8	-0.3	2.2	3.2	3.2
Investment Grade	713,004,584	16.4	0.5	0.0	4.4	4.4	-2.5	0.6	1.8	2.5
Blmbg. U.S. Aggregate Index			0.1	-0.7	2.6	2.6	-3.0	-0.2	0.9	1.3
Below Investment Grade	315,956,945	7.3	3.2	4.5	9.3	9.3	5.2	6.1	6.1	5.8
Blmbg. U.S. High Yield - 2% Issuer Cap			1.1	2.6	10.4	10.4	1.6	3.9	4.2	4.3

Residual Holdings value of \$500,830 included in Total Fund value.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024

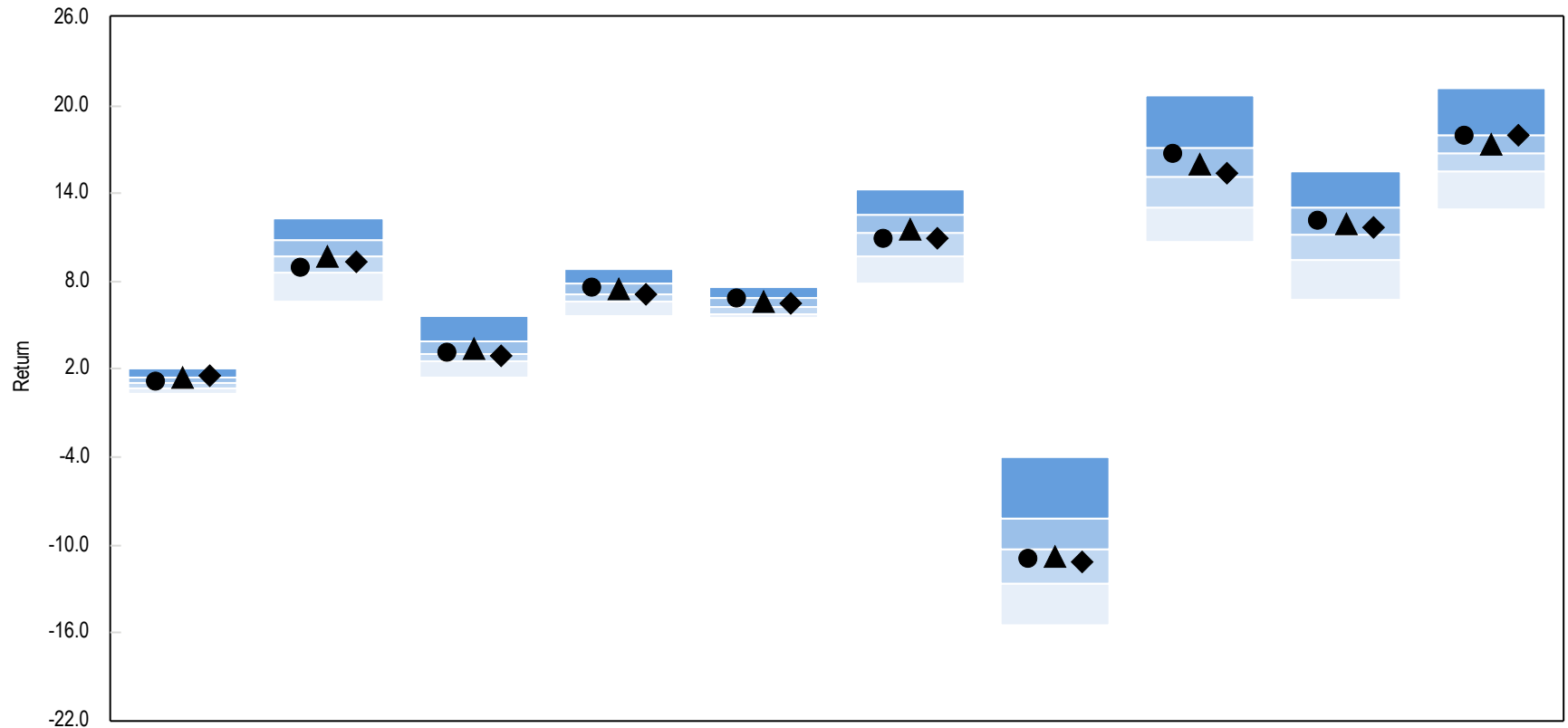
	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Assets	699,389,763	16.1	-1.1	-4.4	-7.5	-7.5	1.3	3.4	4.1	5.2
Global Real Estate	412,956,213	9.5	-2.5	-9.7	-15.1	-15.1	-1.8	1.0	2.7	5.3
<i>NCREIF Property Index</i>			-0.3	-1.2	-5.5	-5.5	2.3	3.4	4.4	6.1
Timber	37,380,668	0.9	0.7	2.2	8.0	8.0	3.2	4.1	3.1	2.0
<i>NCREIF Timberland Index</i>			1.7	3.9	9.8	9.8	11.0	7.2	6.0	5.9
Infrastructure	249,052,882	5.7	1.0	4.8	5.7	5.7	7.5	8.3	7.7	6.6
<i>Infrastructure Manager Benchmark</i>			0.5	-0.9	-3.6	-3.6	3.4	3.4	3.4	2.6
Cash & Equivalents	27,801,255	0.6	1.3	2.7	5.5	5.5	3.1	2.2	2.1	1.6
<i>90 Day U.S. Treasury Bill</i>			1.3	2.6	5.4	5.4	3.0	2.2	2.1	1.5

Residual Holdings value of \$500,830 included in Total Fund value.

Total Fund
Peer Universe Comparison: Cumulative Perf (Net of Fees)

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024

Total Fund vs. InvMetrics Public DB > \$1B

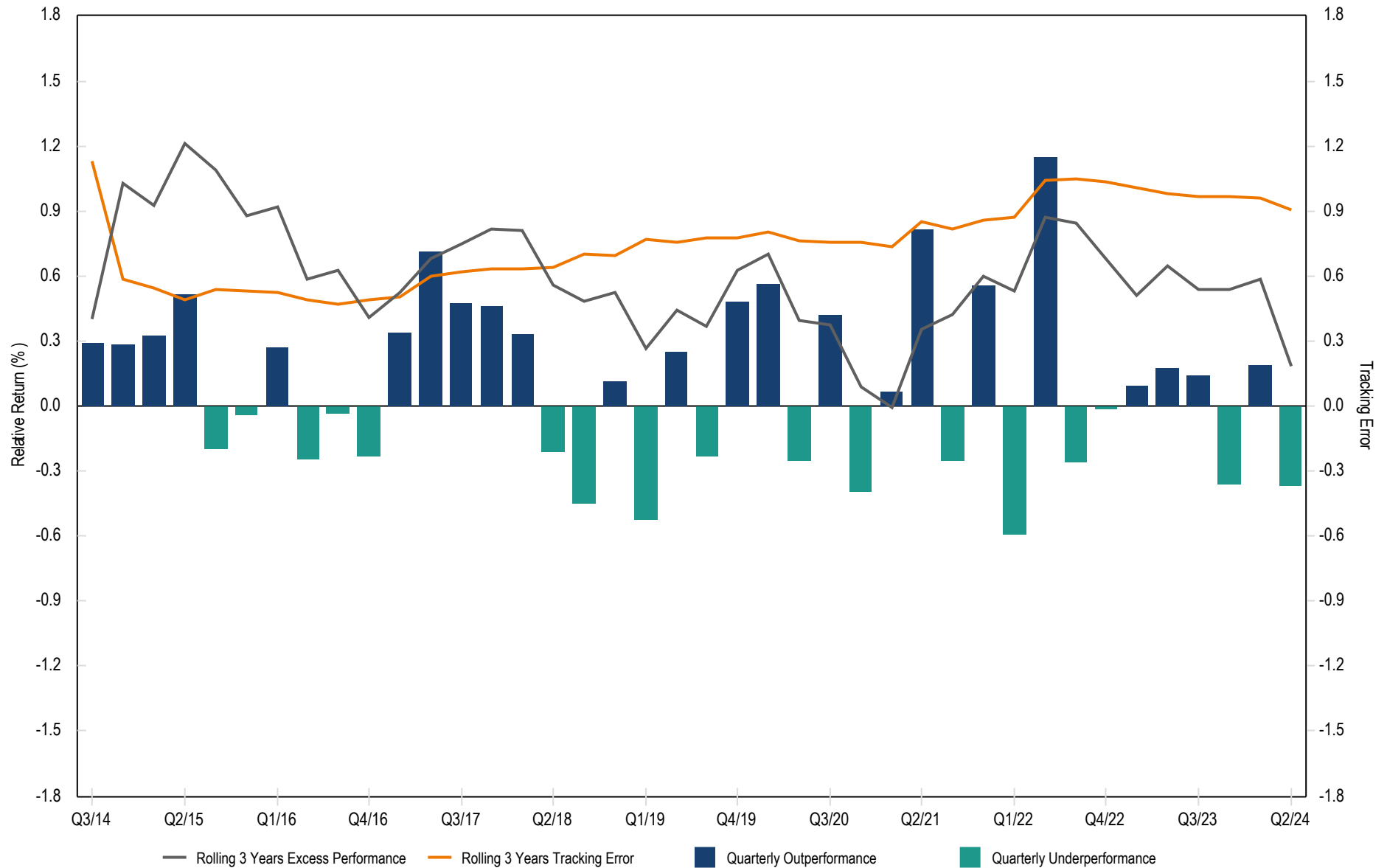


	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	1.2 (44)	9.0 (69)	3.2 (47)	7.6 (32)	6.9 (25)	11.0 (54)	-10.9 (58)	16.7 (32)	12.2 (38)	18.0 (25)
▲ Policy Index	1.5 (20)	9.7 (50)	3.5 (40)	7.5 (33)	6.6 (35)	11.6 (41)	-10.7 (57)	16.1 (42)	12.0 (43)	17.4 (34)
◆ Corridor Target Index	1.5 (17)	9.4 (53)	3.0 (56)	7.2 (48)	6.4 (44)	10.9 (56)	-11.2 (61)	15.4 (48)	11.7 (46)	18.0 (25)
5th Percentile	2.0	12.4	5.6	8.9	7.6	14.3	-4.0	20.7	15.6	21.2
1st Quartile	1.4	10.8	4.0	7.9	6.9	12.5	-8.2	17.2	13.0	17.9
Median	1.0	9.7	3.0	7.2	6.3	11.3	-10.3	15.2	11.2	16.8
3rd Quartile	0.7	8.6	2.5	6.6	5.8	9.7	-12.6	13.0	9.4	15.5
95th Percentile	0.3	6.6	1.4	5.7	5.5	7.9	-15.5	10.7	6.8	12.9
Population	94	94	89	87	82	171	171	201	212	188

Total Fund
Rolling Performance Relative to Policy (Net of Fees)

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024

Rolling Annualized Excess Performance and Tracking Error

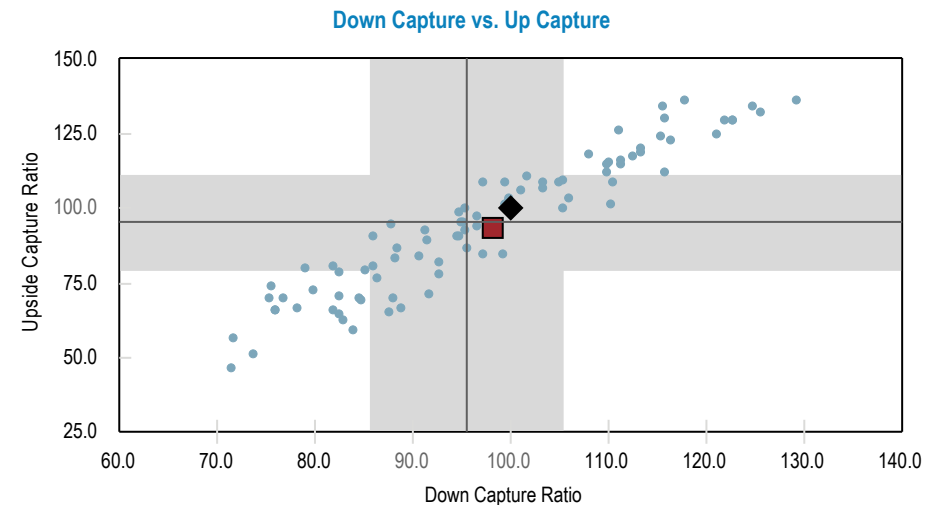
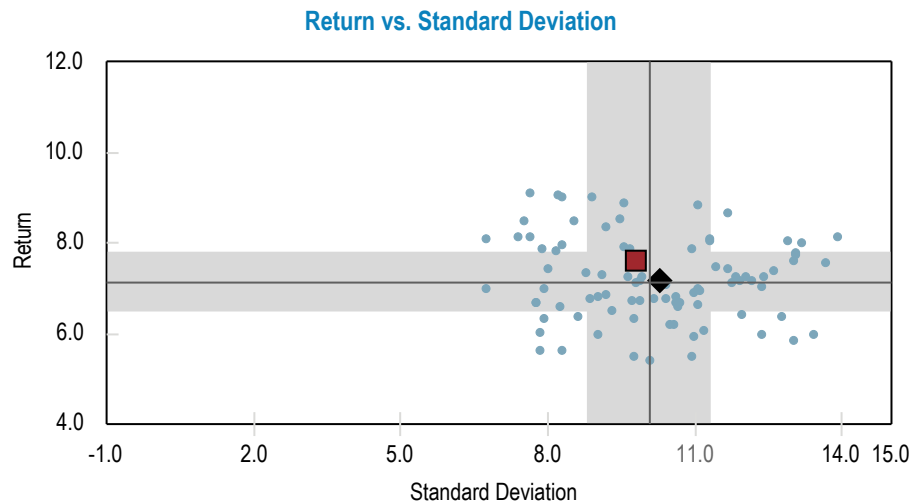


Analytic is using the Corridor Target Index

Total Fund Risk Analysis 5 Years (Net of Fees)

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024

	Anlzd Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	7.62	9.80	0.74	0.95	0.99	98.19	93.67	0.34	1.06	0.58
Corridor Target Index	7.18	10.27	0.00	1.00	1.00	100.00	100.00	-	0.00	0.52



InvMetrics Public DB > \$1B

	Return	Standard Deviation
Total Fund	7.62	9.80
Corridor Target Index	7.18	10.27
Median	7.16	10.06
Population	87	87

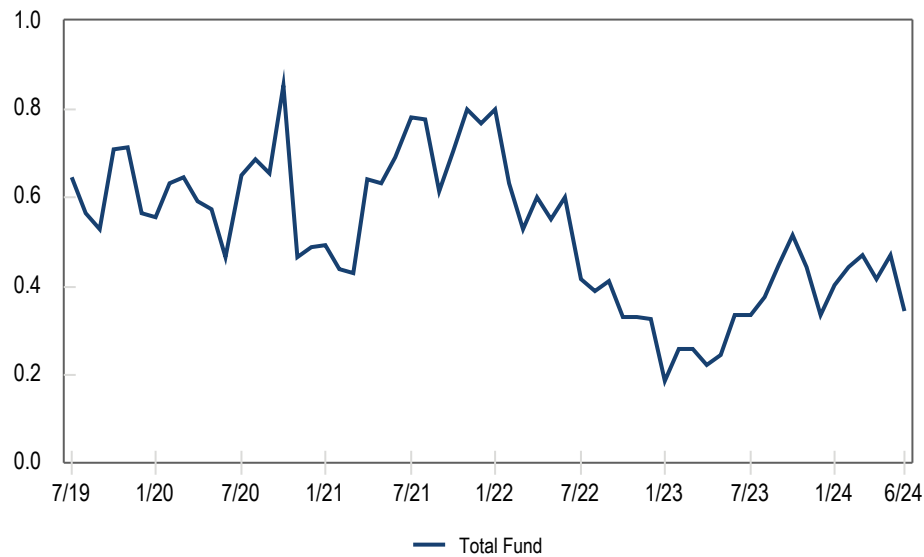
InvMetrics Public DB > \$1B

	Down Capture	Up Capture
Total Fund	93.67	98.19
Corridor Target Index	100.00	100.00
Median	95.24	95.43
Population	87	87

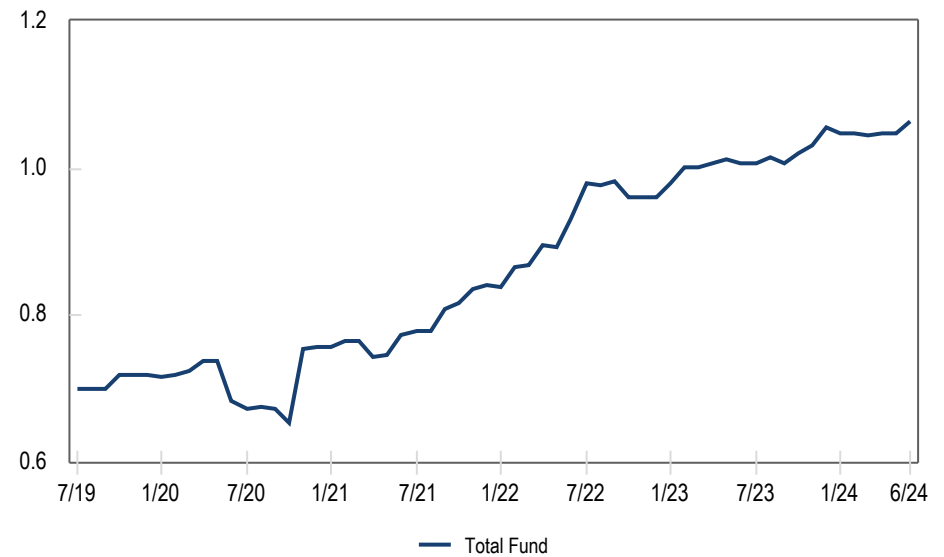
Total Fund Risk Analysis - 5 Years (Net of Fees)

NDSIB - Public Employees Retirement System
Period Ending: June 30, 2024

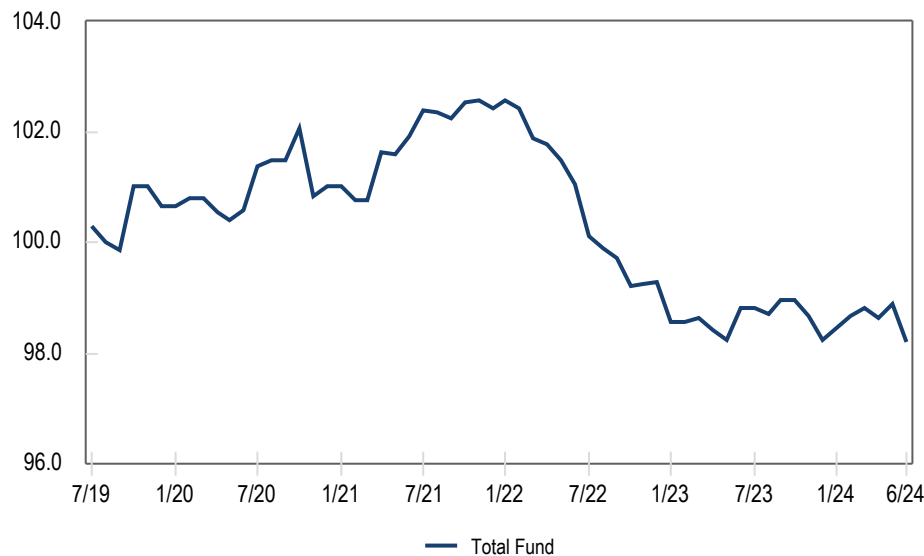
Rolling 5 Years Information Ratio



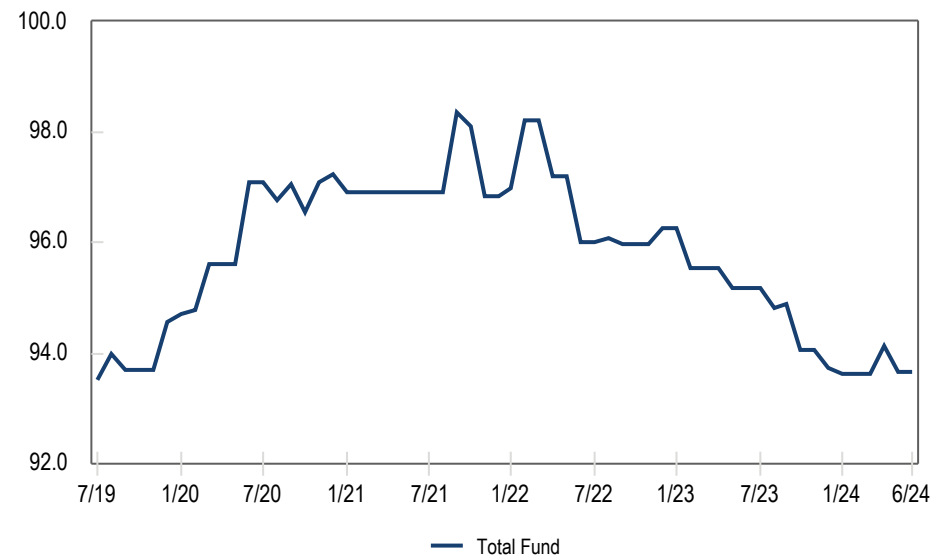
Rolling 5 Years Tracking Error



Rolling 5 Years Up Capture



Rolling 5 Years Down Capture



Analytic is using the Corridor Target Index

Teachers' Fund For Retirement

Investment Performance Review

Period Ending: June 30, 2024



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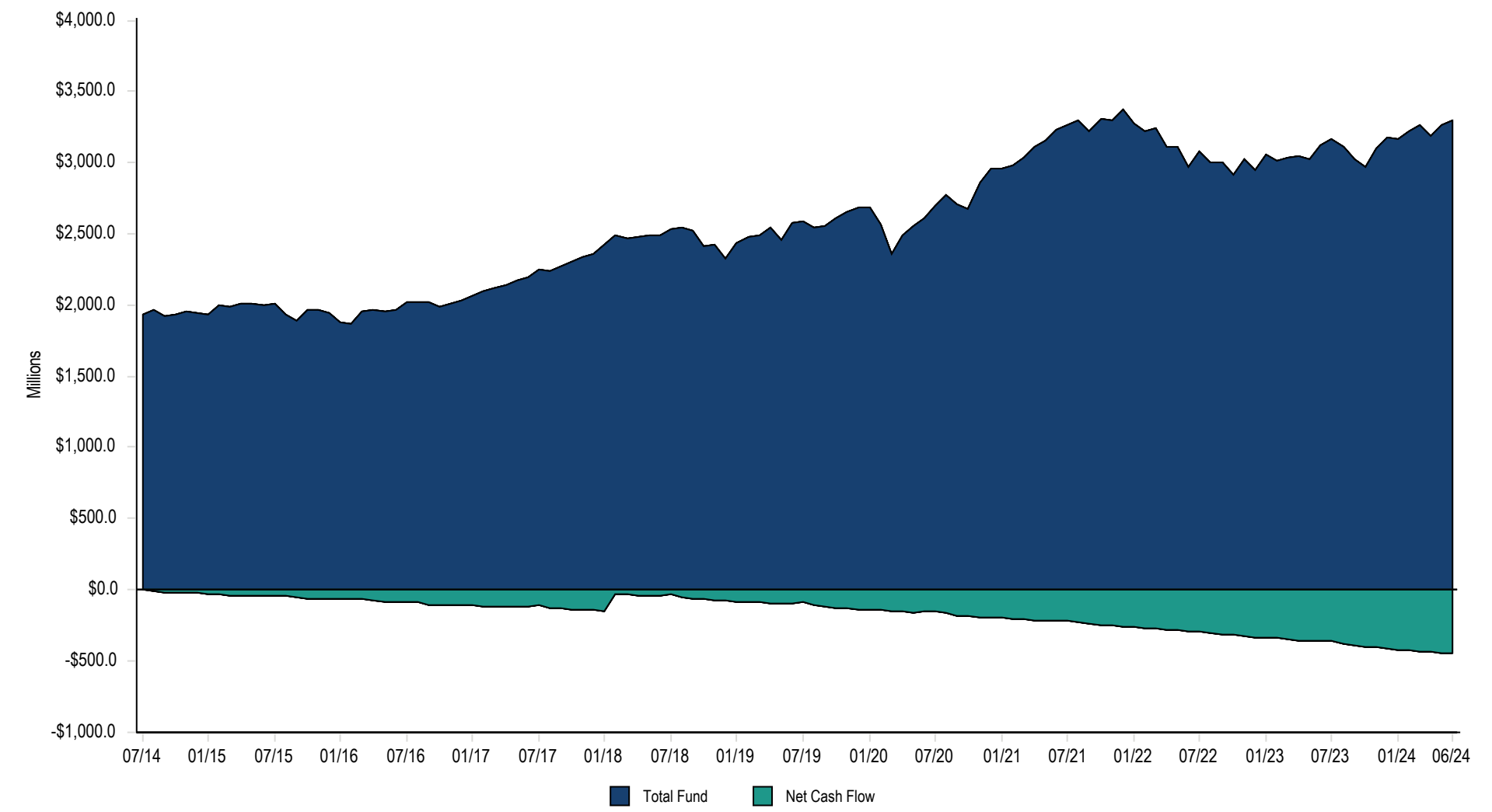
PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

Total Fund
Asset Allocation History

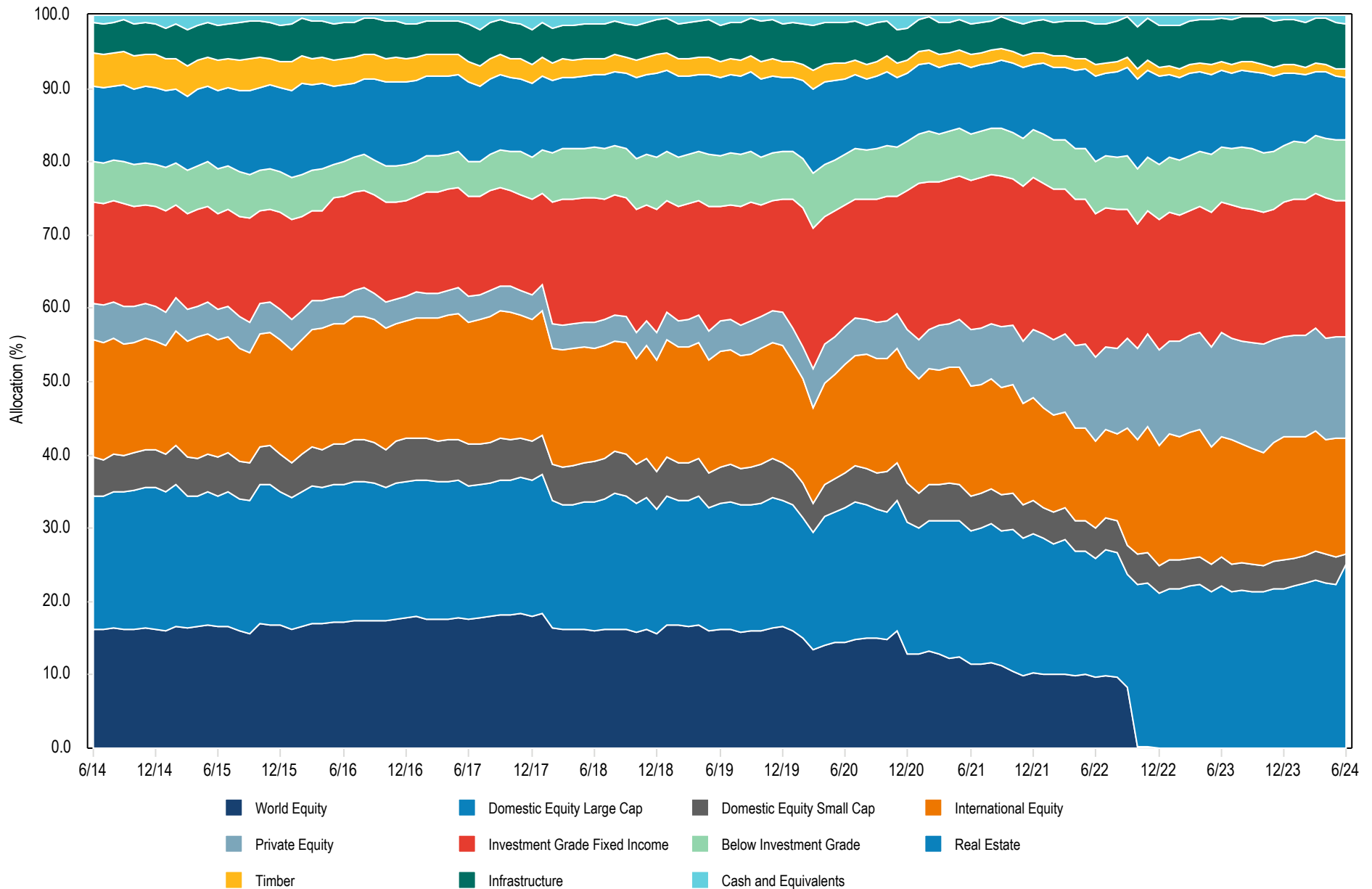
NDSIB - Teachers Fund For Retirement
Period Ending: June 30, 2024



Net Cash Flow is Cumulative.

Total Fund Asset Allocation History

NDSIB - Teachers Fund For Retirement
Period Ending: June 30, 2024



Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Teachers Fund For Retirement

Period Ending: June 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	3,294,121,877	100.0	1.2	4.6	8.1	8.1	2.9	7.3	7.3	6.8
Policy Index			1.5	4.9	9.0	9.0	3.4	7.6	7.5	6.6
Corridor Target Index			1.6	4.8	8.4	8.4	2.7	6.9	7.0	6.3
Total Equity	1,843,019,823	55.9	1.8	8.8	14.0	14.0	5.0	11.0	10.2	8.8
Public Equity	1,386,215,104	42.1	1.3	10.2	18.1	18.1	5.0	10.7	-	-
MSCI AC World IMI Index (Net)			2.4	10.3	18.4	18.4	4.7	10.4	9.6	8.2
World Equities	255,429	0.0	7.3	4.9	5.0	5.0	-15.2	-4.1	-1.1	0.7
Domestic Equity	865,927,948	26.3	1.8	12.4	21.4	21.4	7.9	14.2	13.7	12.3
Russell 3000 Index			3.2	13.6	23.1	23.1	8.1	14.1	13.5	12.1
Large Cap	824,907,195	25.0	3.4	15.4	24.9	24.9	9.5	16.2	15.3	13.6
Russell 1000 Index			3.6	14.2	23.9	23.9	8.7	14.6	13.9	12.5
Small Cap	41,020,753	1.2	-6.4	-3.1	3.2	3.2	-0.5	5.8	7.0	6.6
Russell 2000 Index			-3.3	1.7	10.1	10.1	-2.6	6.9	6.8	7.0
International Equity	520,031,727	15.8	0.6	6.8	13.1	13.1	0.2	6.9	6.3	5.2
MSCI AC World ex USA IMI (Net)			0.9	5.3	11.6	11.6	0.2	5.6	5.1	3.9
International All Cap	225,959,604	6.9	-0.1	8.8	15.1	15.1	-	-	-	-
MSCI AC World ex USA IMI (Net)			0.9	5.3	11.6	11.6	0.2	5.6	5.1	3.9
Total Developed International Equity	211,115,976	6.4	-0.3	4.9	14.0	14.0	2.8	8.2	7.2	5.7
MSCI World ex U.S. (Net)			-0.6	5.0	11.2	11.2	2.8	6.6	5.9	4.3
Emerging Markets	82,956,146	2.5	5.0	7.3	13.3	13.3	-7.3	3.5	3.9	3.6
MSCI Emerging Markets Index			5.1	7.7	13.0	13.0	-4.7	3.5	3.9	3.2
Private Equity	456,804,719	13.9	3.5	4.9	3.0	3.0	7.9	14.0	11.9	8.0
Private Equity			3.5	4.9	3.0	3.0	7.9	14.0	11.9	8.0
Total Income	885,991,673	26.9	1.2	1.3	6.0	6.0	-0.6	2.0	3.0	3.0
Investment Grade	612,064,561	18.6	0.5	0.0	4.3	4.3	-2.6	0.6	1.8	2.5
Blmbg. U.S. Aggregate Index			0.1	-0.7	2.6	2.6	-3.0	-0.2	0.9	1.3
Below Investment Grade	273,927,111	8.3	3.1	4.3	9.8	9.8	4.9	5.9	6.0	5.7
Blmbg. U.S. High Yield - 2% Issuer Cap			1.1	2.6	10.4	10.4	1.6	3.9	4.2	4.3

Residual Holdings value of \$4,555,249 included in Total Fund value.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Teachers Fund For Retirement
Period Ending: June 30, 2024

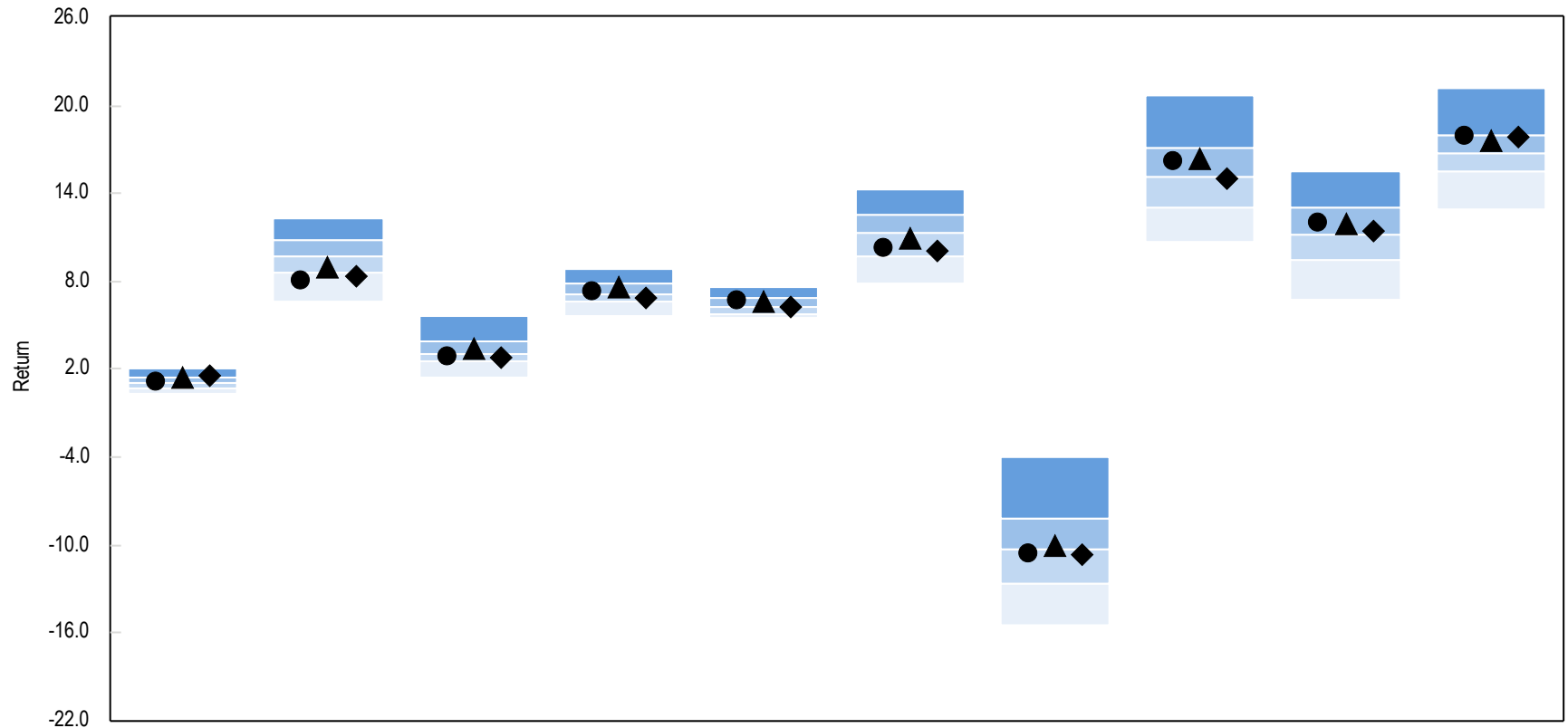
	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Assets	520,660,760	15.8	-0.9	-3.8	-6.5	-6.5	1.7	3.7	4.3	5.2
Global Real Estate	283,269,537	8.6	-2.5	-9.7	-15.1	-15.1	-1.9	1.0	2.7	5.3
<i>NCREIF Property Index</i>			-0.3	-1.2	-5.5	-5.5	2.3	3.4	4.4	6.1
Infrastructure	204,024,167	6.2	1.0	4.8	5.7	5.7	7.5	8.3	7.7	6.6
<i>Infrastructure Manager Benchmark</i>			0.5	-0.9	-3.6	-3.6	3.4	3.4	3.4	2.6
Timber	33,367,055	1.0	0.7	2.2	8.0	8.0	3.2	4.1	3.1	2.0
<i>NCREIF Timberland Index</i>			1.7	3.9	9.8	9.8	11.0	7.2	6.0	5.9
Cash & Equivalents	39,894,373	1.2	1.3	2.7	5.4	5.4	3.2	2.2	2.1	1.6
<i>90 Day U.S. Treasury Bill</i>			1.3	2.6	5.4	5.4	3.0	2.2	2.1	1.5

Residual Holdings value of \$4,555,249 included in Total Fund value.

Total Fund
Peer Universe Comparison: Cumulative Perf (Net of Fees)

NDSIB - Teachers Fund For Retirement
Period Ending: June 30, 2024

Total Fund vs. InvMetrics Public DB > \$1B

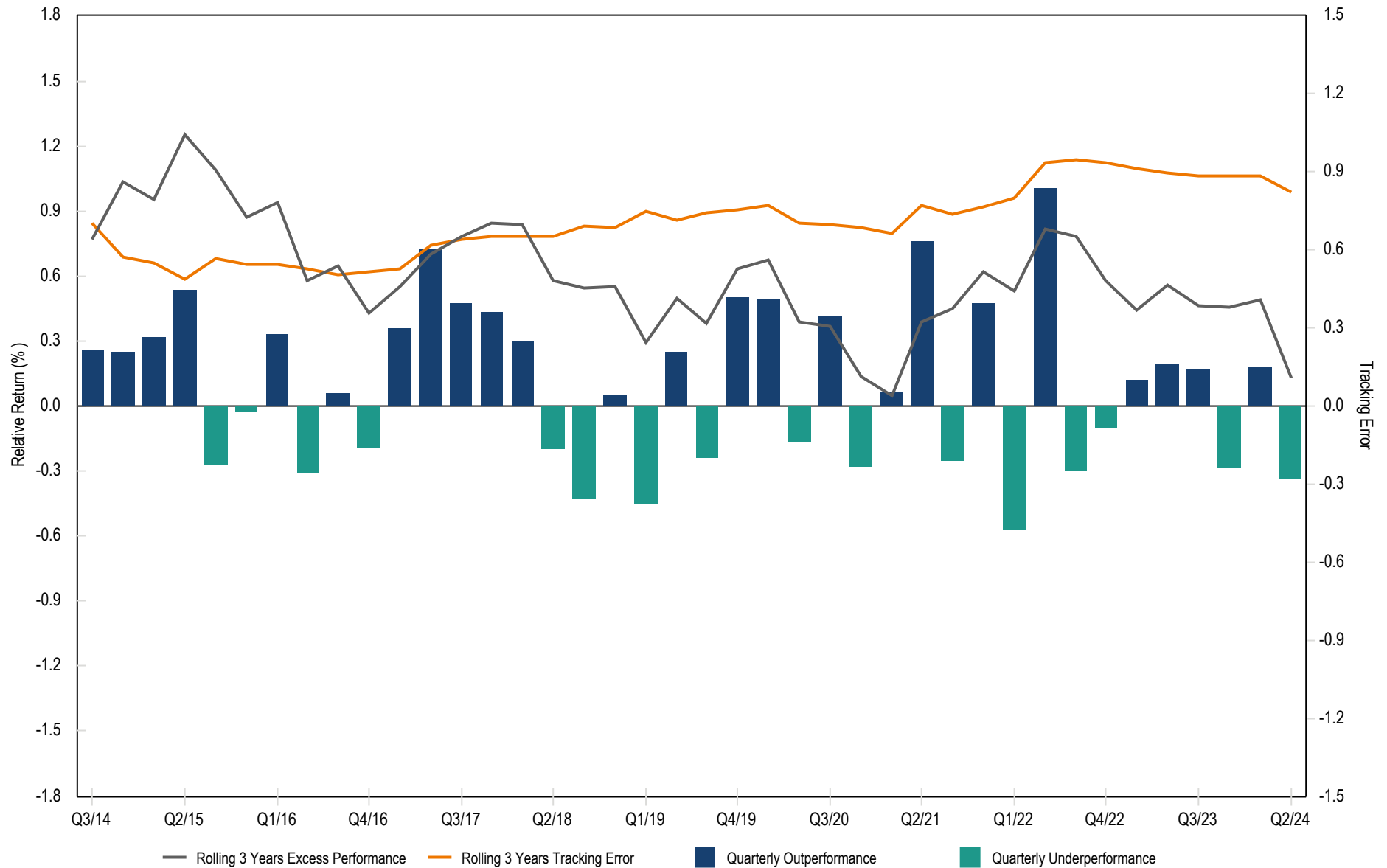


	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	1.2 (38)	8.1 (81)	2.9 (61)	7.3 (39)	6.8 (31)	10.3 (69)	-10.5 (54)	16.2 (40)	12.1 (40)	18.0 (25)
▲ Policy Index	1.5 (20)	9.0 (68)	3.4 (41)	7.6 (33)	6.6 (35)	10.9 (56)	-10.0 (46)	16.4 (38)	12.0 (42)	17.6 (31)
◆ Corridor Target Index	1.6 (17)	8.4 (78)	2.7 (63)	6.9 (60)	6.3 (50)	10.0 (74)	-10.6 (55)	15.1 (51)	11.4 (48)	17.9 (26)
5th Percentile	2.0	12.4	5.6	8.9	7.6	14.3	-4.0	20.7	15.6	21.2
1st Quartile	1.4	10.8	4.0	7.9	6.9	12.5	-8.2	17.2	13.0	17.9
Median	1.0	9.7	3.0	7.2	6.3	11.3	-10.3	15.2	11.2	16.8
3rd Quartile	0.7	8.6	2.5	6.6	5.8	9.7	-12.6	13.0	9.4	15.5
95th Percentile	0.3	6.6	1.4	5.7	5.5	7.9	-15.5	10.7	6.8	12.9
Population	94	94	89	87	82	171	171	201	212	188

Total Fund
Rolling Performance Relative to Policy (Net of Fees)

NDSIB - Teachers Fund For Retirement
Period Ending: June 30, 2024

Rolling Annualized Excess Performance and Tracking Error



Analytic is using the Corridor Target Index

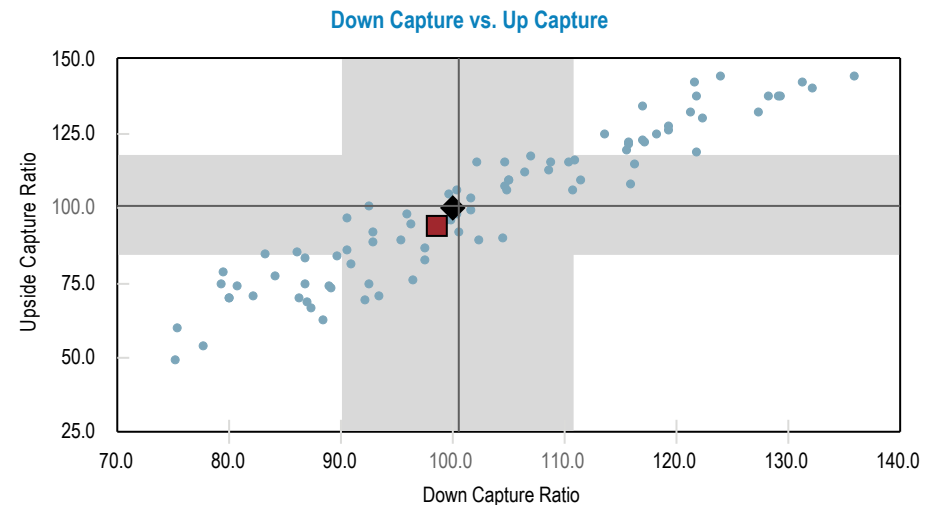
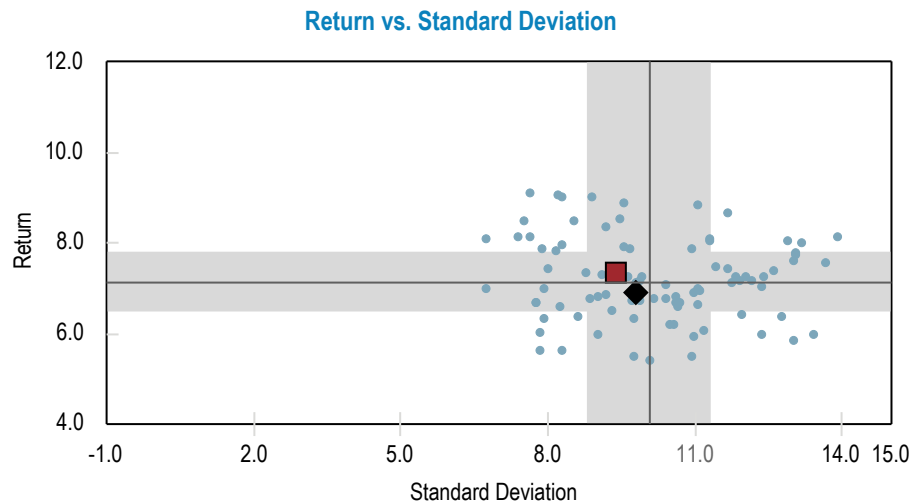
Total Fund

Risk Analysis 5 Years (Net of Fees)

NDSIB - Teachers Fund For Retirement

Period Ending: June 30, 2024

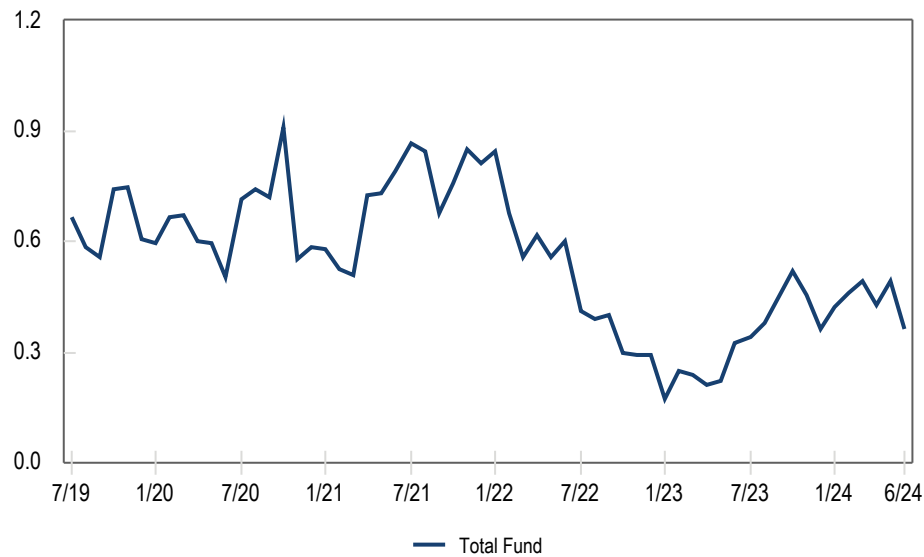
	Anlzd Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	7.35	9.38	0.68	0.95	0.99	98.51	94.10	0.37	0.97	0.57
Corridor Target Index	6.93	9.79	0.00	1.00	1.00	100.00	100.00	-	0.00	0.51



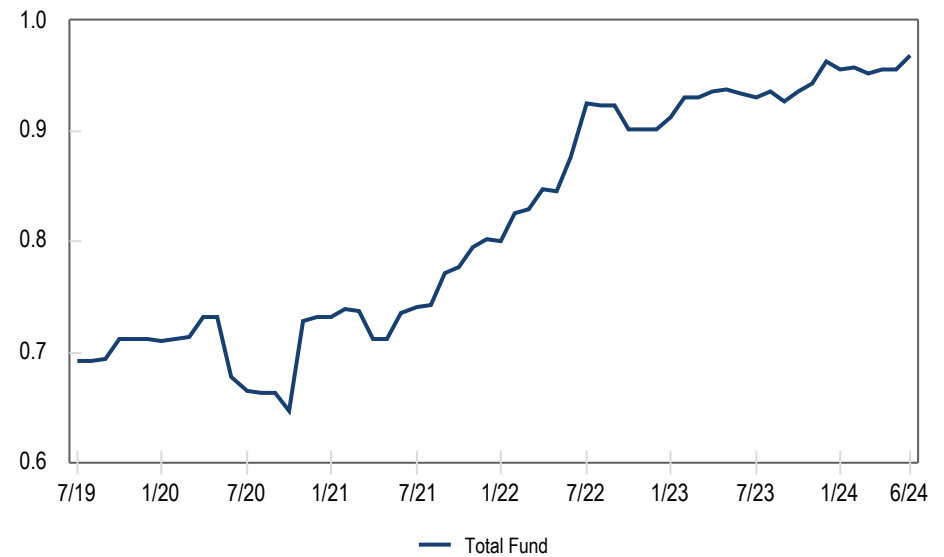
Total Fund Risk Analysis - 5 Years (Net of Fees)

NDSIB - Teachers Fund For Retirement
Period Ending: June 30, 2024

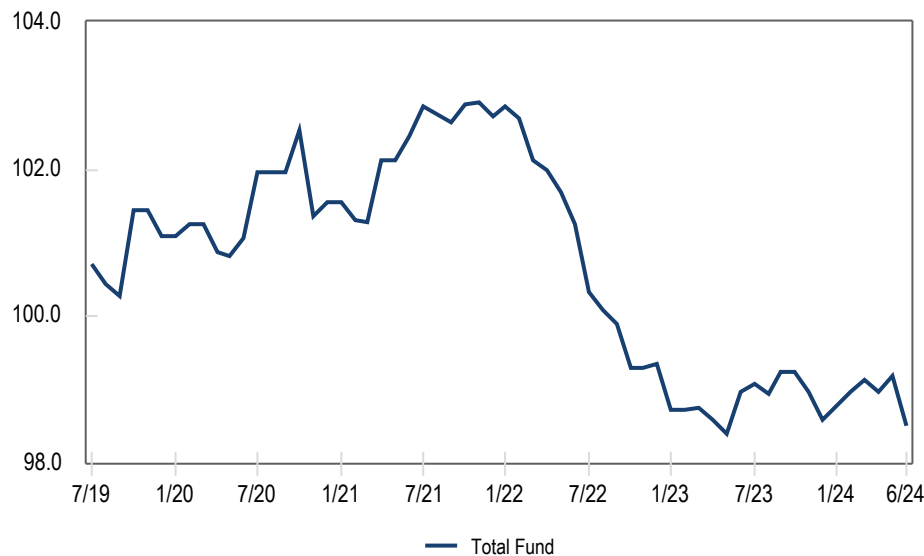
Rolling 5 Years Information Ratio



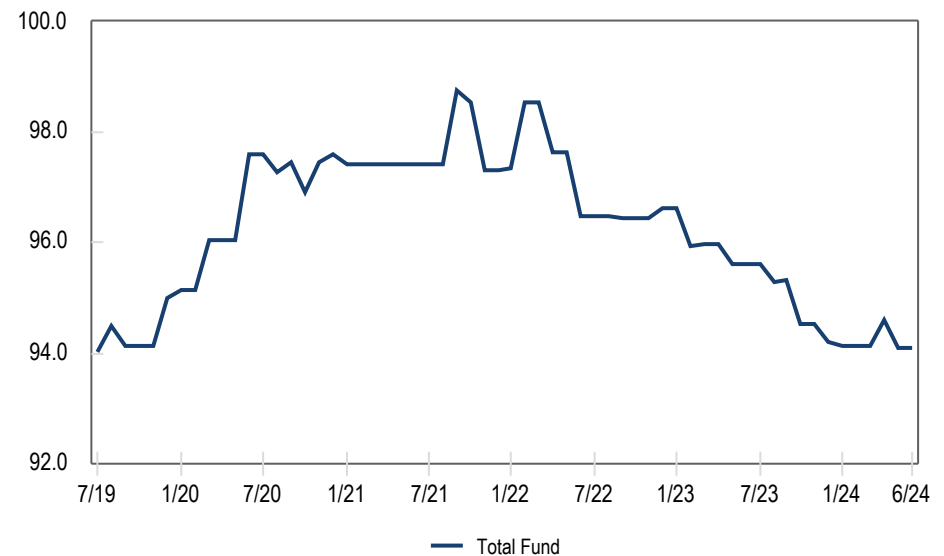
Rolling 5 Years Tracking Error



Rolling 5 Years Up Capture



Rolling 5 Years Down Capture



Analytic is using the Corridor Target Index

Workforce Safety & Insurance Fund

Investment Performance Review

Period Ending: June 30, 2024



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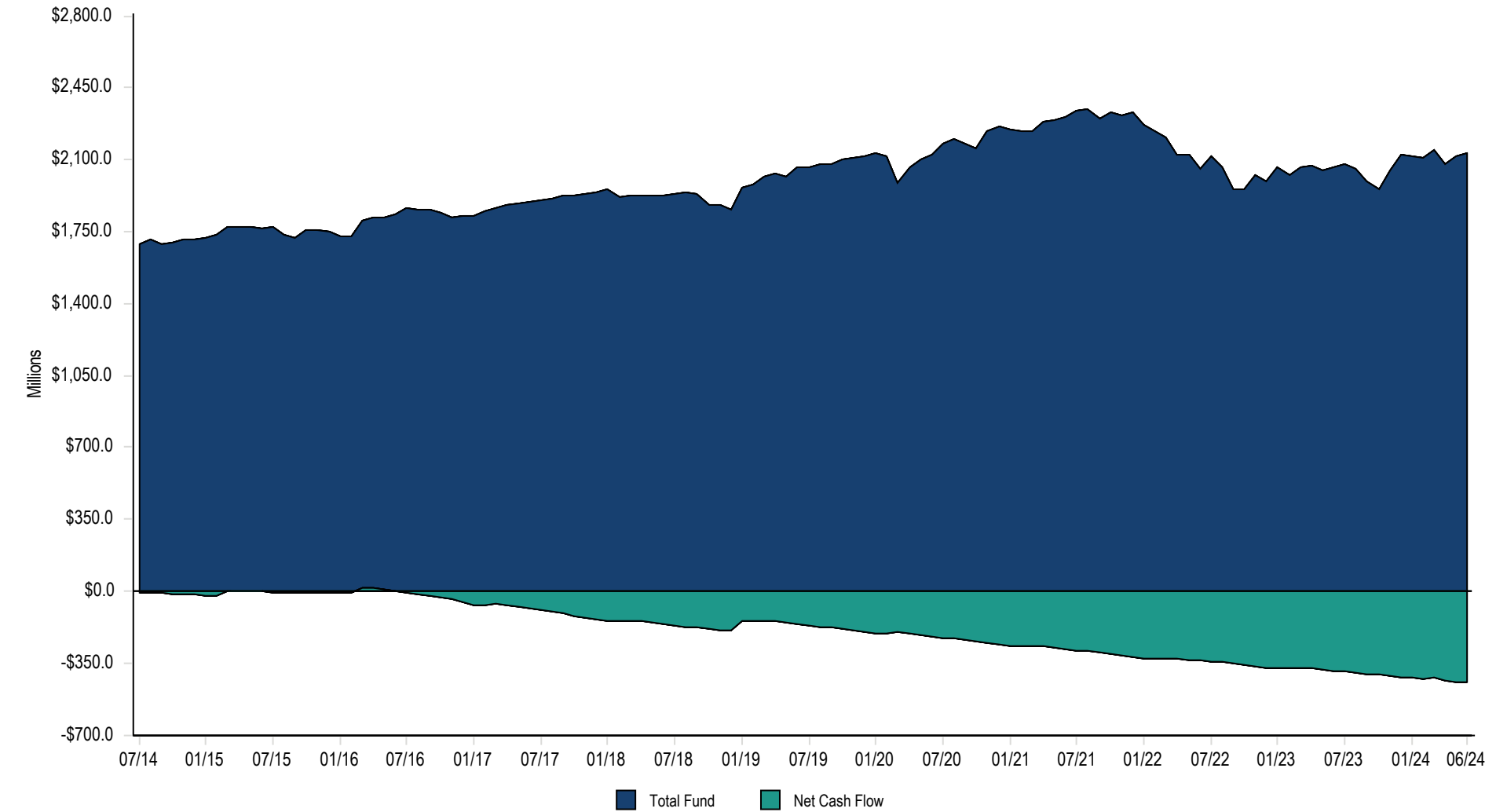
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PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

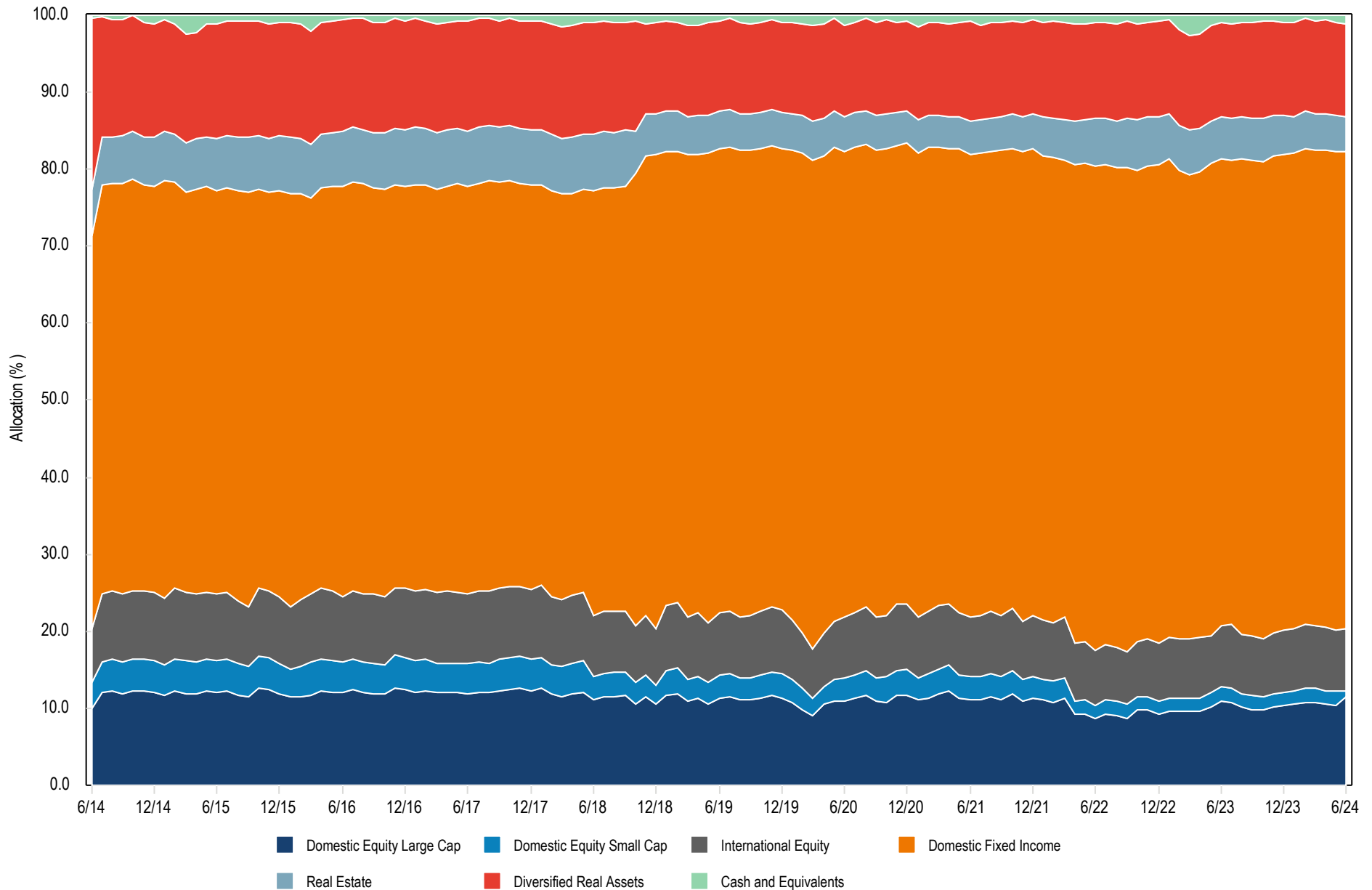
SAN FRANCISCO 415.362.3484



Net Cash Flow is Cumulative.

Total Fund Asset Allocation History

NDSIB - Workforce Safety & Insurance
Period Ending: June 30, 2024



Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Workforce Safety & Insurance
Period Ending: June 30, 2024

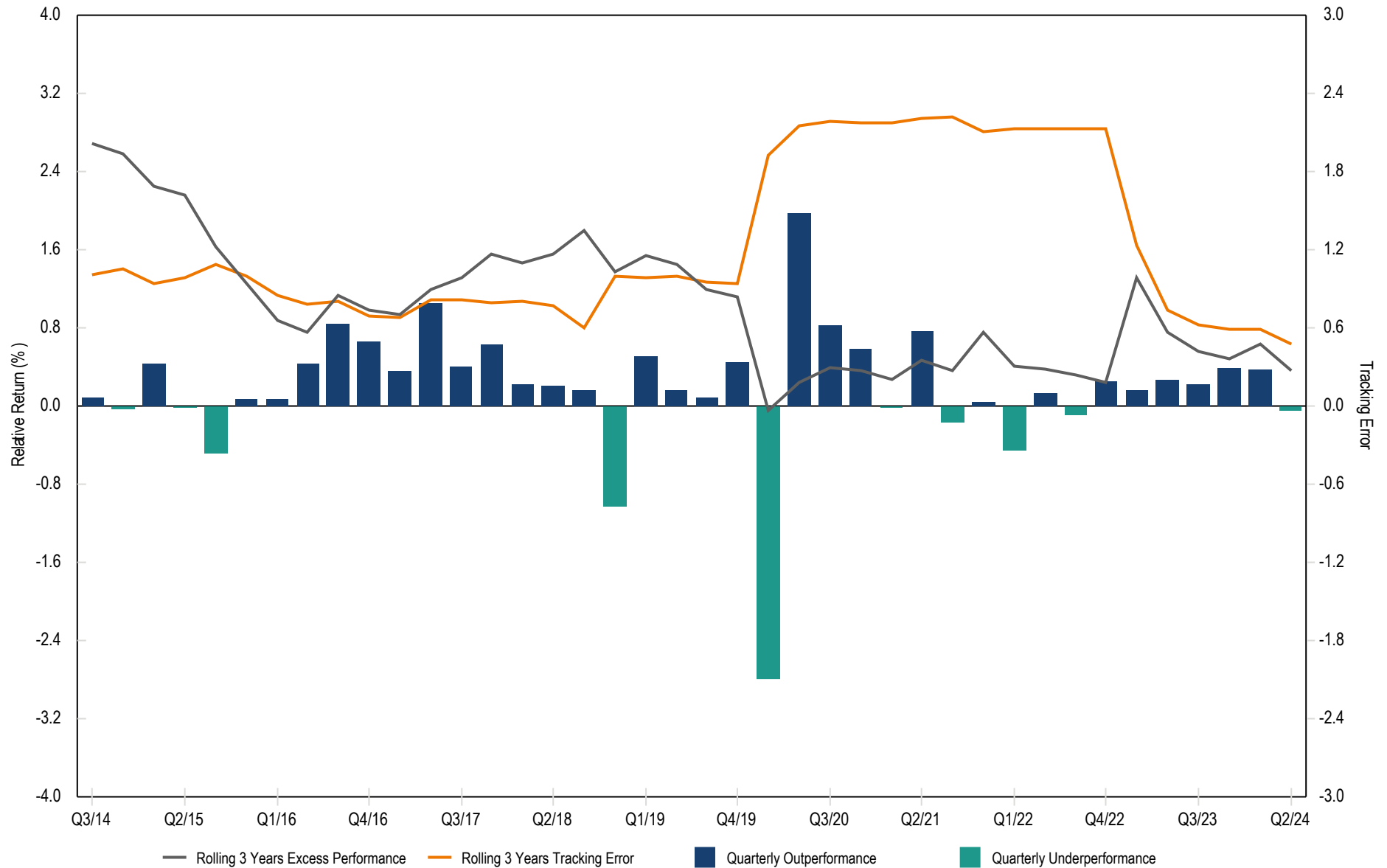
	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	2,133,638,592	100.0	0.5	1.8	6.0	6.0	-0.3	3.2	4.0	4.3
Policy Index			0.5	1.4	5.1	5.1	-0.6	2.7	3.5	3.6
Corridor Target Index			0.5	1.4	5.0	5.0	-0.7	2.7	3.5	3.6
Total Equity	433,504,976	20.3	1.5	10.3	18.2	18.2	5.1	11.0	-	-
Domestic Equity	259,898,437	12.2	1.9	12.6	21.6	21.6	8.1	13.7	12.6	11.5
Russell 3000 Index			3.2	13.6	23.1	23.1	8.1	14.1	13.5	12.1
Large Cap	246,788,273	11.6	3.4	15.5	25.1	25.1	9.6	15.5	14.2	12.8
Russell 1000 Index			3.6	14.2	23.9	23.9	8.7	14.6	13.9	12.5
Small Cap	13,110,164	0.6	-6.1	-2.8	3.3	3.3	-0.6	5.0	5.1	5.9
Russell 2000 Index			-3.3	1.7	10.1	10.1	-2.6	6.9	6.8	7.0
International Equity	173,606,539	8.1	0.8	7.1	13.4	13.4	1.2	7.1	6.1	5.0
MSCI World ex U.S. (Net)			-0.6	5.0	11.2	11.2	2.8	6.6	5.9	4.3
International Equity All Cap	74,118,332	3.5	0.6	9.4	15.6	15.6	-	-	-	-
MSCI AC World ex USA IMI (Net)			0.9	5.3	11.6	11.6	0.2	5.6	5.1	3.9
International Developed Large Cap	61,811,234	2.9	-0.8	5.0	11.2	11.2	-	-	-	-
MSCI World ex U.S. (Net)			-0.6	5.0	11.2	11.2	2.8	6.6	5.9	4.3
International Developed Small Cap	9,650,110	0.5	-0.5	3.2	10.5	10.5	-	-	-	-
MSCI World ex U.S. Small Cap Index			-1.3	1.3	8.3	8.3	-2.5	5.1	4.5	4.5
Emerging Markets Equity	28,026,863	1.3	5.5	7.7	13.9	13.9	-	-	-	-
MSCI Emerging Markets Index			5.1	7.7	13.0	13.0	-4.7	3.5	3.9	3.2
Fixed Income	1,322,184,984	62.0	0.4	-0.1	4.2	4.2	-2.5	0.6	1.8	2.5
Blmbg. U.S. Aggregate Index			0.1	-0.7	2.6	2.6	-3.0	-0.2	0.9	1.3
Total Real Assets	352,414,248	16.5	-0.5	-1.6	-0.9	-0.9	0.8	2.6	-	-
Diversified Real Assets	255,426,472	12.0	0.7	1.8	4.1	4.1	1.0	3.0	3.8	3.3
Real Estate	96,987,776	4.5	-3.8	-9.6	-12.3	-12.3	0.5	1.6	2.9	5.3
NCREIF Property Index			-0.3	-1.2	-5.5	-5.5	2.3	3.4	4.4	6.1
Cash Equivalents	25,324,972	1.2	1.3	2.6	5.4	5.4	3.0	2.1	2.0	1.4
90 Day U.S. Treasury Bill			1.3	2.6	5.4	5.4	3.0	2.2	2.1	1.5

Residual Holdings value of \$209,411 included in Total Fund value.

Total Fund
Rolling Performance Relative to Policy (Net of Fees)

NDSIB - Workforce Safety & Insurance
Period Ending: June 30, 2024

Rolling Annualized Excess Performance and Tracking Error

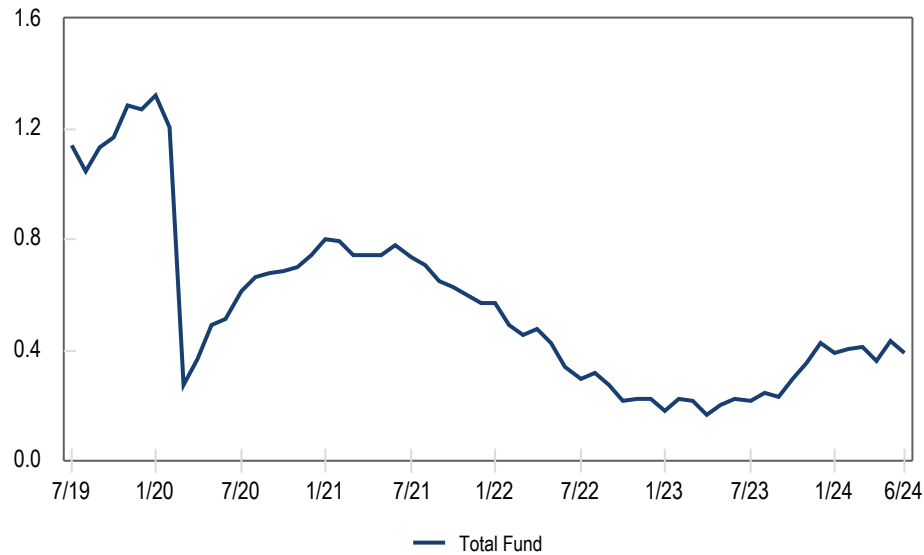


Analytic is using the Corridor Target Index

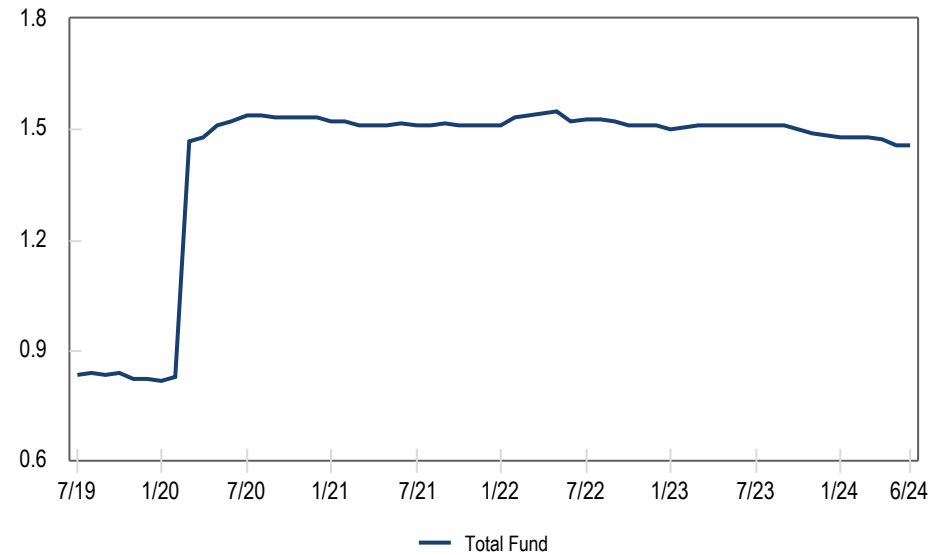
Total Fund Risk Analysis - 5 Years (Net of Fees)

NDSIB - Workforce Safety & Insurance
Period Ending: June 30, 2024

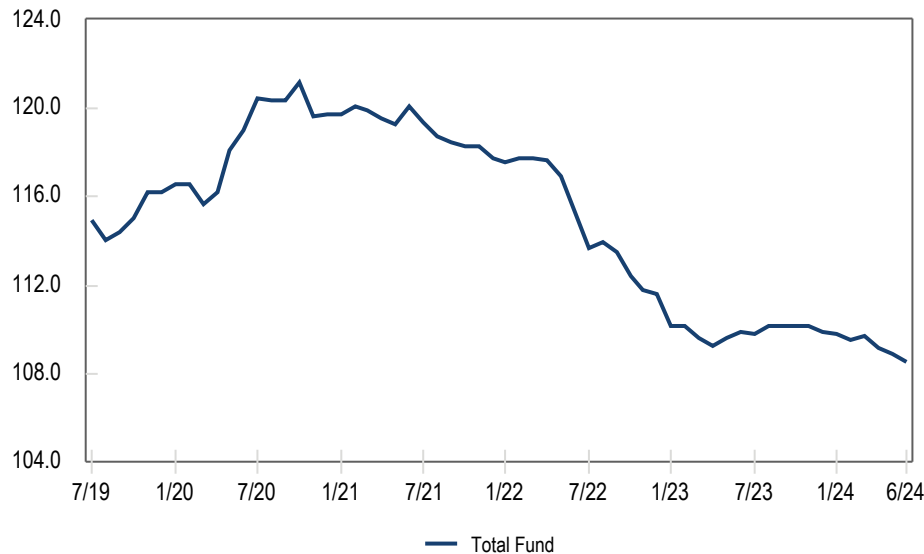
Rolling 5 Years Information Ratio



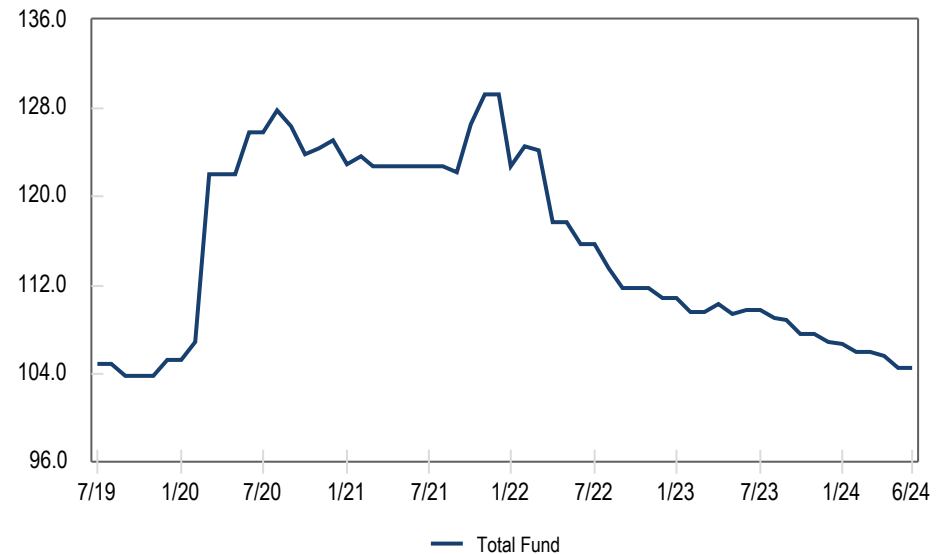
Rolling 5 Years Tracking Error



Rolling 5 Years Up Capture



Rolling 5 Years Down Capture



Analytic is using the Corridor Target Index

Legacy Fund

Investment Performance Review
Period Ending: June 30, 2024



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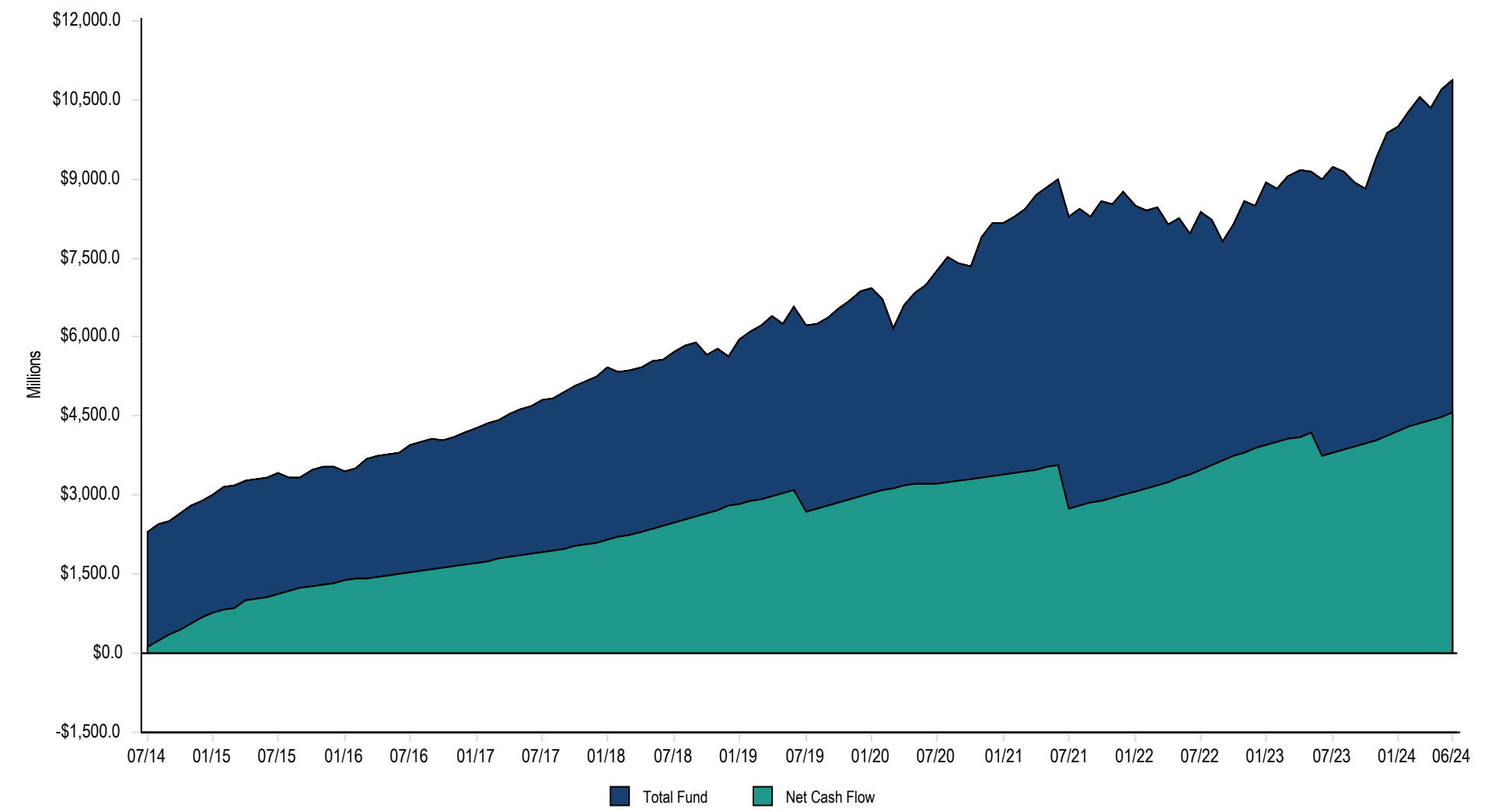
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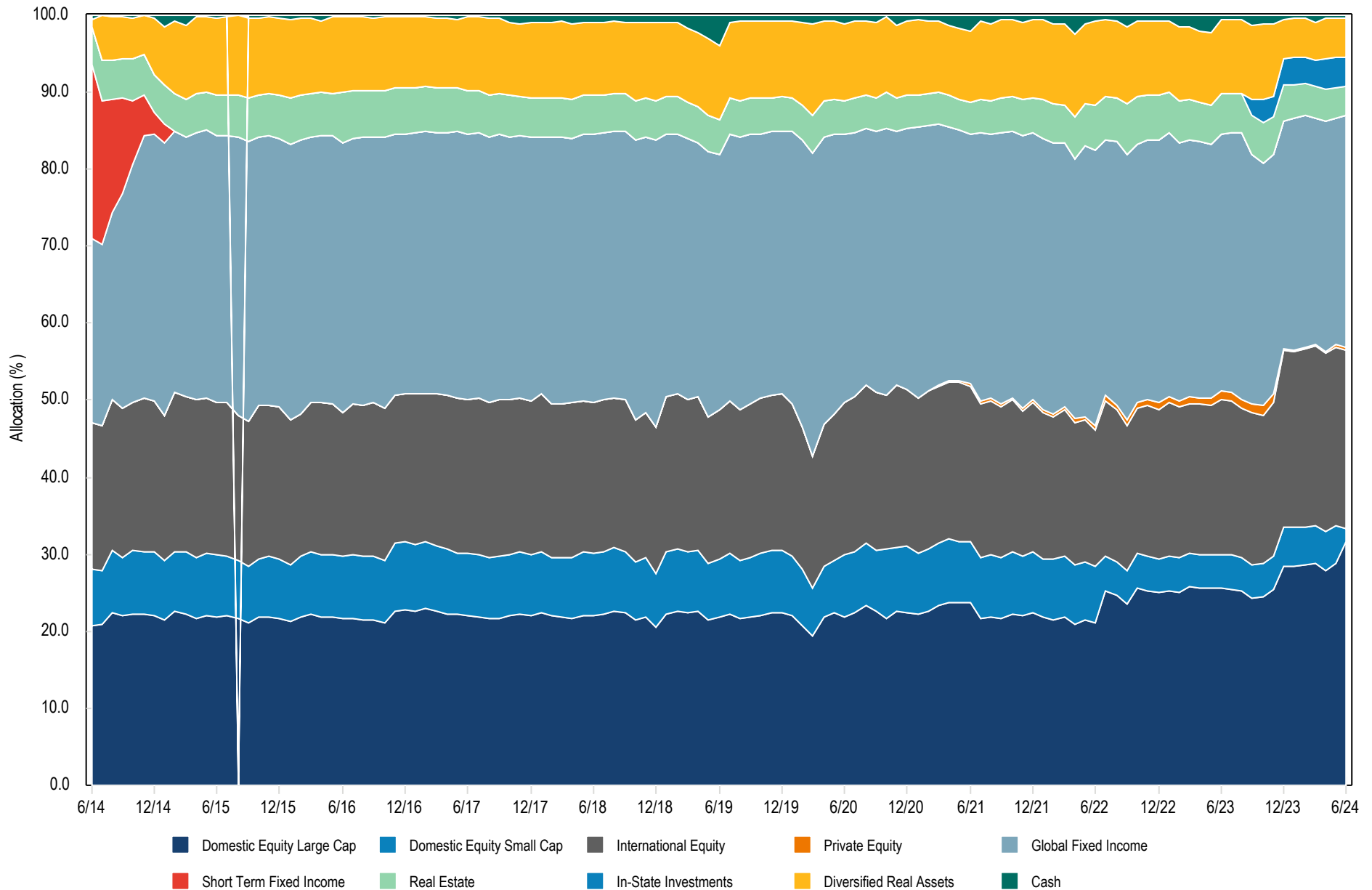
SAN FRANCISCO 415.362.3484



Net Cash Flow is Cumulative.

Total Fund Asset Allocation History

NDSIB - Legacy Fund
Period Ending: June 30, 2024



Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: June 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	10,878,800,038		1.0	5.6	10.9	10.9	2.5	6.6	6.5	6.2
Policy Index			1.1	4.5	8.8	8.8	1.4	5.6	5.8	5.4
Corridor Index			1.1	4.9	9.8	9.8	1.7	5.8	5.9	5.5
Total Equity	6,184,325,334		1.4	10.1	18.0	18.0	4.8	10.5	-	-
Public Equity	6,140,031,442		1.5	10.1	18.1	18.1	-	-	-	-
Public Equity Benchmark			1.9	9.4	17.6	17.6	-	-	-	-
Domestic Equity	3,621,969,293		1.9	12.4	21.6	21.6	7.6	13.1	12.1	11.2
Domestic Equity Benchmark			2.5	12.3	21.8	21.8	6.4	13.1	12.4	11.4
Large Cap	3,442,416,790		3.4	15.3	25.1	25.1	9.6	15.4	14.1	12.7
Russell 1000 Index			3.6	14.2	23.9	23.9	8.7	14.6	13.9	12.5
Small Cap	179,552,502		-6.1	-2.8	3.2	3.2	-0.9	5.0	5.2	5.9
Russell 2000 Index			-3.3	1.7	10.1	10.1	-2.6	6.9	6.8	7.0
International Equity	2,518,017,596		0.8	6.8	13.1	13.1	0.7	6.7	5.9	4.9
Legacy - Total International Equity Benchmark			0.9	5.3	11.6	11.6	1.6	5.8	5.3	4.0
International Equity All Cap	918,249,315		0.5	9.0	15.2	15.2	-	-	-	-
MSCI AC World ex USA IMI (Net)			0.9	5.3	11.6	11.6	-	-	-	-
International Developed Large Cap	993,036,177		-0.6	4.9	11.1	11.1	-	-	-	-
MSCI World ex U.S. (Net)			-0.6	5.0	11.2	11.2	-	-	-	-
International Developed Small Cap	150,032,466		-0.5	3.1	10.4	10.4	-	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			-1.6	1.0	7.8	7.8	-	-	-	-
Emerging Markets	456,699,639		5.2	7.5	13.6	13.6	-	-	-	-
MSCI Emerging Markets (Net)			5.0	7.5	12.5	12.5	-	-	-	-
Private Equity	44,293,892		0.6	1.8	3.0	3.0	3.0	-	-	-
Private Equity Benchmark			1.6	3.6	11.3	11.3	4.1	-	-	-
Total Income	3,280,187,393		0.7	0.6	4.6	4.6	-1.5	1.2	2.3	2.8
Blmbg. U.S. Aggregate Index			0.1	-0.7	2.6	2.6	-3.0	-0.2	0.9	1.3
Private Credit	659,103,600		2.9	5.1	-	-	-	-	-	-
Total Real Assets	953,649,298		-0.9	-2.2	-3.4	-3.4	1.4	3.7	-	-
Real Estate	416,357,923		-3.0	-9.6	-12.4	-12.4	0.7	1.7	3.0	5.3
NCREIF Property Index			-0.3	-1.2	-5.5	-5.5	2.3	3.4	4.4	6.1
Infrastructure	537,291,375		0.8	4.6	4.3	4.3	3.1	5.4	5.2	4.0
Infrastructure Benchmark			0.5	-0.9	-2.4	-2.4	0.1	2.4	2.8	1.9
In-State Investments	410,454,650		0.9	1.6	-	-	-	-	-	-
In-State Fixed Income	361,110,261		0.9	1.8	-	-	-	-	-	-
In-State Equity	49,344,389		0.4	0.4	-	-	-	-	-	-

Residual holdings account with a market value of \$1,742,868.05 included in total fund market value.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund

Period Ending: June 30, 2024

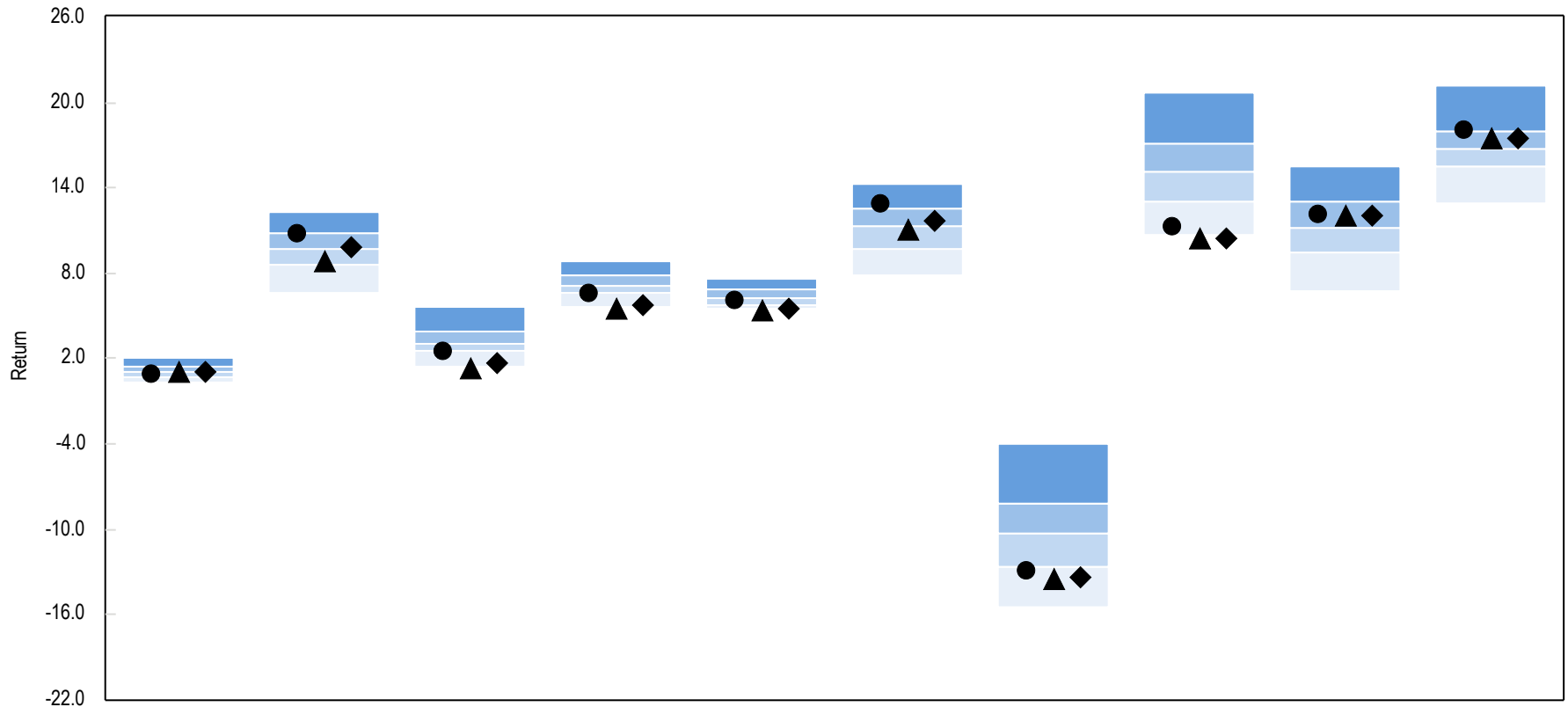
	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Cash and Equivalents	48,440,495		1.3	2.7	5.5	5.5	3.0	2.1	2.0	1.4
90 Day U.S. Treasury Bill			1.3	2.6	5.4	5.4	3.0	2.2	2.1	1.5

Residual holdings account with a market value of \$1,742,868.05 included in total fund market value.

Total Fund
Peer Universe Comparison: Cumulative Perf (Net of Fees)

NDSIB - Legacy Fund
Period Ending: June 30, 2024

Total Fund vs. InvMetrics Public DB > \$1B

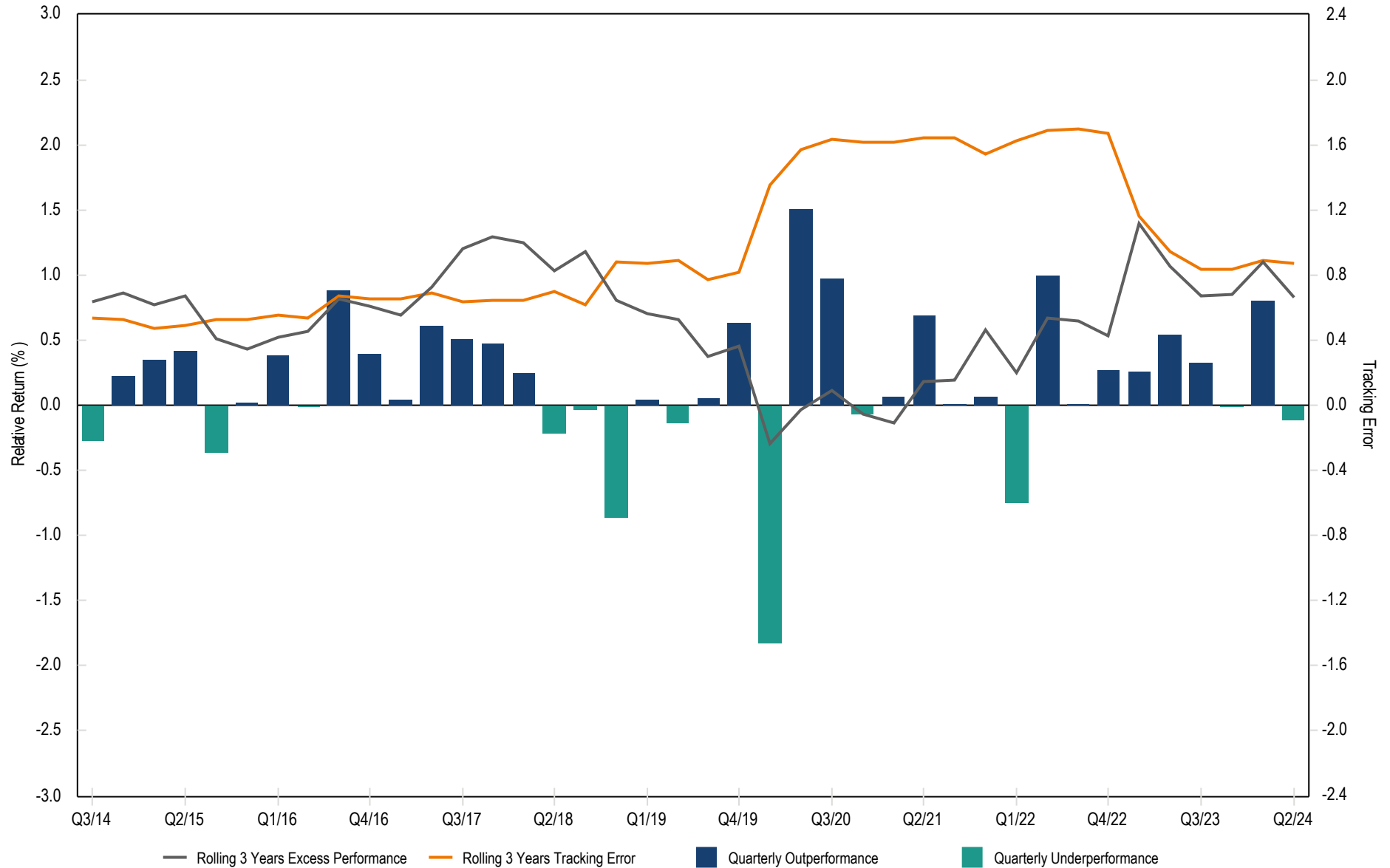


	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	1.0 (56)	10.9 (25)	2.5 (74)	6.6 (75)	6.2 (58)	12.9 (19)	-12.9 (79)	11.3 (93)	12.2 (38)	18.1 (23)
▲ Policy Index	1.1 (50)	8.8 (70)	1.4 (96)	5.6 (98)	5.4 (97)	11.1 (52)	-13.5 (85)	10.4 (97)	12.1 (40)	17.5 (32)
◆ Corridor Index	1.1 (49)	9.8 (47)	1.7 (91)	5.8 (95)	5.5 (97)	11.7 (38)	-13.4 (84)	10.4 (97)	12.0 (41)	17.5 (33)
5th Percentile	2.0	12.4	5.6	8.9	7.6	14.3	-4.0	20.7	15.6	21.2
1st Quartile	1.4	10.8	4.0	7.9	6.9	12.5	-8.2	17.2	13.0	17.9
Median	1.0	9.7	3.0	7.2	6.3	11.3	-10.3	15.2	11.2	16.8
3rd Quartile	0.7	8.6	2.5	6.6	5.8	9.7	-12.6	13.0	9.4	15.5
95th Percentile	0.3	6.6	1.4	5.7	5.5	7.9	-15.5	10.7	6.8	12.9
Population	94	94	89	87	82	171	171	201	212	188

Total Fund
Rolling Performance Relative to Policy (Net of Fees)

NDSIB - Legacy Fund
Period Ending: June 30, 2024

Rolling Annualized Excess Performance and Tracking Error



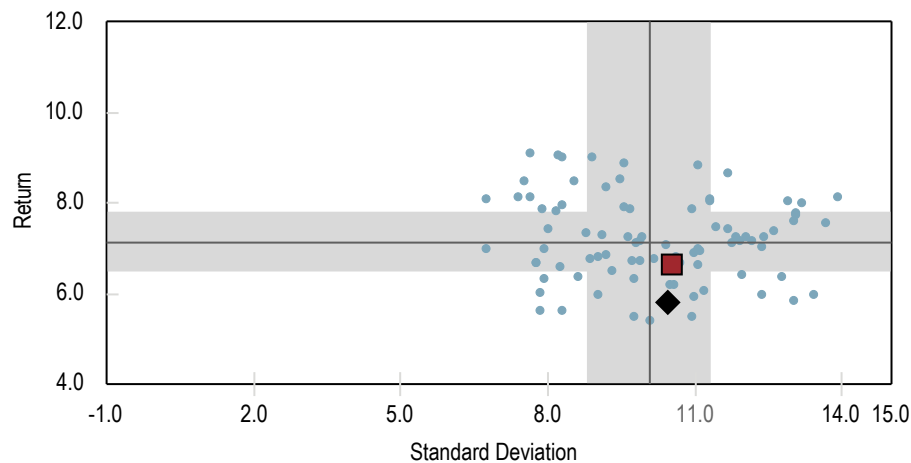
Analytic is using the Corridor Target Index

Total Fund Risk Analysis 5 Years (Net of Fees)

NDSIB - Legacy Fund
Period Ending: June 30, 2024

	Anlzd Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	6.63	10.54	0.80	1.00	0.98	103.38	98.19	0.63	1.29	0.46
Corridor Index	5.79	10.43	0.00	1.00	1.00	100.00	100.00	-	0.00	0.39

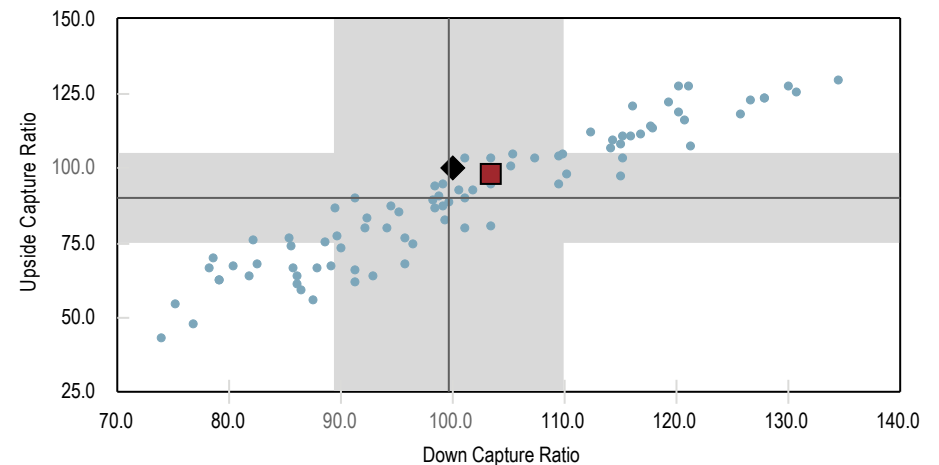
Return vs. Standard Deviation



InvMetrics Public DB > \$1B

	Return	Standard Deviation
Total Fund	6.63	10.54
Corridor Index	5.79	10.43
Median	7.16	10.06
Population	87	87

Down Capture vs. Up Capture



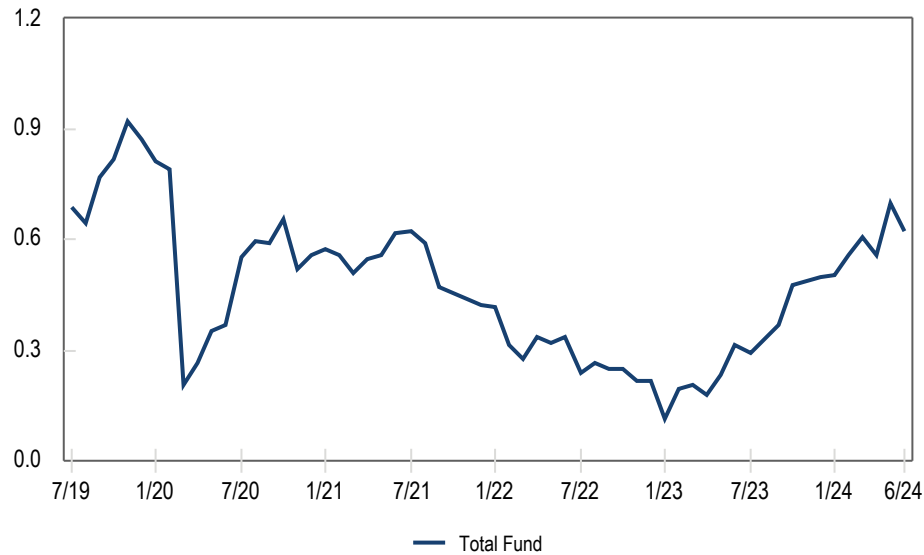
InvMetrics Public DB > \$1B

	Down Capture	Up Capture
Total Fund	98.19	103.38
Corridor Index	100.00	100.00
Median	90.15	99.64
Population	87	87

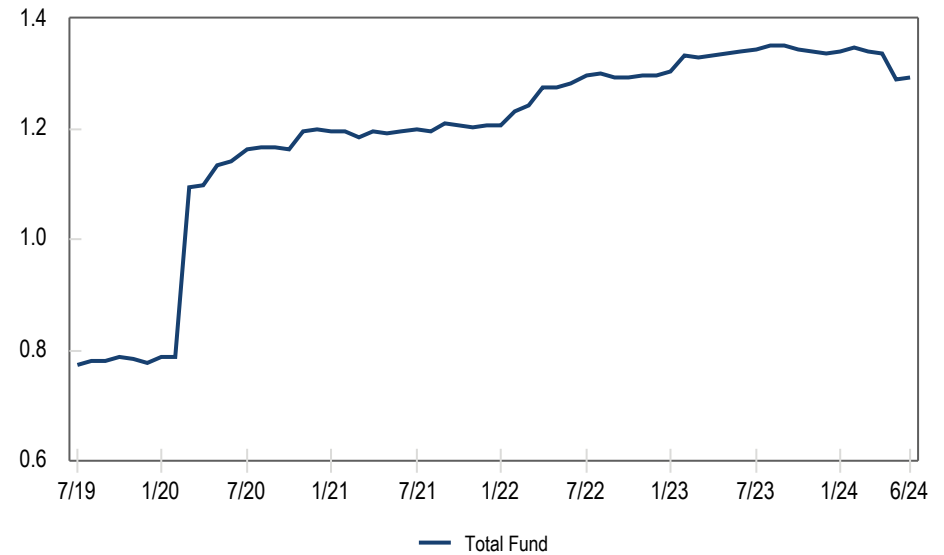
Total Fund Risk Analysis - 5 Years (Net of Fees)

NDSIB - Legacy Fund
Period Ending: June 30, 2024

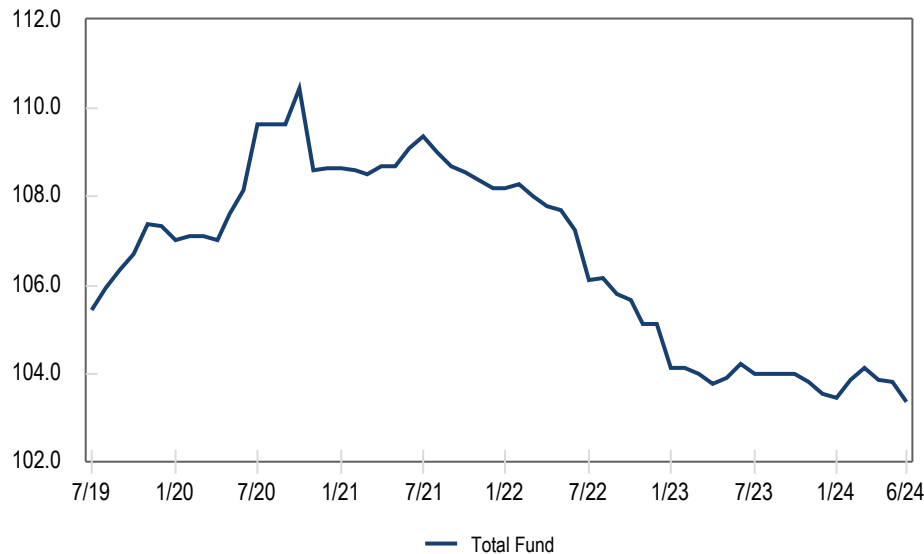
Rolling 5 Years Information Ratio



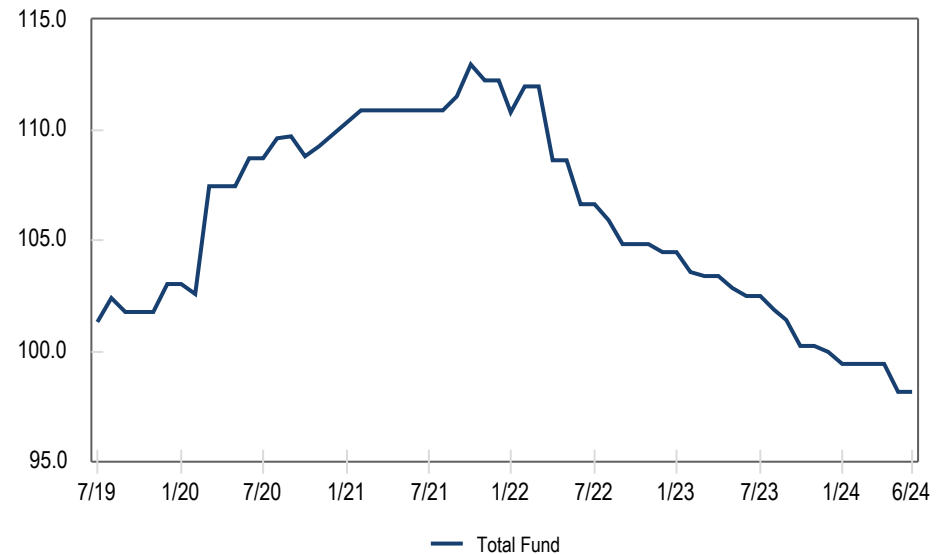
Rolling 5 Years Tracking Error



Rolling 5 Years Up Capture



Rolling 5 Years Down Capture



Analytic is using the Corridor Target Index

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk free Rate})]$.

Benchmark R squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book to Market: The ratio of book value per share to market price per share. Growth managers typically have low book to market ratios while value managers typically have high book to market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price to Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price to earnings ratios whereas value managers hold stocks with low price to earnings ratios.

R Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

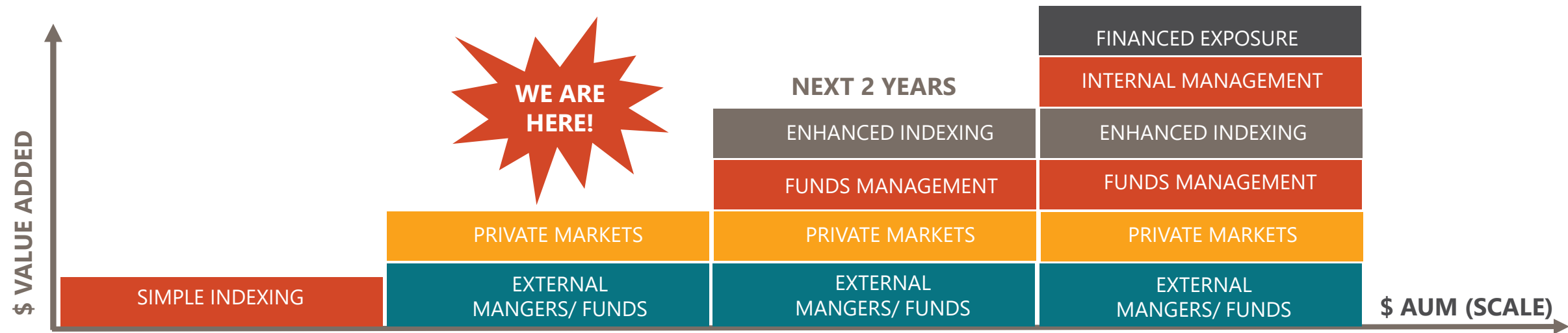
Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

PATHWAY TO STRATEGY

Scott M Anderson, CFA

September 27, 2024

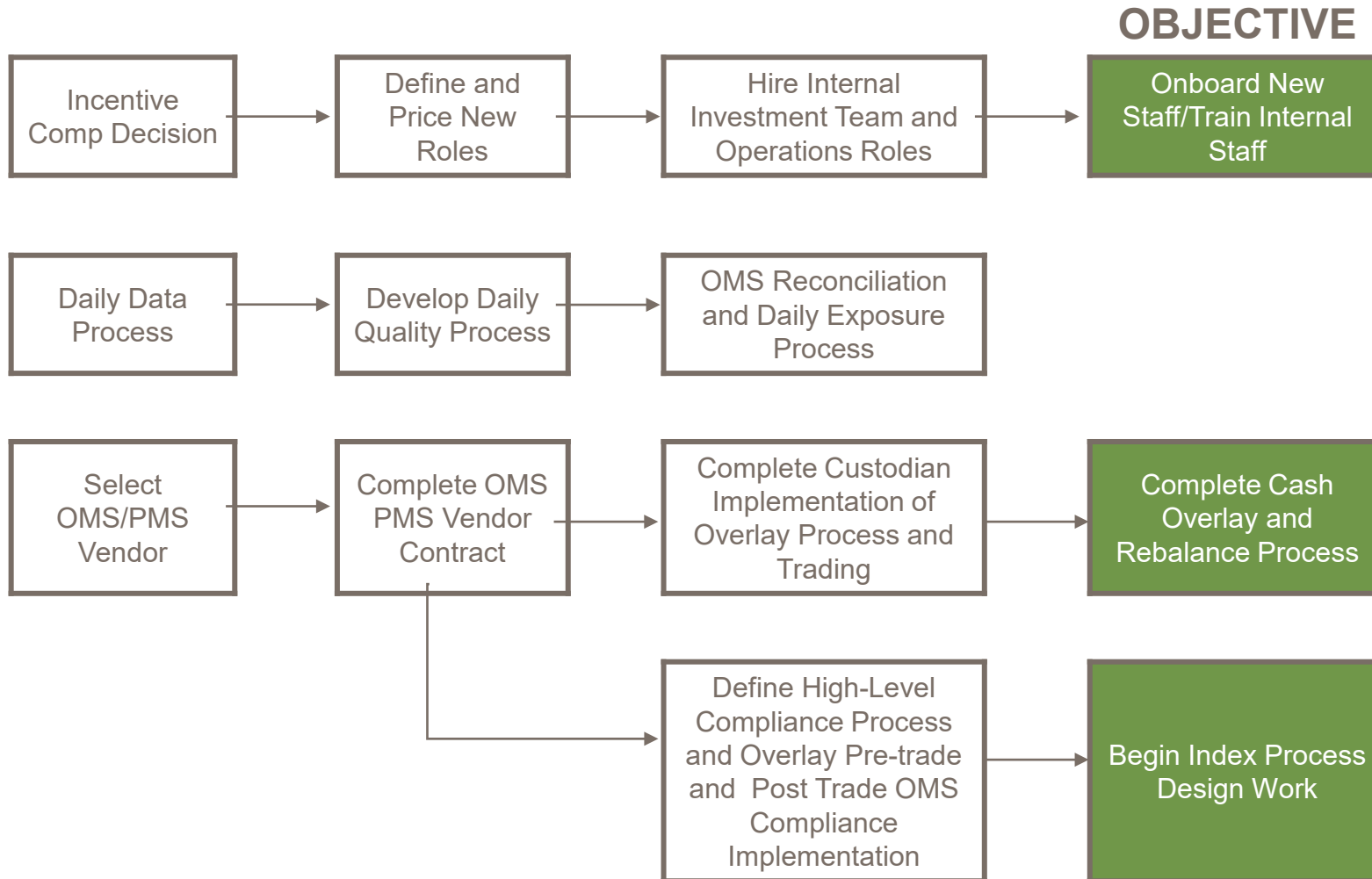
ROADMAP FOR SUCCESS



CAPABILITIES FOR SUCCESS

- DELEGATED AUTHORITY
- INCENTIVE COMP SYSTEM
- DIRECT INVESTMENT TEAM
- INDEPENDENT BENCHMARK CONSULTANT
- PRIVATE MARKETS BENCHMARK CORRIDOR
- FUND POOLING
- DAILY FUND VALUES AND RETURNS
- ADVANCED OPERATIONS
- AUDIT PROCESSES AND COMPLIANCE
- NEW INVESTMENT PROCESSES
- FUND AND LIQUIDITY MANAGEMENT
- DERIVATIVES OVERLAYS
- VALUATION AND EXPOSURE MANAGEMENT
- INVESTMENT DATA WAREHOUSE
- ORDER MANAGEMENT SYSTEM
- PORTFOLIO MANAGEMENT ANALYTICS
- INTEGRATED DATA AND MESSAGES
- KNOWLEDGE MANAGEMENT SYSTEM

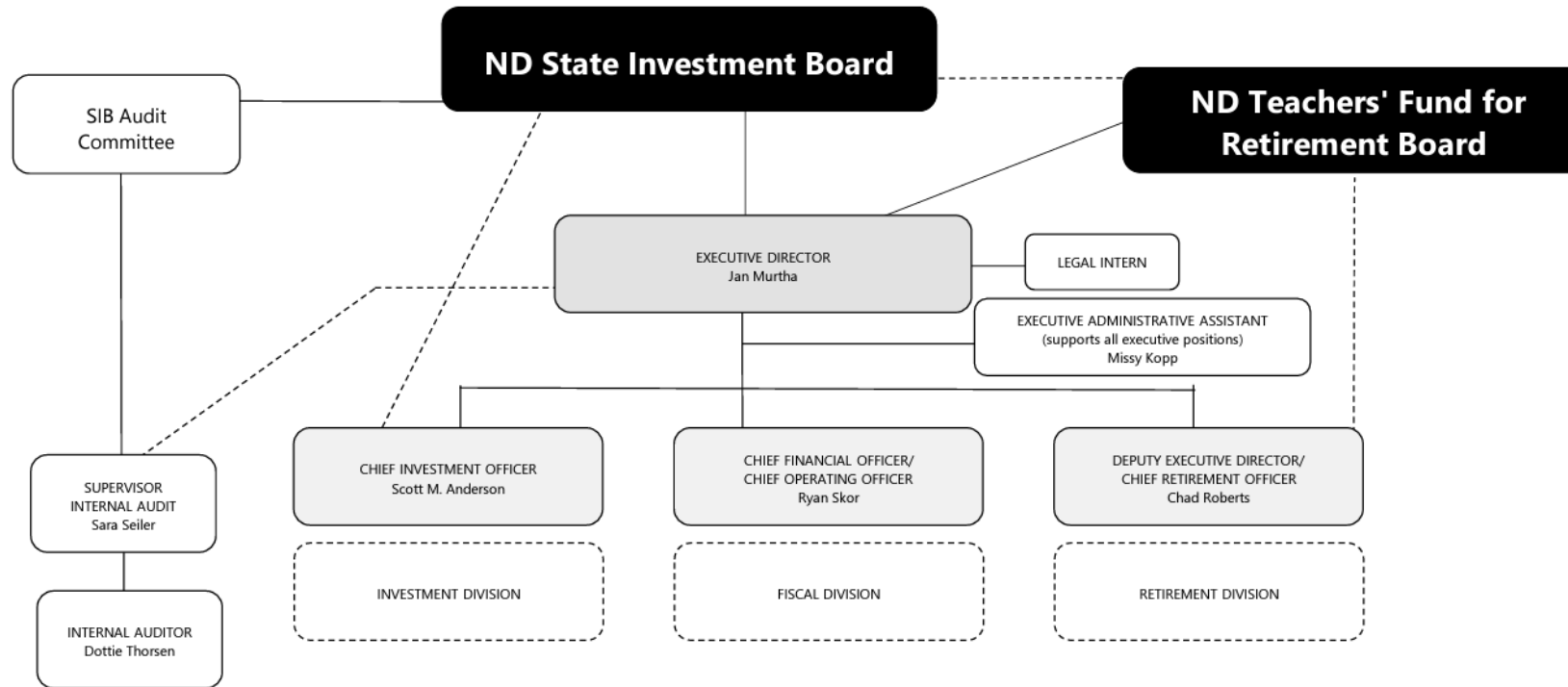
CRITICAL PATHS OF SUCCESS



- Incentive Comp Approved
- Internal Investment portfolio managers and senior analyst hired
- Began discussions for broker/dealer arrangements
- Signed agreement for order management/portfolio management system
- Began program plan for investment IT infrastructure
- Began development of first internal investment strategies (cash overlay, liquidity indexes, efficient rebalance)

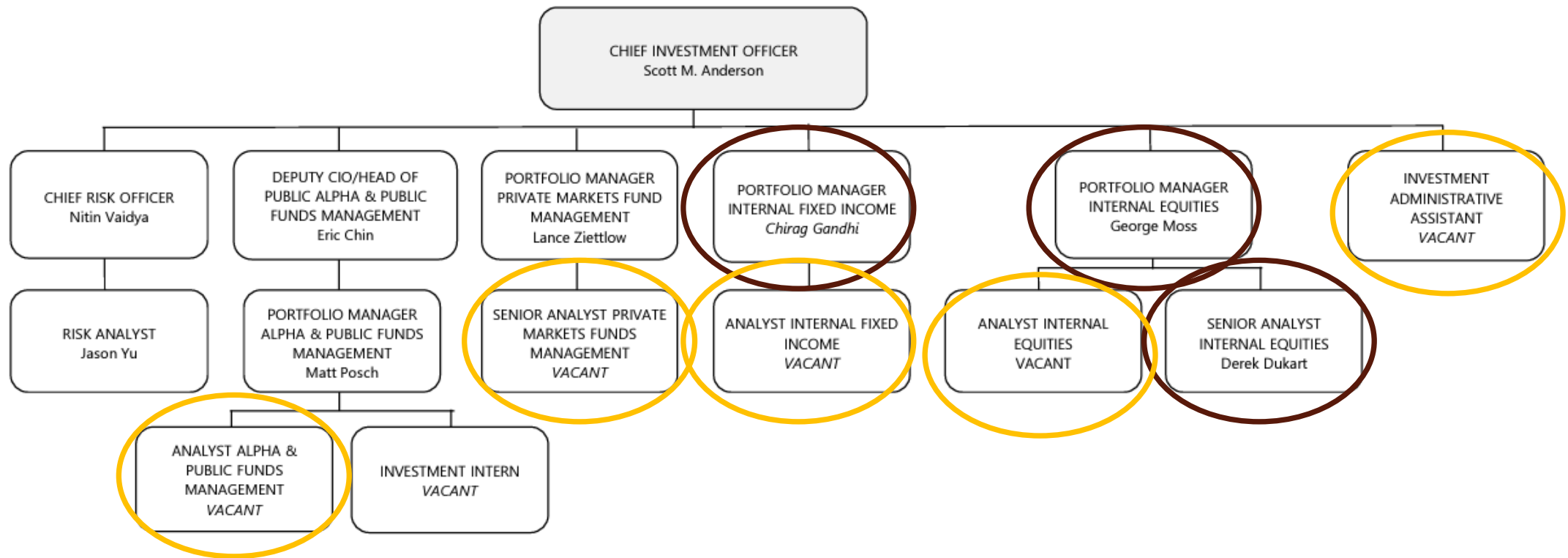
THE RIO ORGANIZATION STRUCTURE

RETIREMENT AND INVESTMENT OFFICE ORGANIZATIONAL CHART



THE INVESTMENT TEAM

RETIREMENT AND INVESTMENT OFFICE ORGANIZATIONAL CHART - INVESTMENT



INTERNAL INVESTMENT MANAGEMENT INITIATIVE

NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
<ul style="list-style-type: none"> Begin Incentive And Unclassified Role Project Board Approves Benchmark Memo Coordinate Hurdle Rate Discussions With Incentive Comp And Unclassified Role Project Establish Executive Steering Committee For IT Project. Approve Alternative It Procurement Issue It Rfp 	<ul style="list-style-type: none"> Identify Investment Role Titles And Benchmark Consultant Reviews Incentive Comp Prototype Complete Daily Allocation Process Design 	<ul style="list-style-type: none"> Refine Incentive Comp Plan 1.0, Receive And Score MS/PMS RFP Responses Select OMS/PMS Vendors For Call Back 	<ul style="list-style-type: none"> Issue Compliance Process RFP Issue Performance Consultant RFP Approve Incentive Comp 1.0 And Role Comp MS/PMS Vendor Demonstrations Select OMS/PMS Vendor For Negotiation Complete Daily Allocation Process 	<ul style="list-style-type: none"> Select Performance RFP Consultant Finalists Select Compliance Process Finalists Refine And Recruit Roles Recruit New Investment Roles New Role Long List Screening MS/PMS Vendor Negotiation Launch Data Warehouse Project Begin To Develop Data Warehouse Strategy Complete Daily Data Quality Process 	<ul style="list-style-type: none"> Begin Internal Direct Overlay And Rebalance Strategy Hire A Securities Lawyer And Begin FCM And ISDA Negotiations. Interview And Hire Performance Consultant Interview And Hire Compliance Consultant New Role Long List Screening Begin Compliance Process Design Sign OMS/PMS Contract Begin OMS/PMS Incremental Implementation Hire Ops Roles 	<ul style="list-style-type: none"> Approve Internal Direct Overlay And Rebalance Strategy Select And Call Back Candidates Interview Second Round Candidates** Implement Direct Overlay And Rebalance OMS/PMS Requirements Develop Large It Project Data Architecture Select Data Warehouse Solution Begin Compliance Process Design Complete Daily Reconciliation Design 	<ul style="list-style-type: none"> Select And Call Back Final Round Candidates** Interview Final Round Candidates** Complete First FCM Agreement, Continue ISDA And Master Confirm Agreements Finalize Compliance Process Design Begin Design Custodian Feed To Data Warehouse
**Equity Portfolio Manager and Senior Analyst Overlays							

NEAR TERM TIMELINE OF ACTIVITIES - CONTINUED

JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB
<ul style="list-style-type: none"> ✓ Hire Initial Internal Direct Team** Continue Recruitment ✓ Onboard Initial Internal Direct Team Incorporate Compliance Into OMS Implementation Finalize OMS Integration With Custodian Roll-out PMS Daily Reconciliation 	<ul style="list-style-type: none"> Pilot Internal Direct Cash Overlay And Rebalance Test OMS And Integration With Custodian/External Traders On Internal Direct Overlay And Rebalance Pilot Hire Initial Internal Direct Team Continue Recruitment Continue Data Warehouse Project Begin Data Exchange Project 	<ul style="list-style-type: none"> Develop Legislative Strategy Begin Legislative Outreach Begin To Develop Index Strategy Scale Up Overlay And Rebalance Strategy Continue Recruitment Continue Data Warehouse Project Begin Data Exchange RFP 	<ul style="list-style-type: none"> Develop Tools And Data For <u>Indexing</u> Continue Legislative Outreach Complete Second FCM Agreement, Continue ISDA And Master Confirm Agreements Continue Recruitment Continue Data Warehouse Project Select Data Exchange Vendor 	<ul style="list-style-type: none"> Develop Tools And Data For Indexing Continue Legislative Outreach Continue Recruitment Continue Data Warehouse Project Negotiate Data Exchange Contract Update Compliance For Internal Indexing 	<ul style="list-style-type: none"> Approve Indexing Policy Continue Legislative Outreach Continue Recruitment Continue Data Warehouse Project Launch Data Exchange Project Incorporate Indexing Into OMS Implementation Including Compliance 	<ul style="list-style-type: none"> Continue Legislative Outreach Continue Recruitment Continue Data Warehouse Project Continue Data Exchange Project Test OMS For Indexing With Custodian On A Small Pilot 	

MEMORANDUM

TO: SIB
FROM: Ryan K. Skor, CFO/COO
DATE: September 17, 2024
RE: Client Fund Update

RIO staff has successfully onboarded the three new client funds that have been discussed in previous SIB meetings. The investments for the State Historical Society of North Dakota Endowment Funds, the Opioid Settlement Fund, and the Water Projects Stabilization Fund have all been completely onboarded and invested according to each fund's investment policy statement. RIO will continue to work closely with each client fund to ensure we continue to provide excellent service and are able to meet their needs.

Subsequently, RIO was informed by the North Dakota Association of Counties (NDACo) of their desire to transition their funds away from RIO beginning in September and, ultimately, liquidating their account with RIO by the end of 2024. The staff at RIO would like to thank the NDACo team for their excellent collaboration over the years and wish them the best with their future investment processes. Throughout the remainder of this year, the fiscal team will work closely with NDACo staff to ensure a smooth transition of funds.

Additionally, representatives from the North Dakota University System (NDUS) have indicated to RIO their intent to expend all the remaining money held in their Capital Building Fund. RIO will work closely with NDUS to smoothly transition the remaining funds over the course of the next few months with the intent to have it fully liquidated by the end of the calendar year.

Upon closure of the NDACo and NDUS Capital Building Fund accounts, the number of statutory and contractual client fund investments managed by RIO and overseen by the North Dakota State Investment Board will be twenty-nine.

BOARD ACTION REQUESTED: Information Only.

MEMORANDUM

TO: SIB
FROM: Scott Anderson, Chief Investment Officer
DATE: Sept 27, 2024
RE: Investment Committee Update

August 9, September 13, and September 16 of 2024, Investment Committee Meetings

The Investment Committee met on August 9, September 13, and September 16 of 2024. The meeting was called to order and there was an acceptance of the agenda followed by an acceptance of the minutes from previous meetings.

At the August 9th meeting Mr. Vaidya reviewed the risk program strategy. This presentation was followed by a private markets manager recommendation from Mr. Zietlow and Mr. Moss in closed session pending contract negotiation. Mr. Chin followed with a discussion of pooling Legacy fund and insurance manager portfolios for allocation to the client funds. This pooling would reduce cost and operational effort. The investment committee approved the pooling as an appropriate direction to take. Mr. Posch followed with a presentation of investment tools used to select and monitor external managers. Mr. Chin provided a presentation regarding the public markets' funds management program. Lastly, Mr. Chin provided a presentation that was followed by approval of the investment committee of a transition manager for the Equity 2.0 program.

On September 13, Mr. Anderson presented a strategy review which included the fiscal year end June 30, 2024 preliminary performance. This presentation was followed by a manager recommendation in closed session by Mr. Zietlow pending contract negotiation. Mr. Chin and Mr. Vaidya presented public market manager guidelines associated with the Equity 2.0 transition in closed session pending contract negotiation. Lastly, Mr. Zietlow provided a manager update in open session that contract negotiation had been completed with the Horsley Bridge Growth 14 fund and the Peak Rock Capital Fund IV.

On September 16, Mr. Anderson presented a review of the investment consultant strategy approved by the board. This discussion was followed by two closed sessions to interview prospective asset allocation consultants in closed session in anticipation of a recommendation to the board of the vendor most susceptible to award. The two interviews were followed by a closed session discussion of the committee to determine the approval recommendation.

<https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Investment/Board/Materials/sibinvestmat20240809.pdf>

<https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Investment/Board/Materials/sibinvestmat20240913.pdf>

<https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Investment/Board/Materials/sibinvestmat20240916.pdf>

BOARD ACTION REQUESTED: Information Only.

MEMORANDUM

TO: SIB
FROM: Jan Murtha, Executive Director
DATE: September 24, 2024
RE: Governance and Policy Review Committee Update

The GPR Committee met on September 10, 2024. Please find following a summary of committee discussions and actions.

The committee discussed whether it may be appropriate to bring forward a proposal to the SIB for legislation that provides additional clarity regarding the classification of investment data under North Dakota open records law. The committee was provided an overview of state law currently applicable to investment data and a summary of research related to other states laws applicable to investment data. After discussion the committee requested staff prepare draft legislation as well as additional examples of laws from other states. A future SIB GPR meeting will be scheduled to discuss likely in October.

Internal Audit staff brought forward a recommendation regarding developing a board policy to outline the process for board member requests for information. The committee requested staff coordinate with compliance consultant Weaver to develop a draft policy for further discussion.

The committee reviewed and recommended approval of amendments to the Internal Audit program charter and the Audit Committee charter. Changes to the charters were requested by the Audit Committee to align the charters with the 2024 the Institute of Internal Auditors (IIA) standards.

Committee materials may be found at: [State Investment Board Governance & Policy Review Committee | Retirement Investment Office \(nd.gov\)](#)

Board Action Requested: Motion to approve amendments to the Audit Committee and Internal Audit program charters.

MEMORANDUM

TO: State Investment Board
FROM: Sara Seiler, Supervisor of Internal Audit
DATE: September 12, 2024
RE: Audit Committee and Internal Audit Charter

Weaver reviewed the Audit Committee and the Internal Audit Charter and recommended updates to be in alignment with the 2024 the Institute of Internal Auditors (IIA) standards. The Audit Committee approved the charters at their August 14, 2024 meeting. The GPR Committee approved the charters at their September 10, 2024.

BOARD ACTION REQUESTED: Approval of the proposed Audit Committee and Internal Audit Charter

CHARTER OF THE AUDIT COMMITTEE OF THE NORTH DAKOTA STATE INVESTMENT BOARD

PURPOSE AND MISSION

The Audit Committee (the Committee) is a standing committee of the North Dakota State Investment Board (SIB) created to fulfill its fiduciary oversight responsibilities of the North Dakota Retirement and Investment Office (RIO) and to serve as a communications link among the SIB, the RIO's management and Internal Audit staff, independent auditors, and others.

The Committee will assist with the SIB in carrying out its oversight responsibilities as they relate to the Retirement and Investment Office (RIO) internal and external audit programs, including financial and other reporting practices, internal controls, and compliance with laws, regulations, and ethics. ~~A. The purpose of the internal audit division is to provide an independent, objective assurance and advisory activity designed to add value and improve North Dakota Retirement and Investment Office (RIO's) operations. The mission of internal audit is to enhance and protect organizational value by providing risk-based and objective assurance, advice, and insight. The internal audit division will assist RIO in accomplishing its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.~~

Commented [SSK1]: Recommended to remove this section as it pertains to the Internal Audit responsibilities, not the Audit Committee

AUTHORITY

The Committee's authority comes from the SIB as outlined in the SIB Governance Policy F, Standing Committees, and is authorized to provide oversight to the Internal Audit function and the independent audit for the RIO. These activities provide assurance that RIO's financial condition and results of operations are accomplished in accordance with the RIO's policies and procedures and legal and regulatory requirements. The Committee may investigate any activity of the RIO and may retain persons as necessary from within or outside the RIO having special competence to assist the Committee in the accomplishment of its responsibilities.

Commented [SSK2]: A.1.2 - Providing specific details on the statutory authority from ND RIO from the state to manage the trust funds in the state regulations

The RIO's Supervisor of Internal Audit will be the staff member reporting administratively to the Executive Director and functionally to the Committee.

The Executive Director will supervise the administrative activities of the Internal Audit function and independent audit activities such as securing contracts, paying fees, maintaining official reports, and other appropriate activities.

COMPOSITION

The Committee will consist of five members, selected by and approved by the SIB. Three members of the Committee will represent the three groups on the SIB: Legacy & Budget Stabilization Fund Advisory Board, a ~~pension~~ Teachers' Fund for Retirement representative, member-at-large, and two members selected from outside of the SIB and

the RIO. The SIB should select committee members who are both independent and financially literate.

Membership on the Committee will be for one year or termination of term on the SIB. Vacancies will be filled by the SIB at the first scheduled meeting following the vacancy. There will be no limit to the number of terms served on the Committee.

The Committee will elect a Chair, and a Vice Chair. A liaison will be appointed by the Chair. The Chair will preside at all meetings of the Committee. In the absence of the Chair, the Vice Chair will perform the duties of the Chair. The liaison will report annually to the SIB on the results of the independent audit and at least four times a year to the SIB and TFFR board on the activities of the Committee and other pertinent information.

The Committee may form, and delegate authority to, subcommittees when it deems appropriate.

MEETINGS

The Committee will meet generally four times a year, with authority to convene additional meetings, as circumstances require or to adequately fulfill all the obligations and duties as outlined in this charter.

Meeting agendas will be prepared by the Supervisor of Internal Audit and approved by the Committee Chair, unless otherwise directed by the Committee and will be provided to the Committee members along with briefing materials before the scheduled committee meeting.

Committee members are expected to attend each meeting, in person or via tele- or videoconference. The Supervisor of Internal Audit, a representative of RIO's management team and others necessary to provide information and to conduct business will attend meetings. The Committee may invite staff of the RIO, auditors or others to attend meetings, as necessary. Meetings will be conducted in accordance with NDCC 44-04-17.1. The Committee may hold executive sessions as allowed under state law.

The Committee will act only on the affirmative vote of three of the committee members at a meeting. To conduct business, a quorum will be three members of the Committee. Should a quorum not be present before a scheduled meeting or during a meeting, the Chair will announce the absence of a quorum and the members will disburse. Meeting minutes will be prepared by the RIO, or as otherwise directed by the Committee. Approved meeting minutes of the Committee will be submitted to the SIB.

RESPONSIBILITIES

The RIO's management is responsible for financial and other reporting, internal controls, and compliance with laws, regulations, and ethics. The Committee has the responsibility to provide oversight in the areas of:

- Internal and external audit programs
 - Includes financial and other reporting practices.
- Internal controls
- Compliance with laws, regulations, and ethics

To this end, the Committee will:

Independent Audit

- Review the independent auditors' proposed audit scope and approach, including coordination of audit effort with RIO's Internal Audit staff and any developments in accounting principles and auditing standards that may affect either the financial statements or the audit.
- Inquire as to any proposed changes in accounting or financial reporting procedures and of any unusual events that could impact the financial statements.
- Review the results of the financial statements report with the independent auditors and the RIO's management, prior to the release of the financial statements report to the SIB and other officials. This review will include the following, as applicable:
 - Any major problems encountered by the independent auditors and the resolution thereof;
 - The effect on the audit of any developments;
 - Any unresolved differences between the independent auditors and the RIO's management;
 - Any other significant comments or recommendations of the independent auditors or the RIO's management;
 - The adequacy of the RIO's internal accounting controls and accounting policies, procedures, and practices; and
 - Understand the scope of independent auditors' review of internal control over financial reporting, and obtain reports on significant findings and recommendations, together with the RIO's management responses.
- Consider the effectiveness of the RIO's internal control system, including information technology security and control.
- Consider whether the financial statements are complete, consistent with information known to committee members, and reflect appropriate accounting principles. This will include the following, as applicable:
 - The accuracy and completeness of the information in other sections of the annual report and related regulatory filings;
 - The significant accounting and reporting issues, including complex or unusual transactions and highly judgmental areas, and recent professional and regulatory pronouncements, and understand their impact on the financial statements; and

- All matters required to be communicated to the Committee under generally accepted auditing standards with the RIO's management and the independent auditors.
- Review non-audit services, if any, performed for the RIO by the independent auditors.

Audit Services

- Consider the effectiveness of the Internal Audit function, within The Institute of Internal Auditors' *International Professional Practices Framework for Internal Auditing* consisting of the *Definition of Internal Auditing, Code of Ethics and the Standards*.
- Review with the Executive Director and the Supervisor of Internal Audit the ~~audit-Audit charter~~Charter, consult on the activities~~budget, activities~~, staffing, ~~and~~ organizational structure, and performance objectives of Internal Audit.
- Review and approve the annual risk-based audit work plan, ~~and~~ all major changes to the plan and provide Board's perspective to assist with determining internal audit priorities.
- Acknowledge the actual or potential impairments to the internal audit function's independence when approving roles or responsibilities for the Supervisor of Internal Audits that are beyond the scope of internal auditing.
- Assist senior management with ensuring that the internal audit function is free from interference when determining its scope, performing internal audit engagements, and communicating results.
- Bring to attention of the Board any internal audit issues the Committee determines significant and appropriate for Board consideration.
- Participate with the Executive Director in the ~~appointment hiring~~ and annual evaluation of the Supervisor of Internal Audit. Work with the Executive Director on any changes in staffing, including the addition, of internal audit staff, termination, or replacement of auditors, and the approval of salary increases and/or promotions other than those authorized by the legislature.

Commented [SSK3]: AC1.3, Standard 8.3, Essential Conditions, Board, Also address new Standard 12.2 performance management.

Commented [SSK4]: AC 1.3, Standard 8.1, Essential Conditions: Board

Commented [SSK5]: AC 1.3, Standard 7.1 Essential Conditions, Board

Commented [SSK6]: AC 1.3, Standard 7.1 Essential Conditions, Board

Commented [SSK7]: AC.1.4 - Addresses - New standard 12.2 Performance Measurement

Risk Management

- Obtain information and/or training to enhance the Committee's understanding of organization and its related risk management processes.
- Review the adequacy of the organization's policy on risk management.
- Review the effectiveness of the organization's system for assessing, monitoring, and controlling significant risks or exposures.
- Review management's reports on risks and related risk mitigations.

- Hire outside experts and consultants in risk management, as necessary, subject to full board approval.

Compliance

- Review staff compliance with federal and state laws and North Dakota administrative code as applicable to RIO, the SIB and TFFR Board programs, as related to the code ethics, code of conduct, fraud policies, and the process for communicating the code of conduct to the RIO's staff, and for monitoring compliance through the receipt of the audit results.
- Review the process for communicating and monitoring compliance with the code of ethics, code of conduct, and fraud policies.
- Review the findings of any examinations by regulatory agencies, any auditor observations related to compliance, and the responsiveness and timeliness of management's actions to address the findings/recommendations.
- Obtain updates from the RIO's management and legal counsel regarding compliance matters, as deemed necessary.

Reporting Responsibilities

- Report to the SIB about the Committee's activities, issues, and related recommendations.
- Provide a written report annually to the SIB, describing the Committee's composition, responsibilities and how they were discharged, and any other information required.

Other Responsibilities

- Make recommendations to the North Dakota State Auditor's Office, when appropriate requested, as it relates to selection, evaluation, and termination of independent auditors.
- Obtain the information and training needed to enhance the committee members' understanding of the role of Internal Audit and the independent auditor, the risk management process, internal controls, and a certain level of familiarity in financial reporting standards and processes so the Committee may adequately oversee.
- Serve as an open avenue of communication among the SIB, the RIO's management and Internal Audit, the independent auditors, and others.
- Serve as an appropriate confidential body for individuals to provide information on potentially fraudulent financial reporting or breaches of internal control.
- Inquire of management and Internal Audit regarding the procedures in place for the prevention of illegal payments, conflicts of interest, or other questionable practices.

- Perform other activities related to this charter as requested by the SIB.
- Institute and oversee special investigations as needed.
- Review any other reports the RIO issues that relates to the Committee's responsibilities.
- Review and assess the adequacy of the [Audit](#) Committee charter annually, requesting the SIB approval for proposed changes.
- Confirm annually the review of all responsibilities outlined in this charter.

DATE OF CREATION OF COMMITTEE AMENDMENTS: December 14, 1993

DATE AUDIT COMMITTEE CHARTER ADOPTED AND APPROVED: June 24, 1994

REVISED: November 22, 1996, February 13, 1997, November 6, 2001, May 19, 2006, May 18, 2007, June 26, 2009, May 19, 2016, January 25, 2019, [April 26, 2024](#).

INTERNAL AUDIT CHARTER NORTH DAKOTA STATE INVESTMENT BOARD

I. Purpose and Mission

- A. The purpose of the internal audit division is to provides an independent, objective assurance and advisory activity designed to add value and improve North Dakota Retirement and Investment Office (RIO's) operations. The mission of internal audit is to enhance and protect organizational value by providing risk-based and objective assurance, advice, and insight. ~~The internal audit division will assist RIO in accomplishing its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.~~

The internal audit function enhances RIO's:

- Successful achievement of its objectives.
- Governance, risk management, and control processes.
- Decision-making and oversight.
- Reputation and credibility with its stakeholders.
- Ability to serve public interest.

RIO's internal audit function is most effective when:

- Internal auditing is performed by competent professionals in conformance with The IIA's Global Internal Audit StandardsTM, which are set in the public interest.
- The internal audit function is independently positioned with direct accountability to the State Investment Board (SIB).
- Internal auditors are free from undue influence and committed to making objective assessments.

A.

- ~~B. A. The internal audit division is established by the State Investment Board (SIB). The internal audit division's responsibilities are defined by the SIB and the Audit Committee as part of their oversight role.~~

II. Standards for the Professional Practice of Internal Auditing

- A. The internal audit division will govern itself by adherence to the mandatory elements of The Institute of Internal Auditors' Global Internal Audit Standards which incorporate the International Professional Practices Framework, including the Core Principles for the Professional Practice of Internal Auditing, the Code of Ethics, the International Standards for the Professional Practice of Internal Auditing, and the Definition of Internal Auditing and Mission of Internal Audit, to the best to their ability. ~~The Supervisor of Internal Audit Chief Audit Executive (CAE) is responsible for conducting a structured internal assessment in accordance with the IIA's Standards. Additionally, the Supervisor of Internal Audit CAE will provide regular updates to the Executive Director and the State Investment Board (SIB) Audit Committee on the internal audit division's adherence to the Code of Ethics and the Standards. The Supervisor of Internal Audit will report periodically to the Executive Director and the State Investment Board (SIB) Audit Committee regarding the internal audit divisions progress to conformance to the Code of Ethics and the Standards.~~

III. Authority

A. The internal audit division is established by the State Investment Board (SIB). The internal audit division's responsibilities are defined by the SIB and the Audit Committee as part of their oversight role.

A.B. The Supervisor of Internal Audit will report functionally to the SIB Audit Committee and administratively (i.e., day-to-day operations) to the Executive Director. To establish, maintain, and assure that RIO's internal audit division has sufficient authority to fulfill its duties, the SIB Audit Committee will:

1. Approve the internal audit division charter.
2. Approve the risk-based internal audit plan and document which includes the greatest areas of risk.
3. Provide input to the Executive Director on the internal audit division's resource plan.
4. Receive communications from the Supervisor of Internal Audit on the internal audit division's performance relative to its plan and other matters.
5. The SIB Audit Committee Chair will participate in the hiring of the Supervisor of Internal Audit.
6. The SIB Audit Committee Chair will participate in the annual evaluation of the Supervisor of Internal Audit.
7. Make appropriate inquiries of management and the Supervisor of Internal Audit to determine whether there is inappropriate scope or resource limitations.

B.C. The Supervisor of Internal Audit will have unrestricted access to, and communicate and interact directly with, the State Investment Board and the SIB Audit Committee, including in executive session and between Board meetings, as appropriate.

C.D. The SIB authorizes the internal audit division to:

1. Have full, free, and unrestricted access to all functions, records, property, and personnel pertinent to carrying out any engagement, subject to accountability for confidentiality and safeguarding of records and information.
2. Develop and direct a broad, comprehensive program of internal auditing within RIO.

IV. Independence and Objectivity

A. The Supervisor of Internal Audit will ensure that the internal audit division remains free from all conditions that threaten the ability of internal auditors to carry out their responsibilities in an unbiased manner, including matters of audit selection, scope, procedures, frequency, timing, and report content. If the Supervisor of Internal Audit determines that independence or objectivity may be impaired in fact or appearance, the details of impairment will be disclosed to appropriate parties.

B. Internal auditors will maintain an unbiased mental attitude that allows them to perform engagements objectively and in such a manner that they believe in their work product, that no quality compromises are made, and that they do not subordinate their judgement on audit matter to others.

- C. Internal auditors will have no direct operational responsibility or authority over any of the activities audited. Accordingly, internal auditors will not implement internal controls, develop procedures, install systems, prepare records, or engage in any other activity that may impair their judgment, including:
1. Accessing specific operations for which they had responsibility within the previous year.
 2. Performing any operational duties for RIO.
 3. Initiating or approving transactions external to the internal audit division.
 4. Directing the activities of any RIO employee not employed by the internal audit division, ~~expect except~~ to the extent that such employees have been appropriately assigned to auditing teams or to otherwise assist internal auditors.
- D. Where the Supervisor of Internal Audit has or is expected to have roles and/or responsibilities that fall outside of internal auditing, safeguards will be established to limit impairments to independence and objectivity.
- E. Internal auditors will:
1. Disclose any impairment of independence or objectivity, in fact or appearance, to appropriate parties.
 2. Exhibit professional objectivity in ~~creating, gathering and~~gathering, and communicating information about the activity or process being examined.
 3. Make balanced assessments of all available and relevant facts and circumstances.
 4. Take necessary precautions to avoid being unduly influenced by their own interests or by others in forming judgements.
- F. The Supervisor of Internal Audit will annually verify the internal audit division's organizational independence by assessing whether its role, in comparison to that of the first and second lines, is effectively communicated throughout the organization. Additionally, any work previously carried out by internal audit on behalf of business partners will be transitioned back to the first line.~~The Supervisor of Internal Audit will confirm to the SIB Audit Committee, at least annually, the organizational independence of the internal audit division.~~
- G. The Supervisor of Internal Audit will disclose to the SIB Audit Committee any interference and related implications and related implications in determining the scope of internal auditing, performing work, and/or communicating results.

V. Confidentiality

- A. Documents and information given to the internal audit division shall be handled in the same prudent and confidential manner as by those employees normally accountable for them. The Supervisor of Internal Audit shall ensure that internal audit staff is instructed in the handling and safeguarding of confidential information. North Dakota's laws state that all government records must be open to the public unless otherwise authorized by a specific law as outlined in North Dakota Century Code §44-04. Internal Audit will follow North Dakota open records laws.

VI. Scope of Internal Audit Activities

- A. The scope of internal audit activities encompasses, but is not limited to, objective examinations of evidence for the purpose of providing independent assessments of the State Investment Board, management, and outside parties on the adequacy and effectiveness of governance, risk management, and control processes for RIO. Internal audit assessments include evaluating whether:
1. Risks relating to the achievement of RIO's strategic objectives are appropriately identified and managed.
 2. The actions of RIO's officers, directors, employees, and contractors are in compliance with RIO's policies, procedures, and applicable laws, regulations, and governance standards.
 3. The results of operations or programs are consistent with established goals and objectives.
 4. Operations or programs are being carried out effectively and efficiently.
 5. Established processes and systems enable compliance with the policies, procedures, laws, and regulations that could significantly impact RIO.
 6. Information and the means used to identify, measure, analyze, classify, and report such information are reliable and have integrity.
 7. Resources and assets are acquired economically, used efficiently, and protected adequately.

- B. The Supervisor of Internal Audit shall report periodically to the Executive Director and the SIB Audit Committee regarding:

1. The internal audit division's purpose, authority, and responsibility
2. The internal audit division's audit work plan and performance relative to its plan.
3. The internal audit division's status on conformance ~~progress~~ with the IIA's Code of Ethics and Standards, and any action plans.
4. Significant risk exposures and control issues, including fraud risks, governance issues, and other matters requiring the attention of, or requested by, the SIB Audit Committee
5. Results of audit engagements or other activities.
6. Resource requirements.
 - a) If external assistance is needed to fulfill an engagement, Additional resourcing should be utilized by internal Audit to complete its current as well as anticipated the work.
7. Any responses to risk ~~by~~ that may be unacceptable to RIO.

- C. The Supervisor of Internal Audit also coordinates activities, where possible, and considers relying upon the work of other internal and external assurance and advisory service providers as needed. The internal audit division may perform advisory and related client service activities, the nature and scope of which will be agreed with the client, provided internal audit division does not assume management responsibility.

~~C.D.~~ Any significant changes to the annual internal audit plan should be disclosed, documented, and approved by the SIB Audit Committee.

~~D.E.~~ Opportunities for improving the efficiency of control processes, governance, and risk management may be identified during engagements. These opportunities will be communicated to the ~~to~~ appropriate levels of management.

E.F. Advisory Services: RIO's internal audit provides advisory services in an advisory capacity and are generally performed at the specific request of the Executive Director or other senior management. The nature and scope of an advisory engagement are subject

to agreement with management. Advisory services may range from formal engagements with defined scopes and objectives to ~~advisory activities such as~~ providing informal guidance in response to general inquiries. When performing advisory services, the internal auditor should maintain objectivity and not assume management responsibility.

VI.VII. Responsibilities

A. The Supervisor of Internal Audit is responsible to:

1. Submit, at least annually, to the Executive Director and the SIB Audit Committee a risk-based internal audit plan for review and approval. The audit plan should focus on reviews that address the greatest risks.
2. Communicate to the Executive Director and the SIB Audit Committee the impact of resource limitations on the internal audit plan.
3. Review and adjust the internal audit plan, as necessary, in response to changes in RIO's business, risks, operations, programs, systems, and controls. Should focus on audit reviews that address the greatest risks.
4. Communicate to the Executive Director and the SIB Audit Committee any significant interim changes to the internal audit plan.
- ~~5.~~ Ensure each engagement of the internal audit plan is executed, including the establishment of objectives and scope, the assignment of appropriate and adequately supervised resources, the documentation of work programs and testing results, and the communication of engagement results with applicable conclusions and recommendations to appropriate parties.
- ~~5-6.~~ Ensure that the appropriate work programs are approved prior to their implementation and any adjustments are approved promptly.
- ~~6-7.~~ Follow up on engagement findings and corrective actions, and report periodically to the Executive Director and the SIB Audit Committee any corrective actions not effectively implemented.
- ~~7-8.~~ Ensure the principles of integrity, objectivity, confidentiality, and competency are applied and upheld.
- ~~8-9.~~ Ensure the internal audit division collectively possesses or obtains the knowledge, skills, and other competencies needed to meet the requirements of the internal audit charter.
- ~~9-10.~~ Ensure trends and emerging issues that could impact RIO are considered and communicated to the Executive Director and the SIB Audit Committee as appropriate.
- ~~10-11.~~ Ensure emerging trends and successful practices in internal auditing are considered.
- ~~11-12.~~ Establish and ensure adherence to policies and procedures designed to guide the internal audit division.
- ~~12-13.~~ Ensure adherence to RIO's relevant policies and procedures unless such policies and procedures conflict with the internal audit charter. Any such conflicts will be resolved or otherwise communicated to the Executive Director and the SIB Audit Committee.
- ~~13-14.~~ Work towards conformance of the internal audit division with the Standards, with the following qualifications:
 - a) If the internal audit division is prohibited by law or regulation from conformance with certain parts of the Standards, the ~~s~~Supervisor of ~~i~~Internal ~~a~~Audit will ensure

appropriate disclosures and will ensure conformance with all other parts of the Standards.

- b) If the Standards are used in conjunction with requirements issued by other authoritative bodies, the Supervisor of Internal Audit will ensure that the internal audit division conforms with the Standards to the best to their ability, even if the internal audit division also conforms with the more restrictive requirements of other authoritative bodies.

VII-VIII. Quality Assurance and Improvement Program

- A. The internal audit division will develop and maintain a quality assurance and improvement program that covers all aspects of the internal audit division as referenced in the Internal Audit Manual. ~~This should include workpapers evidencing how work is planned and, scoped, the audit period, the sampling methodology, the preparer, the reviewer, and the test steps performed, and budgeted hours for each project should be budgeted.~~ The program will include an evaluation of the internal audit division's conformance with the Standards and an evaluation of whether internal auditors apply The IIA's Code of Ethics. The program will also assess the efficiency and effectiveness of the internal audit division and identify opportunities for improvement.
- B. The Supervisor of Internal Audit ~~and the Chief Audit Executive~~ will monitor and document their oversight of the internal audit division's quality assurance and improvement program .The progress made, including internal assessments, will be communicated to the Executive Director and the SIB Audit Committee. ~~on the progress of the internal audit division's quality assurance and improvement program, including internal assessments. It should be noted that the RIO's internal audit division has not had a quality assurance review and it not in compliance with IIA Standards.~~

DATE INTERNAL AUDIT CHARTER ADOPTED AND APPROVED:

MEMORANDUM

TO: State Investment Board
FROM: Sara Seiler, Supervisor of Internal Audit
DATE: September 4, 2024
RE: Audit Committee Update

The Audit Committee met on August 14, 2024. The Audit Committee reviewed and approved the 2023–2024-year end audit activities, audit report to State Investment Board, and an update on current audit activities. Weaver presented a status update on the internal audit maturity development project. The project is near completion. The Audit Committee discussed next steps for internal audit and approved staff to develop a request for proposal for additional auditing resources for internal audits. An internal audit workplan was approved for the 2024-2025 fiscal year. The Audit Committee also approved updated version of the Audit Committee and Internal Audit Charters to be in compliance with the 2024 Institute of Internal Auditors Standards.

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/sibauditmat20240814.pdf>

BOARD ACTION REQUESTED: Information Only.

MEMORANDUM

TO: SIB
FROM: Jan Murtha, Executive Director
DATE: September 24, 2024
RE: Securities Litigation Committee Update

The SIB Securities Litigation committee met on September 19, 2024, to review and approve the following items:

- Committee elections and annual review of committee charter.
- Securities Litigation Case status review on pending litigation:
 - PG&E – Final update from counsel. Matter is now closed.
 - Nissan – Update from counsel.
 - Daimler – Update from counsel.
 - Volkswagen – Update from counsel.
 - Danske Bank – Update from counsel.
- Securities Litigation Monitoring Report.

The committee also discussed and provided guidance to staff regarding responding to inquiries from securities litigation firms regarding litigation participation opportunities.

Committee materials may be viewed here: [State Investment Board Securities Litigation Committee | Retirement Investment Office \(nd.gov\)](#)

Board Action Requested: Information only.

MEMORANDUM

TO: SIB
FROM: Jan Murtha, Executive Director
DATE: September 20, 2024
RE: Executive Limitations

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

I. New Board & Committee Member Update

The TFFR Board has welcomed a new member. The Governor appointed Alexis Rasset, a special education teacher at Mandan Public Schools to represent active members on the TFFR Board. More information may be found on the RIO website here: [Rasset appointed to TFFR board | Retirement Investment Office \(nd.gov\)](#).

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

Position Title	Status
Internal Equity Portfolio Manager (new)	Filled.
Internal Equity Senior Investment Analyst (new)	Filled.
Internal Fixed Income Portfolio Manager (new)	Filled.
Investment Accountant (new)	Filled.
Private Markets Senior Investment Analyst	Interviews pending. Vacancy due to internal transfer.
Public Funds Investment Analyst	Interviews pending. Vacancy due to internal transfer.
Internal Equity Investment Analyst (new)	Posting pending.
Investment Administrative Assistant (new)	Posting pending.
Retirement Services Temp Admin Assistant	Vacancy as of 10/3/2024

III. Current Project Activities/Initiatives:

- **Cash Management Study:** The study has concluded. Director Sisk and representatives from RVK presented the study to the Government Finance Committee on September 17, 2024 (<https://ndlegis.gov/events/2024/09/17/government-finance-committee>), and the Budget Section Leadership Division on September 18, 2024 (<https://ndlegis.gov/events/2024/09/18/budget-section-leadership-division>) .
- **Internal Audit Co-Sourcing:** The current internal audit co-sourcing project with Weaver has concluded and final deliverables were presented to the Audit Committee in August. An update on these activities and next steps will be provided as part of the Audit Committee Update.

- **Investment Program Software Solutions:** The Executive Steering Committee for the project met on September 20, 2024, to discuss next steps. RIO and NDIT team members are working with the vendor to finalize a project plan and schedule. Both CFO/COO Skor and Chief Risk Officer Vaidya completed the Change Management Practitioner training in September. Mr. Vaidya is the project sponsor and Mr. Skor is the change management officer for the project. An update on these activities and next steps will be provided by CIO Anderson.
- **Northern Trust Initiative:** In an effort to enhance the infrastructure for the investment program the Investment and Fiscal teams continue to coordinate with Northern Trust for additional functionality/capabilities. This effort should be finalized coincident with the full implementation of the new investment program infrastructure.
- **Retirement Literacy Initiative:** RIO team members continue to participate in collaboration efforts and meetings with other agencies participating in the Fiscal Literacy Initiative, most recently on September 13, 2024.
- **TFFR Pioneer Project:** There have been some adjustments to the project schedule. The tentative go live date is December 2024. Additional details will be provided at the meeting.
- **All Staff Training:** RIO team members participate in an annual agency wide all staff training. This year the training is scheduled for Monday September 23, 2024, and the office will be closed to the public so that all team members may participate in the training. The focus of the 2024 training is on staff wellness and engagement; these were identified as priority topics through our strategic planning process. As part of the activities scheduled Tina Stanger from HRMS will present and RIO team members will participate in training on how to leverage the Working Genius of our team.
- **AG Opinion Request:** As of the date of this report an opinion from the AGO has not been issued. I will provide an overview of the discussions and inquiries the opinion request has prompted thus far at the meeting.
- **Investment Seminar:** RIO will host its inaugural investment seminar on Wednesday September 25, 2024. A brief review of seminar content will be provided at the September SIB meeting, while a more formal review of the event will be provided as part of the quarterly outreach activities report to the board at a later date.

IV. Executive Director Activities

Subsequent to the July 26, 2024, SIB meeting activities through the September 27, 2024 SIB meeting include:

- Prepared materials for and/or attended the following meetings:
 - 8-2-24 through 8-7-24: Attended the NASRA (National Association of State Retirement Administrators) conference. Conference topics include both institutional investment and retirement program discussion and education.
 - 9-10-24 SIB GPR Committee meeting.
 - 9-10-24 TFFR GPR Committee meeting.
 - 9-13-24 Investment Committee meeting.
 - 9-13-24 Financial Literacy Committee meeting.
 - 9-16-24 Investment Committee meeting.
 - 9-19-24 SIB GPR Committee meeting.
 - 9-23-24 RIO All Staff Training.
 - 9-25-24 RIO Investment Seminar.
 - 9-26-24 TFFR Board meeting.
 - 9-27-24 SIB Board meeting.
- During this time, I had several meetings with HRMS and internal staff on two topics: preparing for the all-staff training activities and discussing the process for implementing guidance from the AGO relating to best HR practices for team members that remote work in other states. Additional details regarding these topics will be provided at the meeting.

- Over the course of many meetings I collaborated with other RIO team members and presenters in preparation for the investment seminar. Ms. Mudder, RIO Communications Director, provided outstanding leadership in preparing, producing and organizing our team and speakers for the event.
- I also had several external meetings and discussions with legislators and other agency leaders on program operations and statewide initiatives, as well as internal meetings with consultants, direct reports, executive team and division specific meetings.
- I am scheduled to attend the NCTR (National Council on Teacher Retirement) Annual Conference in October. I have agreed to moderate a panel on securities litigation at the conference. I have also joined the Fiduciary and Plan Governance Committee of NAPPA (National Association of Public Pension Attorneys).

Board Action Requested: Board acceptance.



IT REVIEW – SEPT 24

NORTH
Dakota
Be Legendary.

Information Technology

Agenda

- Agency Collaboration
- Delivery Update
- Security Update
- What's Coming
- Q&A

NDIT – RIO Collaboration

NDIT Dedicated Staff

- Technology Business Partner (TBP)
- Information Security Officer (ISO)
- Business Application Support
- Enterprise Architect (EA)

- End User Compute & Collaboration Team (EUCC)

Positive Trends FY2024 Highlights

- Third Party Risk Management (TPRM)
- Printer Logic
- One Stop IT Shop

Delivery Update

How to Engage with NDIT

Incident

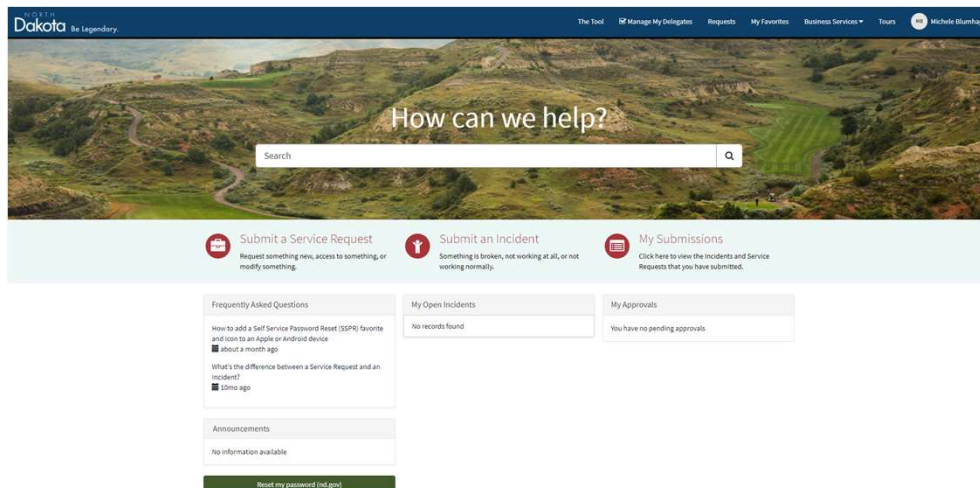
- Something is broken, not working at all or not working normally

Service Request

- Request something new, access to something or modify something

Incident

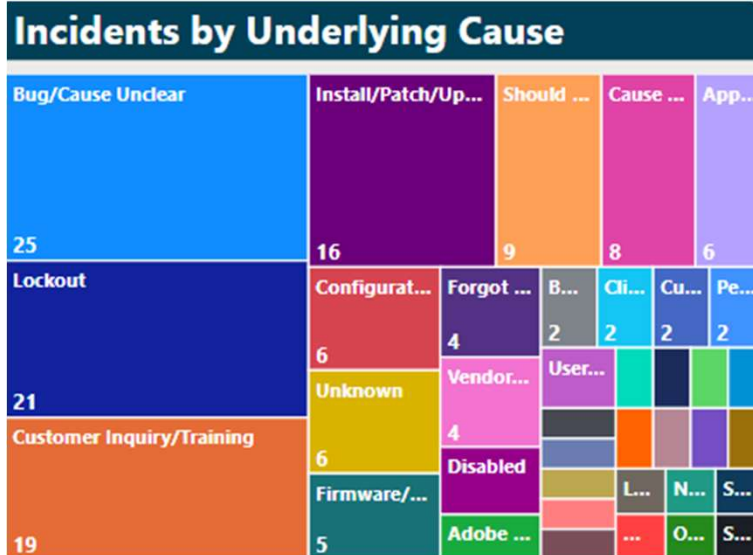
- Request to solve a business problem.
 - Brand new technology
 - Improve processes
 - Enhance / upgrade / replace current solution
 - Explore possibilities



RIO Incidents

Fiscal Year	Incidents Created	Incidents Outstanding	% Change
2022	125	1	
2023	214	2	71%
2024	163	1	-24%

- Incidents Created FY 2024 – 163
 - 24% decrease from FY2023
- Incidents Outstanding – 1

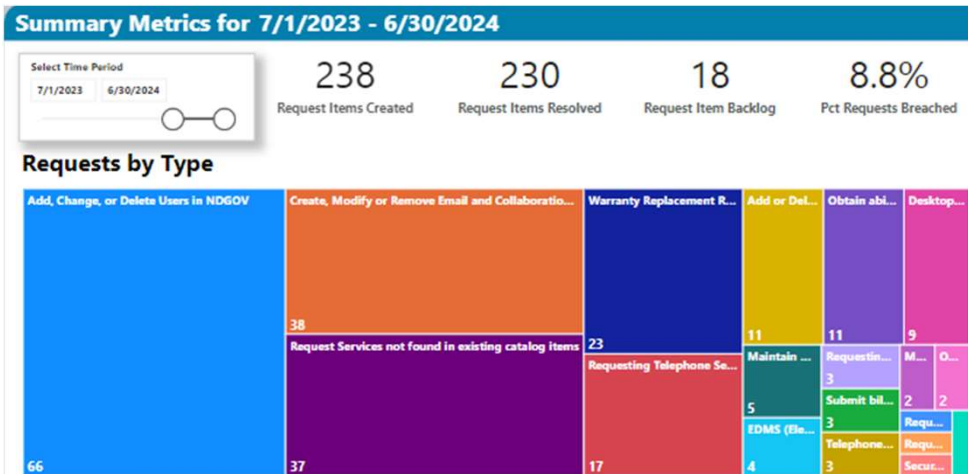


- Underlying Cause
 - Bug / Cause Unclear
 - Lockout
 - Customer Inquiry / Training

RIO Service Requests Submitted

Fiscal Year	Requests Created	Requests Outstanding	% Change
2022	169	3	
2023	272	10	61%
2024	238	18	-13%

- Requests Created FY 2024 – 238
 - 13% decrease from FY2023
- Incidents Outstanding – 18



- Main Request Types
 - Add, Change, Delete Users in NDGOV
 - Create, Modify or Remove Email/Collab
 - Request Services not found (Generic)

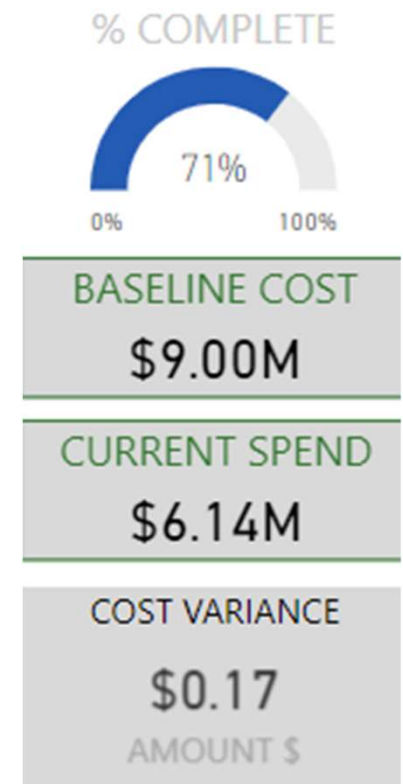
Initiative Intake Submissions

Request:	Short Description:
<ul style="list-style-type: none">Fiscal and Investment Data Lake	<ul style="list-style-type: none">RIO has data located in multiple locations in multiple formats. The goal is to better manage the disparate data and preserve it for ongoing analysis. (on hold for Investment project)
<ul style="list-style-type: none">RIO Investment Data	<ul style="list-style-type: none">Request to determine if there is a way to automate workflows to move and organize data. Possible solution to move data into the data lake and run the process form there.
<ul style="list-style-type: none">SharePoint Architecture & Agency Site	<ul style="list-style-type: none">Set up a SharePoint site for RIO to allow for better storage and file sharing of internal documents, procedures, communications, etc.

RIO Projects In-Flight

Large Project – Teachers Fund for Retirements Pension System Replacement

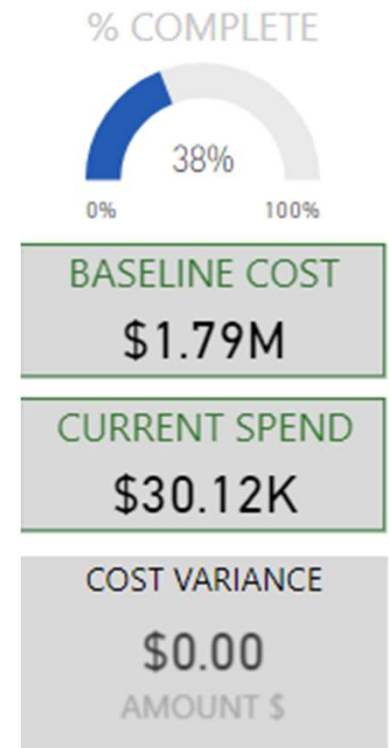
- **Key Update:** Employer Self-service UAT and Pilot 3 UAT was completed. Pilot 3 UAT retesting in progress. Work continues on implementation and transition planning.
- **Current Estimated Go-Live:** December 9, 2024
- **Costs:**
 - Current Project Budget: \$9,100,568
 - Actual Cost: \$6,139,455



RIO Projects In-Flight

Large Project – Investment Information Technology System

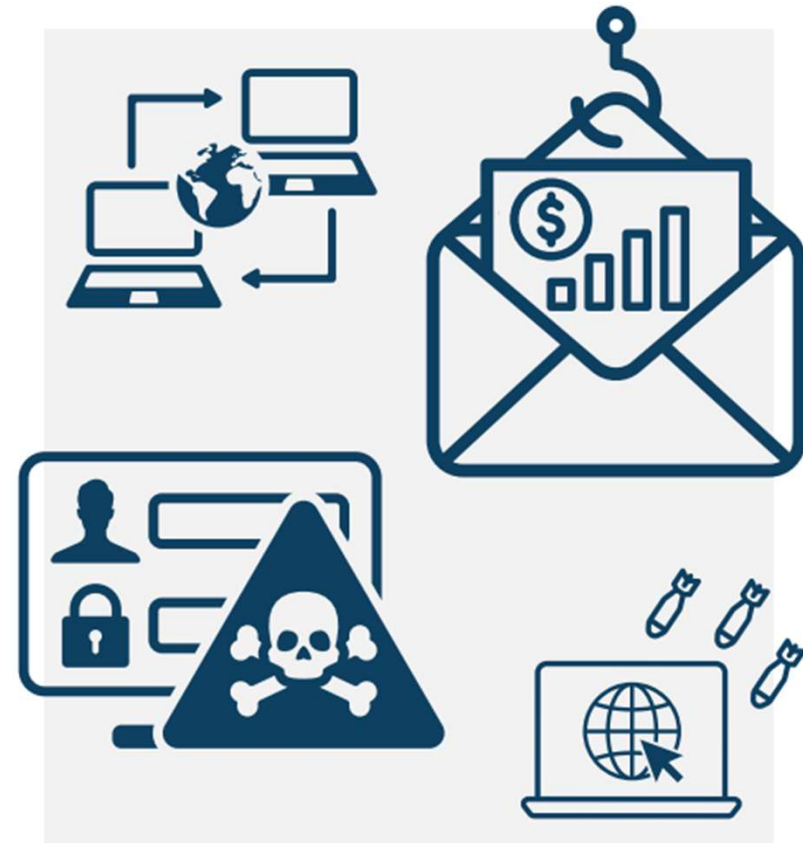
- **Key Update:** Project plan under final review with State Project Team. Started working on project schedule.
- **Current Estimated Go-Live:** March 31, 2025
- **Costs:**
 - Current Project Budget: \$1,794,897
 - Actual Cost: \$30,120



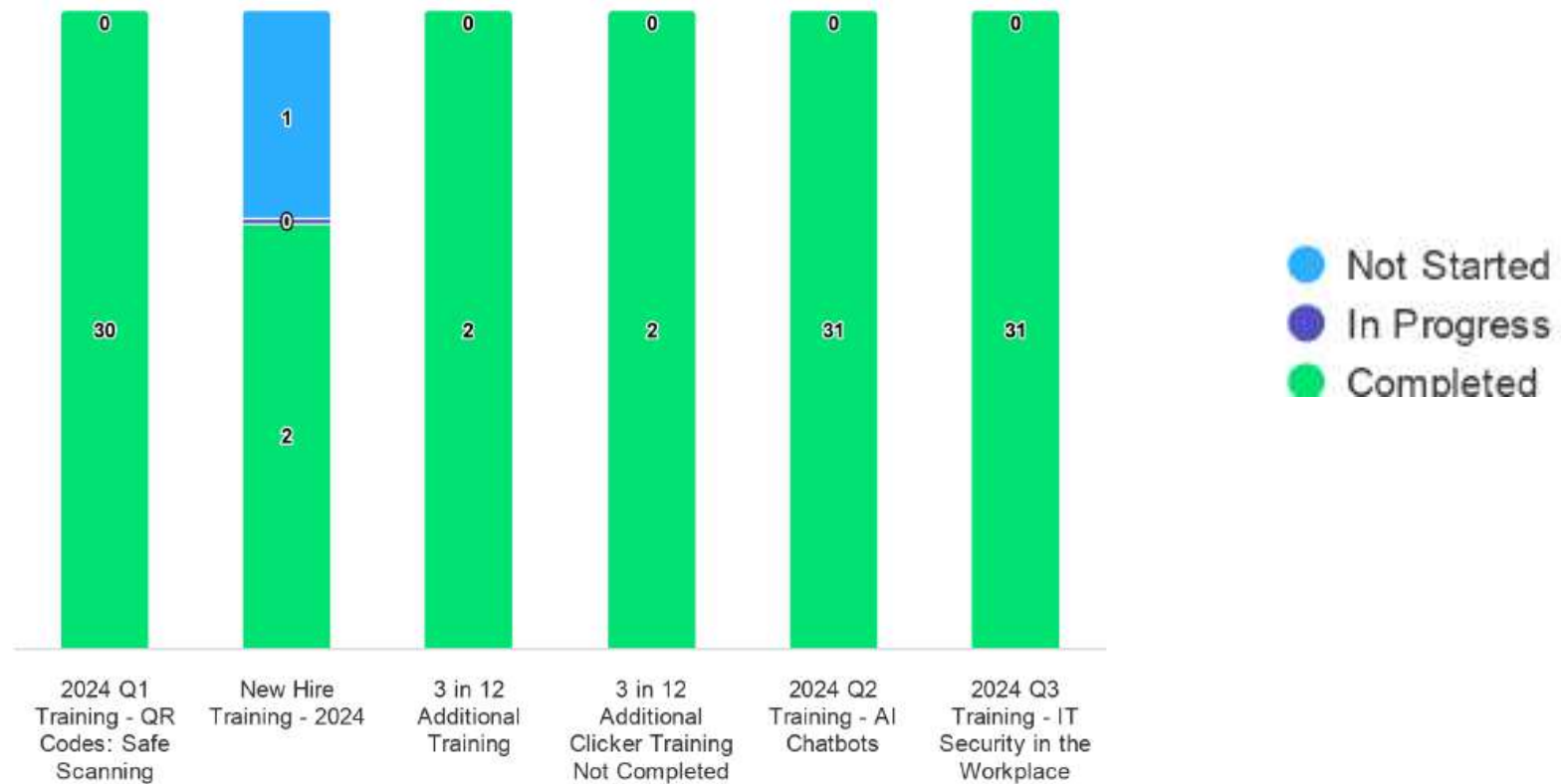
Security Update

Major Incidents Against the State

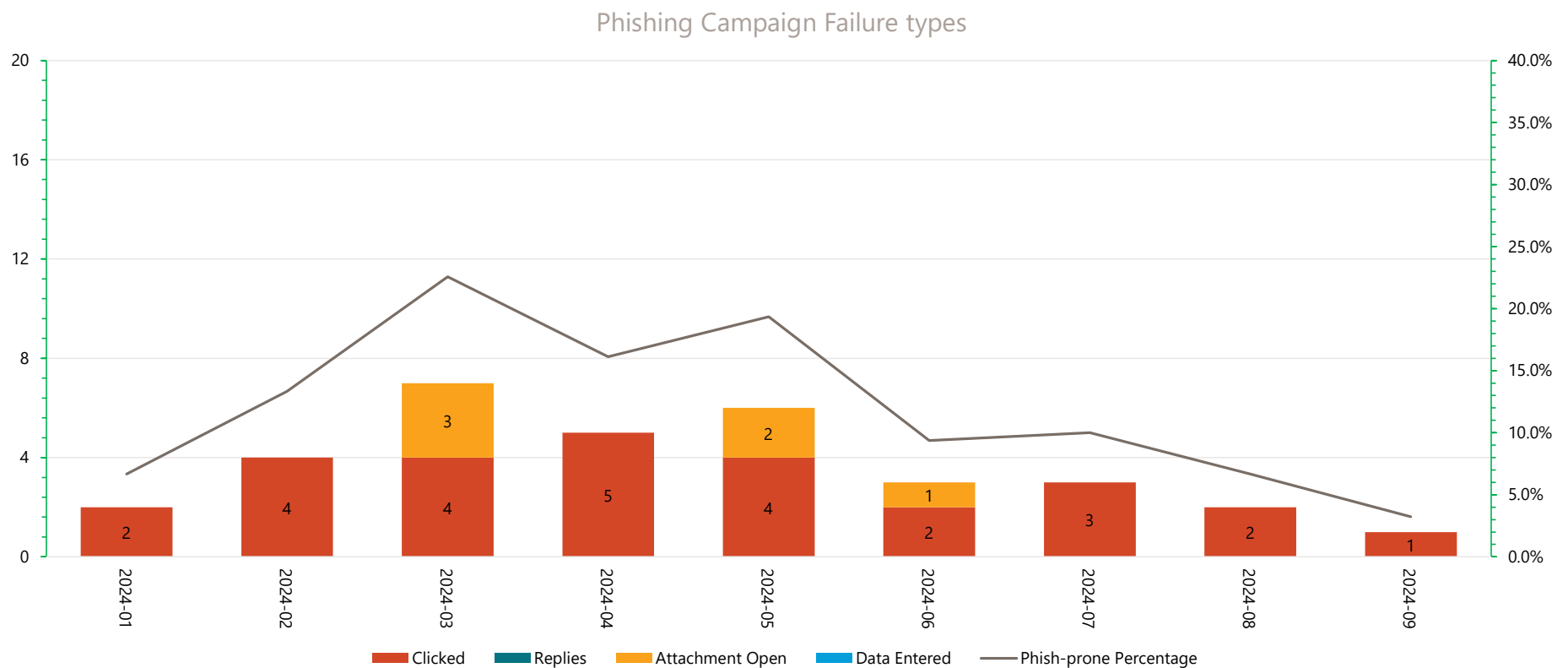
- **Large and most notable incidents in the last 18 months**
 - **ScreenConnect**
 - 3rd Party Risk – Attackers exploited vulnerability to compromise remote access software to push malware
 - **VPN Brute Force**
 - Poor password hygiene allowed attacker onto the state network with a shared account
 - **Business Email Compromise (BEC) Attempted Payroll Theft**
 - Attacker phished a user for financial gain.
 - **NDGOV Website DDoS**
 - NDGOV websites targeted for multiple DDoS attacks



Training by Campaign



Phishing Campaign Failure Types



The background features a teal-colored L-shaped frame on the left and top edges. A large, solid brown rectangle is positioned in the center, overlapping the teal frame. The text "What's Coming?" is centered within this brown rectangle in a white, sans-serif font.

What's Coming?

Upcoming Demand- Projects & Programs

- Artificial Intelligence
- Application Inventory & Vulnerability Remediation
- Statewide Data Strategy
- Business Gateway
- Mandatory VPN for All Agencies
- Windows 11 for all State Employees

Q&A

NORTH
Dakota
Be Legendary.

| Information Technology

MEMORANDUM

TO: State Investment Board (SIB)
FROM: SIB Audit Committee
DATE: August 9, 2024
RE: Fiscal Year End Audit Committee Activities
July 1, 2023 to June 30, 2024

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

The Audit Committee consists of five members selected by the SIB. Three members of the Audit Committee represent the three groups on the SIB (Teachers' Fund for Retirement (TFFR) Board, Public Employees Retirement System (PERS) Board, and elected and appointed officials). The other two members are selected from outside the SIB, that are both independent and financially literate. Members of the Audit Committee for the 2023 – 2024 fiscal year were:

Treasurer Thomas Beadle, Elected and Appointed Officials, Chair
Cody Mickelson, TFFR Board, Vice Chair
Adam Miller, PERS Board
Dina Cashman, External Member
Todd Van Orman, External Member

The Audit Committee held four regular meetings and two special meetings for the fiscal year ended June 30, 2024. The meetings occurred: August 2, 2023, November 14, 2023, January 18, 2024 (special), February 15, 2024, May 9, 2024, and June 21, 2024 (special).

Activities of the Audit Committee during the past year included:

- The Committee approved a July 1, 2023, through June 30, 2024, Internal Audit workplan. Progress was monitored on a quarterly basis. Audit activities included:
 - Executive Limitations Audit was completed. The audit determined the Executive Director's level of compliance with SIB Governance Manual Executive Limitation policies (A-1 through A-11) for the calendar year ending December 31, 2023. The audit report was presented to the SIB on February 15, 2024.
 - State Investment Board Self-Evaluation was administered by Internal Audit. The SIB requested Internal Audit's assistance in administering the self-evaluation and presenting the results. The SIB self-evaluation was presented at the February 23, 2024, SIB meeting.
 - Internal Audit Maturity Development Steering Committee – At the August 2023 meeting, the Audit Committee approved the development of a Steering Committee to implement the

recommendations of Weaver's maturity assessment for the Internal Audit Division. The Steering Committee consists of the Supervisor of Internal Audit, Executive Director, and Chief Financial Officer/Chief Operating Officer.

- Internal Audit Maturity Development Process Review – The Supervisor of Internal Audit developed a workplan for the Internal Audit Maturity Process that was presented and approved at the November 2023 Audit Committee meeting. The Supervisor of Internal Audit, Executive Director, and Chief Financial Officer/Chief Operating Officer developed a request for proposal (RFP) for additional resources needed to implement the recommendations. The SIB Audit Committee approved the RFP in Nov. 2023. Weaver was selected and kick off the project was in March 2024. Projects to be completed were a RIO risk assessment (fiscal and investment divisions), internal audit manual, and document templates.
- Audit Committee Charter - The annual review of the Audit Committee's responsibilities was completed in August 2023. In November 2023, the Audit Committee approved the proposed changes to the charter from the addressed recommendations from the internal audit process review. The Audit Committee also updated the Audit Committee Charter to align the language with the SIB Governance Manual, reflect the composition changes on the SIB Board, and to reflect the SIB Governance Manual outline oversight responsibilities in February 2024. The SIB Governance & Policy Review Committee and the SIB approved updated Audit Committee Charter and Internal Audit Charter in April 2024.
- Employee Exit Review – The Internal Audit Division conducted three exit interviews in August and September of 2023.
- RIO Onboarding and Offboarding Procedures – The Supervisor of IA is a committee member on developing onboarding and offboarding procedures. The group has been reviewing and enhancing RIO's current onboarding and offboarding procedures. Members of the working group are the Deputy Executive Director/Chief Retirement Officer, Chief Financial Officer/Chief Operating Officer, Executive Assistant, and Procurement and Records Management Coordinator. This project was completed in July 2023.
- TFFR File Maintenance Audit – Internal Audit will review system generated (CPAS) audit tables to ensure transactions initiated by staff are expected and appropriate given an individual's role with the organization. Member account information from Member Action Forms, Address Change Forms, and Direct Deposit Authorization Forms are reviewed to verify that contact and demographic information has been updated correctly. A sample of purchases, refunds, and deaths will be reviewed as part of the audit. The audit is in progress.
- TFFR Participant Data Review-Model 2 Partial Focus - This salary review focused on business partners that report to TFFR using Model 2 Partial. Internal Audit selected one participant from forty-one business partners to ensure model compliance. The review determined if the retirement salaries and contributions reported to TFFR by the participating employers were following the definition of salary as it appears in the North Dakota Century Code (N.D.C.C. § 15-39.1-04 (10)). Reported service hours and eligibility for TFFR membership were also verified. The completed audit report was dated April 22, 2024, and was presented to the SIB Audit Committee at the May 2024 meeting.
- TFFR Pioneer Project – Internal Audit staff participated in the design, elaboration, training, and testing sessions of the Pioneer project. RIO is expected to "go live" at the end of calendar year 2024.
- Internal Audit worked with staff on reviewing and updating the Administrative Policy Manual. Policies were written and updated to ensure compliance with state and federal policies. RIO also adopted other federal and state policies as found on the ND State OMB website. This project was completed in January 2024.
- RIO's Internal Audit division assisted our external audit partners, CliftonLarsonAllen, LLP (CLA), during the 2022-2023 financial audit of the RIO as well as the GASB 68 Census Data Audit.
- RIO's Internal Audit division assisted our external audit partners, UHY, LLP, during the 2023-24 financial audit of RIO as well as the GASB 68 Census Data Audit.
- Supervisor of Internal Audit had presentations on Governance Overview and Internal Audit Overview as part of the SIB member onboarding process.
- Internal Audit staff continued to pursue networking and professional development opportunities via the IIA's local chapter and the APPFA (Association of Public Pension Fund for Auditors). Staff

attended all day RIO training, four quarters of NDIT training, open records/open meetings, Fiduciary duties and Ethics, onboarding sessions on Fiscal Accounting, Governance, Investment risk, and retirement, and annual training on RIO policies, Workforce Safety, and Risk Management.

- The Committee received the results of the RIO financial audit for the fiscal year ended June 30, 2023, from independent auditors, CliftonLarsonAllen, LLP at the November 2023 meeting. They issued an unmodified “clean” opinion.
- The Committee reviewed the RIO financial audit plan for the fiscal year ended June 30, 2024, with independent auditors, UHY, LLP at the June 2024 special Audit Committee meeting. Discussion included scope and approach for the audit to ensure complete coverage of financial information and GASB 68 Audit.
- The Committee adopted an interim audit workplan in May 2024 for the fiscal year 2024-25.

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

BOARD ACTION. Acceptance of report.

MEMORANDUM

TO: SIB
FROM: Ryan K. Skor, CFO/COO
DATE: September 19, 2024
RE: Quarterly Budget/Fiscal Conditions

Enclosed are the following budget and expense reports for the quarter ended June 30, 2024:

- Budget Appropriation Status
- Expenditure Summary
- PAS Modernization Project Status

RIO staff has been working closely with its external auditors, UHY, to complete the audit of fiscal year 2024. As we complete the annual audit, we will then have final audited numbers for the biennium that will be shared as part of the annual budget and fiscal conditions report at the October SIB meeting.

Board Action Requested: Board acceptance.

BUDGET APPROPRIATION STATUS

AS OF JUNE 30, 2024

	2023-2025 BUDGET	ADJUSTED APPROPRIATION *	EXPENDITURES			
			BIENNIUM TO DATE ACTUAL	BUDGET AVAILABLE	% BUDGET AVAILABLE	% OF BIENNIUM REMAINING
SALARIES AND BENEFITS	\$ 8,910,047.00	9,466,151.30 ^	\$ 4,454,365.82	\$ 5,011,785.48	52.94%	50.00%
OPERATING EXPENDITURES	2,869,937.00	4,277,560.00	1,571,236.08	2,706,323.92	63.27%	50.00%
CAPITAL ASSETS	0.00	4,150,213.50	1,570,402.50	2,579,811.00	62.16%	50.00%
CONTINGENCY	200,000.00	200,000.00	0.00	200,000.00	100.00%	50.00%
TOTAL	<u>\$ 11,979,984.00</u>	<u>18,093,924.80</u>	<u>\$ 7,596,004.40</u>	<u>10,497,920.40</u>	<u>58.02%</u>	<u>50.00%</u>

* In addition to the capital assets line, the salaries and benefit line includes \$50,000 and the operating expenditure budget includes \$1,407,623 for the TFFR Pension Administration System Project.

^ The adjusted appropriation for salaries and benefits also includes amounts appropriated during the Legislative Session in relation to the new and vacant FTE funding pool, target market equity, and additional employer retirement funding.

EXPENDITURE SUMMARY**AS OF AND FOR THE QUARTER ENDED JUNE 30, 2024**

	<u>INVESTMENT</u>	<u>RETIREMENT</u>	<u>QUARTERLY TOTALS</u>	<u>FISCAL YEAR TO - DATE</u>	<u>BIENNIUM TO - DATE</u>
<u>CONTINUING APPROPRIATIONS</u>					
INVESTMENT EXPENDITURES	\$ 0	\$ 0	\$ 0	\$ 85,200,481	85,200,481
MEMBER CLAIMS					
1. ANNUITY PAYMENTS	0	66,208,726	66,208,726	265,434,894	265,434,894
2. REFUND PAYMENTS	0	3,122,513	3,122,513	12,225,639	12,225,639
TOTAL MEMBER CLAIMS	0	69,331,240	69,331,240	277,660,533	277,660,533
OTHER CONTINUING APPROPRIATIONS	762,578	53,261	815,838	1,553,206	1,553,206
TOTAL CONTINUING APPROPRIATIONS	762,578	69,384,500	70,147,078	364,414,220	364,414,220
<u>BUDGETED EXPENDITURES</u>					
1. SALARIES & BENEFITS					
SALARIES	555,002	270,037	825,039	3,253,805	3,253,805
OVERTIME/TEMPORARY	3,312	19,659	22,971	62,831	62,831
TERMINATION SALARY & BENEFITS	0	0	0	0	0
FRINGE BENEFITS	197,379	98,938	296,317	1,137,730	1,137,730
TOTAL SALARY & BENEFITS	755,693	388,634	1,144,327	4,454,366	4,454,366
2. OPERATING EXPENDITURES					
DATA PROCESSING	37,679	142,061	179,740	550,272	550,272
TELECOMMUNICATIONS - ISD	2,626	2,184	4,809	14,279	14,279
TRAVEL	8,637	13,040	21,678	47,695	47,695
POSTAGE SERVICES	750	2,260	3,010	23,415	23,415
IT - CONTRACTUAL SERVICES	1,110	124,005	125,116	300,269	300,269
EQUIPMENT RENTS AND LEASES	0	0	0	0	0
BUILDING/LAND RENT & LEASES	13,218	12,901	26,119	105,150	105,150
DUES & PROF. DEVELOPMENT	4,824	6,123	10,947	49,733	49,733
OPERATING FEES & SERVICES	18,486	13,184	31,670	41,194	41,194
REPAIR SERVICE	0	0	0	0	0
PROFESSIONAL SERVICES	3,190	174,847	178,037	422,543	422,543
INSURANCE	0	0	0	1,467	1,467
OFFICE SUPPLIES	39	28	67	663	663
PRINTING	115	529	644	9,189	9,189
PROFESSIONAL SUPPLIES & MATERIALS	168	50	218	615	615
MISCELLANEOUS SUPPLIES	129	95	224	806	806
IT EQUIPMENT UNDER \$5000	18	208	225	470	470
OFFICE EQUIP. & FURNITURE UNDER \$5000	2,949	498	3,447	3,477	3,477
TOTAL OPERATING EXPENDITURES	93,938	492,013	585,951	1,571,236	1,571,236
3. CAPITAL ASSETS	0	811,410	811,410	1,570,402	1,570,402
4. CONTINGENCY	0	0	0	0	0
TOTAL BUDGETED EXPENDITURES	849,631	1,692,057	2,541,688	7,596,004	7,596,004
TOTAL EXPENDITURES	\$ 849,631	\$ 71,023,296	\$ 72,688,766	\$ 372,010,225	321,512,977

PAS MODERNIZATION PROJECT STATUS

AS OF AND FOR THE QUARTER ENDED JUNE 30, 2024

PAS PROJECT - UNEXPENDED PORTION CARRIED FORWARD TO 2023-25 BIENNIUM

	2019-2021 Biennium Approved Budget	Carryover to 2023-2025 Biennium	Expenses 2023-2025 Biennium	Remaining Budget
TEMPORARY SALARIES	50,000	50,000	0	50,000
IT - DATA PROCESSING (NDIT PROJECT MGMT)	775,000	596,933	106,039	490,895
PROFESSIONAL SERVICES	1,875,000	810,690	623,197	187,493
CAPITAL ASSETS	6,300,000	4,150,214	1,570,402	2,579,812
TOTAL PAS PROJECT BUDGET	9,000,000	5,607,837	2,299,637 *	3,308,199

* The amounts in the 2023-2025 expense column are included in the totals on the Expenditure Summary on the previous page.